Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

3/29/02
67FR15257
(45)

Title: Yucca Mountain Review Plan
Public Information Meeting

Docket Number: WM-000011

Location: Las Vegas, Nevada

Date: Thursday, May 23, 2002

Work Order No.: NRC-387 Pages 1-159

NEAL R. GROSS AND CO., INC.
Court Reporters and Transcribers
1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

template = ADM-013

E-RFDS = ADM-03
add = J. Ciocco (JHC3)
A. Beranek (AFB)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
+ + + + +
PUBLIC INFORMATION MEETING
+ + + + +
YUCCA MOUNTAIN REVIEW PLAN
+ + + + +
THURSDAY
MAY 23, 2002
+ + + + +
LAS VEGAS, NEVADA
+ + + + +

The Public Meeting was called to order at the Conference Room of the Clark County Building Department, 4701 West Russell Road, Las Vegas, Nevada, at 6:37 p.m., by F.X. "Chip" Cameron, Facilitator, presiding.

I-N-D-E-X

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

(6:37 p.m.)

MR. CAMERON: All right. If we could get started. Good evening. My name is Chip Cameron, and I am the Discussion Counsel for Public Liaison at the Nuclear Regulatory Commission. And I am pleased to serve as your Facilitator for tonight.

I am going to try to help all of you have a productive meeting tonight, and this is a meeting on the NRC's draft Yucca Mountain Review Plan, and I just wanted to cover three things briefly about the meeting process before we get started tonight.

One, our objectives for format and ground rules, and third, I want to tell you about the agenda for tonight's meeting. In terms of objectives, the NRC wants to make sure that you have a clear understanding of what is in the draft Yucca Mountain Review Plan, as well as what role the Yucca Mountain Review Plan will play in the NRC's licensing responsibilities for any proposed repository.

The second objective, and the most important objective, is to hear your comments on that review plan, and our ultimate goal is for the NRC to take comments that we hear tonight, and that we have heard over the last two days that we have been in Nevada, and use those to help us finalize the Yucca Mountain Review Plan.

We are asking for written comments on the review plan, and you will hear about how to submit comments and when the comment period closes, but we are here tonight to talk to you personally.

And any comments that you make tonight will carry the same weight as a paper comment. In terms of the format for tonight's meeting, we have some NRC presentations, and I will go through the agenda in a minute, and you will see how we have broken up those presentations.

And after every discussion block, we are going to out to you for any questions that you have, and also comments. It is not just -- the meeting is not just for you to ask questions, but also to give us any comments that you have.

In terms of ground rules, if you want to say anything, or ask a question, or make a comment, just make a signal and I will bring you this microphone, and state your name, and affiliation if appropriate for the transcript.

We are taking a transcript. Paul, our stenographer, is back there, and that will be available to whomever wants a copy of it.

The second ground rule is, please, just one person speaking at a time, and we do need to capture whatever is said on the microphones so we can have it on the transcript.

And one person at a time will help us get a clean transcript, but it also will allow us to give our full attention to whomever has the floor at the moment.

I want to make sure that everybody has a chance to talk tonight, and so try to be as concise as possible in your remarks. I don't want to make too big a deal of that, because it is difficult sometimes to be brief on complicated issues, and issues of concern.

But we do want to try to hear everybody tonight. If there is an issue that comes up after one of the discussion blocks that doesn't fit within that discussion block, we are going to put it up here in the corral, and we will come back at the end of the evening and make sure that we have discussed all of those issues.

We know that there is a lot of issues of concern here on the

repository, and we know we will have a lot of questions on that, and we do want to make sure that we get out the information that we want to give you on the review plan.

So that is going to be our priority, and to the extent that we can come back later in the evening and answer other questions, we will do that. In terms of the agenda, we are going to start out tonight with a presentation by Janet Schlueter, who is the Chief of the High Level Waste Management Branch at the NRC.

Janet is going to give us a presentation on the NRC's licensing responsibilities generally for high level waste, so that you will have a context in which to look at the presentations on the review plan.

We are going to stop -- we are going to go to you for questions after that, and comments, but at 7:30 though we are going to move to the first of the presentations on the review plan.

And there are going to be two presentations. One is going to be by Jeff Ciocco, who is right over here. Jeff is part of Janet's high level waste management staff, and he is the project manager for this review plan.

He is going to talk about the methodology, the role of the review plan, how it was put together. And then we are going to go to the first substantive portion that we are going to discuss of the review plan.

And that is going to be safety of operations, and that presentation is going to be done by Pat Mackin, and Pat Mackin is with our Center for Nuclear Waste Regulatory Analyses, and that is our primary research contractor that assists the NRC, and you will hear a little bit more about them.

Pat is a systems engineer, and his presentation is going to talk about how the Yucca Mountain Review Plan will address safety issues in what is called the preclosure period on the repository.

In other words, when it is being constructed, and when waste is being put in place.

And I should mention Jeff Ciocco is a geologist and an environmental engineer. And after those two presentations, we will go on to questions and comments.

We are then going to go to long term safety of the repository. In other words, how does the Yucca Mountain Review Plan address safety after the repository is closed, and after waste has been in place, and we have Tim McCartin from the NRC staff, a physicist by training, and long time expert and involvement in the field of repository performance and assessment, and I think he is going to give us some examples of how that works so that you can get a better understanding of that.

We will then go on to questions and comments, and then we have two short subjects, security at the repository, in terms of sabotage or theft of material, and Jeff Ciocco is going to do that.

We will then have Pat Mackin then talk about adequacy of monitoring of the repository after it is closed, and we will go to you for questions, and then we will come back and address any issues that we have not covered so far, and give you a chance to raise other issues.

And we will try to get you out of here at the latest by 9:30. But right now I would just encourage you to talk to the NRC staff, and maintain some continuity with them.

And we are going to get right into the first presentation, unless this is a question about the meeting process. Is it, sir?

MR. MARKS: It is, yes.

MR. CAMERON: And tell us who you are?

MR. MARKS: (Off microphone) My name is Herb Marks, and I am a resident here. How much time will be devoted to the presentations from your technical staff?

MR. CAMERON: That will be probably -- they are each about 10 or 15 minutes.

MR. MARKS: I am trying to get an idea of how much time will be allowed for discussion, and questions, and comments, minus the presentations?

MR. CAMERON: I think it is probably going to be -- let's say it is 60 percent comments, questions, or more, and 40 percent presentations. And let's get on to it so that we can go out to you and hear from you. Janet, please.

MS. SCHLUETER: Thank you, Chip. Good evening, and thank you for coming out tonight and joining us to talk about the Yucca Mountain Review Plan.

As Chip mentioned, I am the branch chief of the High Level Waste Program at Headquarters, and that we are the focal point for all of the High Level Waste Programs at the NRC.

I would like to provide you some context as Chip mentioned for the technical presentations that will follow me, and so I will spend just a few minutes in discussing the NRC's role and the general process associated with the potential licensing of the Yucca Mountain site.

Who are we. The NRC is an independent agency, and we are independent in the sense that we are not part of the present administration, or the executive, judicial, or legislative branches of the Federal Government.

We are also not part of the Energy Department. We have the responsibility to make an independent safety decision as an independent regulator.

We are also an experienced regulator, and we have been an agency since 1975, and we have over 25 years of experience in regulating a wide variety of nuclear facilities.

And in that sense, by nuclear I mean medical, industrial, commercial, fuel cycle facilities, as well as commercial and nuclear powered reactors.

Our sole mission is to protect public health and safety, as well as the environment, and that includes the security and safeguards associated with those facilities.

The NRC has also been charged with regulating any potential repository that the Energy Department would apply to us for a license.

What is our roe in Yucca Mountain? Well, by law, we are required to set rules that would apply to the site, and that would protect the public health and safety, as well as the worker and the environment.

We have also set rules that are consistent with those that have been issued by the U.S. Environmental Protection Agency. By law, we are also conducting public interactions with the members of the public during this case prior to making a decision on a license application.

We also are charged with making independent decisions on whether or not the rights should be granted to construct, and to later operate the facilities.

Our role as an independent regulator is to assure that the applicant or the licensee, and in this case, potentially the Energy Department, obeys all of our rules, and we will do that through the rigorous licensing, and inspection, and

enforcement programs.

How do we carry out our goal as an independent regulator? We would review all the information that we receive objectively, and make a thorough safety assessment based on that information.

We would also make all of our decisions based on the facts and maintain an open public process in doing so. As a part of our decision-making process on safety decisions, the Yucca Mountain Review Plan is part of that, in that it is our licensing guide, and it is the internal staff guide that would be used to make this decision.

How does the NRC carry out its role? Well, we are charged with making licensing decisions one step at a time based on the information that we have available at that time, and what I mean by that is there are three phases when the license application would be submitted.

And the first phase would be to grant the license to begin construction of a potential repository, after which there would be a next phase to authorize operation of the repository, and finally the closing of a repository.

And as I mentioned, the NRC is the one that must decide whether or not to allow to allow the Energy Department to construct a repository, and if the Energy Department submits an application, Congress has directed that we must conduct our review within a three year time period.

It also requires that we provide for a full and fair public hearing, but before any of that would take place, there are several steps which have to be taken, some of which may have already occurred as you know.

And they are the Energy Departments's final environmental impact statement, the recommendation by the Energy Department to the President, and the President's recommendation to Congress.

Nevada has issued its notice of disapproval, and so now the petition rests with the Congress. If the Congress makes a decision that the site recommendation should take place, the next potential stage would be if the Energy Department decides to get a license application to us.

At that point, we are obligated to make a decision within 90 days of receiving that license application as to whether or not we would docket it.

And that term would mean that the NRC has made a determination that there is enough information in the license application to commence our safety review.

At that point if we make the decision that the license was docketable, we would begin our safety review, and that is when the three year clock would begin.

There are three possible outcomes of the licensing process, which is consistent with the licensing process that we use at other facilities that we license.

The burden of proof is on the applicant, and in this case, the Energy Department. We could deny the application outright if the Energy Department has not provided or has not demonstrated that the safety regulations could be met.

We could also issue the license with conditions on the license, where the Energy Department would have to take additional steps, or we could grant the license as is.

How will the NRC decide whether to accept the Energy Department's application for review? Well, we have to ask ourselves whether or not it contained all the required information, and again this is where the Yucca Mountain

Review Plan comes in.

Is there also enough documentation to support the Energy Department's safety plan, and also does it comply with the access requirements as far as making the document publicly available in an electronic form. Again, if all of these answers are yes, then the three year process starts.

How would the NRC address safety issues? We would reply on the independent experts at the NRC, both at the headquarters in my program, and also from the independent scientists and engineers that we have at the Center for Nuclear Waste Regulatory Analysis in San Antonio, Texas.

And we actually have two representatives here from the center tonight. We have Pat Mackin, and he has been introduced to you; and also Mike Smith, who also works at the Center.

We could also require more information from the Energy Department as needed based on our review. The Center also conducts their own testing for verification of the information, and we would also document our conclusions and our findings in a transparent way.

On what basis would the NRC adopt the Energy Department's final environmental impact statement? The Nuclear Regulatory Policy Act requires that the NRC adopt the Energy Department's final environmental impact statement.

And to the extent practical, we have interpreted that to mean under two conditions, and if one of the two conditions exist, we would adopt it unless the action to be taken differs from that described in the application in a way that significantly affects the environment.

Or there is significant and substantially new information, or considerations that make the final environmental impact statement inadequate.

The NRC will be ready to judge the safety of the potential repository. We have protected standards and regulations that are in place, and we will continue to conduct our prelicensing interactions with the Energy Department and to exchange information.

And again, we have also issued our draft Yucca Mountain Review Plan, which would provide a sound basis for making a determination about safety. With regard to our standards, the NRC issued our proposed regulations back in February of 1999.

In response to public comment about extending the comment period, we did extend it by a period of about two months. In June of 2001, the Environmental Protection Agency issued its final standards with respect to Yucca Mountain, and we followed five months later by issuing our final standards last November.

In order to ensure that the citizens of this State had an opportunity to provide their comments to us on our proposed rules, we held six public meetings in Nevada on those proposed requirements.

And during that time we received more than a thousand individual comments, many of which were obtained at meetings much like the one we are having here tonight.

As a result of those comments and after considering the Environmental Protection Agency's standards, we made changes to our final regulations. For example, we did wait until the Environmental Protection Agency had issued their final standards, and we issued ours five months later, and made conforming changes to our proposed rules.

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

In addition, in response to your comments, we have also retained the formal hearing process on any potential repository sites.

For the time being the NRC does not take any position on whether or not a repository should be located at Yucca Mountain. Our views will be shaped by much further analysis and much later during the process.

In the meantime, we will continue to have our public interaction with the Energy Department and to exchange information. It is as a result of these interactions that we have identified the nine key technical issues which we have used to frame our program.

This is a term that we originated to categorize the technical areas that we have used to guide our review of the Energy Department's site characterization efforts to date, and there is a handout on the table which describes these nine key technical issues.

But they include such things as how would water move above and below a potential repository; and how would waste heat affect when and how water reaches the waste; and how long will containers last, and what becomes of the waste as the containers are breached.

These key technical issues are considered very important to the staff to understand if a repository will be safe. And because of their importance, we have used them to frame both our rules and also the Yucca Mountain Review Plan.

How will we determine whether or not we have enough information about safety or a key technical issue? We developed acceptance criteria that are based on issues significant to safety, and those criteria and the technical bases for them have been documented in a series of publicly available reports, and they are consolidated into the Yucca Mountain Review Plan.

How will we use the plan? We will use this plan as a guide for the NRC staff review as I mentioned as we make our safety decision based on the license application.

It also will help us determine whether or not the Energy Department has provided enough documentation for us to determine whether or not all of our regulations will be met.

As is the case with the development of our proposed and final rule, we appreciate and welcome your input on this regulatory document. For this reason, we are here today, and we have hard copies of the document, and we also have it on CD-ROMs as well.

And we hope that all individuals that are interested will provide a comment on the document either here tonight, by using either one of the microphones and giving us those comments directly, or by completing a form that was left on the table that you could provide to us after the meeting, as well as sending a later comment in the future.

We did place the Yucca Mountain Review Plan on our website in March, and there is a 90 day comment period, which began on March 29th. We had two other public meetings as Chip mentioned earlier this week in order to receive comments on the plan.

And we also received a request for extending that public comment period, which we will take into consideration.

In summary, the NRC will be ready if the Congress adopts Energy

Department's request for a repository at Yucca Mountain to take effect. We do have protected standards and regulations in place, and we do have our draft licensing guide, which will we further define after this public comment period, and we will use that again to conduct our safety review.

As the High Level Waste Branch Chief, it is my job to see to it that the NRC staff, including the staff from the Center, fulfills its obligations to protect public health and safety by conducting a thorough and very careful evaluation of the information submitted to us from the Energy Department.

We are here today to hear your concerns and to address any comments that you may have. But before we go to most of the more technical presentations, I would be happy to answer any questions.

MR. CAMERON: Okay. Thank you very much, Janet. And that was a broad overview of the NRC licensing responsibilities, and we have up to a half-an-hour to spend with you on comments or questions on that particular area. Andy. And I guess give your first and last name.

MR. HERESZ: Andy Heresz, and I live here in Las Vegas. A question if I may. First of all, how many high level garbage dumps like the proposed one at Yucca Mountain has the NRC licensed in the past?

And what is your track record and where can we look at what you have been doing?

MS. SCHLUETER: There are no underground geologic repositories for the permanent storage of spent nuclear fuel. However, at over 70 different locations in the United States, we have licensed the storage of spent nuclear fuel above ground.

MR. HERESZ: So your answer is that you have no experience at anything like the proposed Yucca Mountain repository. The second question is that I assume that you are familiar with the Nuclear Waste Technical Review Board.

They have been operating since about 1987, and they recently came out with their assessment of the scientific evidence supporting Yucca Mountain.

But you know what they said in their report about that scientific evidence and how did they categorize it? Would you mind sharing it with us?

MS. SCHLUETER: I am assuming you are referring to a phrase where they had characterized it as weak to moderate.

MR. HERESZ: Thank you.

MR. CAMERON: Okay. Steve.

MR. FRISHMAN: (Off microphone) I am Steve Frishman with the State of Nevada. The Department of Energy has said that they would not a issue a record decision on the EIS. Is that part of the required information that (inaudible)?

MS. SCHLUETER: The Energy Department was required to submit the final environmental impact statement at the same time of the license application. As part of that review the staff will make a decision as to whether or not we should adopt the final environmental impact statement.

In other words, if one of the two conditions that I mentioned, we would adopt it unless one of those two conditions existed. If neither of those conditions exist, we would adopt it and that would be the final --

MR. FRISHMAN: Well, this is a third condition and should be there, because the Department has created the issue, and that is, is the document legally sufficient.

And my question to you is does the Nuclear Regulatory

Commission believe that a final environmental impact statement is legally sufficient (inaudible)?

MS. SCHLUETER: My answer to that would be that again the staff would make a decision on whether or not we should adopt the EIS, and that decision would then be part of the hearing process.

The Commission would make the ultimate decision as to whether or not the Agency would adopt the final environmental impact statement.

And as they go through that process, that would be the NRC's record on this matter.

MR. CAMERON: Do you have one final follow-up on that?

MR. FRISHMAN: I would think that would go into your 90 days of whether you can accept the license application for docket, and I don't see where the Commission enters into that one.

MS. SCHLUETER: We do make a decision on whether to adopt the EIS at the same time that we make a decision on whether or not the application is docketable.

It is true that they are separate and distinct actions, but it is the staff's decision, that first 90 day decision on whether to docket the license; and it is also the staff's decision on whether or not to adopt the EIS, and then that decision would then be part of the hearing process and whether or not the legal obligations have been met.

MR. FRISHMAN: Well, I would like to leave the question on the record whether the regulatory (inaudible) -- is sufficient (inaudible).

MR. CAMERON: Okay. It will be on the record. Thank you, Steve. Let's go to Herb.

MR. MARKS: I just wanted the Chief to amplify on requirement number two? Could you do that?

MS. SCHLUETER: I'm sorry, is what in number two?

MR. MARKS: There are two requirements for your recommendation on the EIS report. I understood one.

MS. SCHLUETER: Oh, there are two conditions on the list where we would not adopt the EIS, and if either one of those is exists, we would not adopt it.

The second one would be substantial and significant new information of record on the EIS.

MR. MARKS: And what is in that one?

MS. SCHLUETER: The final environmental impact statement. In other words, if there were additional, and new, and substantial, and significant information that would come to us, and since it was issued this February, it was issued in final this past February, that would render that document inadequate, and was not within the bounds of the final environmental impact statement, we would not allow it.

MR. CAMERON: Does that clear it up?

MR. MARKS: Well, how would you feel about the current ones from the highest offices in the Federal Government, the President, and the Secretary of State, and the Secretary of Defense, that each day over the past week with regard to the threat of terrorism, and wherein specifically it has been more than mentioned that a nuclear threat, whether it is in the form of a bomb attack or a nuclear accident, or attack on shipments, how would you feel about those recent statements which have occupied the news as the dominant news story in the past week will occupy the

concerns of every American for every day for many years to come.

And how do you feel about that being something new with regard to adequacy of the DOE's EIS? Do you believe that they adequately considered the effect of terrorism with regard to nuclear power plants, and with regard to nuclear shipments, and therefore implicitly with regard to the safety of the operation and construction of the repository?

MR. CAMERON: Thanks, Herb, and we are going to hold this mike pretty close so that the stenographer can hear it. We will be having some discussion of security issues later on in the program.

Janet, do you want to say -- well, Herb sort of tied it into the new information. Do you have something on that?

MS. SCHLUETER: Well, yes. Certainly since September 11th security safeguards on sabotage and terrorism have been a high priority for the Federal Government and all of us at large.

As a result the NRC has taken several steps to address that matter, and as part of that, Herb, the NRC has done a top to bottom review of our current status of security safeguards and related requirements.

As a result of that, there have been intermediate to interim measures that have been put into place at nuclear power plants and other nuclear facilities.

And also the current set of requirements that are in the regulations with regard to security and safeguards would then also apply to Yucca Mountain.

However, as part of this top to bottom review, and as part of the information that we have gleaned to date, and continue to learn, plus any additional studies that might take place, that that resulted in the identification of new requirements that need to be applied to Yucca Mountain and other facilities.

And the rules would be changed, and those same new rules would then be applied to Yucca Mountain. I mean, I think we all have to keep in mind that we have licensing now that is operating and that is our first tier of concern if you will, and that changes to the rules or requirements that would take place that would apply to Yucca Mountain are much further down that road..

But we would make changes to the ones that would apply to Yucca Mountain, and that are contained in the Yucca Mountain Review Plan now and that it is possible that they would or would not apply.

MR. FRISHMAN: Have you addressed the issue of shipments --

MR. CAMERON: Herb, we need to get everything on the transcript. There will be an opportunity to address security considerations later, but I want to give the rest of the audience a shot at this overall issue. So we will be back to that.

And I am going to go to Kalynda now, and then we are going to go to Commissioner Herrera, and then Dennis Bechel. Kalynda.

MS. TILGES: Kalynda Tilges, Citizen Alert. The question that I want to ask is that according to the Nuclear Waste Policy Act, if the Senate passes or upholds -- excuse me.

If the Senate overturns Nevada's veto, according to the Nuclear Waste Policy Act, the Department of Energy is required to file a license application within 90 days.

According to the GAO and the Nuclear Regulatory Commission, they will not be ready to do that until 2004. So I guess this would kind of follow on the heels of Steve's question, which is will you still be accepting an application even

though it is beyond its legal deadline?

That is three questions and the second two were very quick. Do you want to answer that first, or --

MS. SCHLUETER: Yes. The December 2004 is the Energy Department's date that they would be able to go forward, and not the date that the NRC has identified.

MS. TILGES: So are you willing to answer the rest of the question as to whether you would still accept a license application if it more than 3 years past its legal deadline?

MS. SCHLUETER: Yes, we would.

MS. TILGES: Why?

MS. SCHLUETER: There would be nothing to preclude us from accepting the license application. We accept license applications all the time.

MS. TILGES: You don't have to follow the rules of the Nuclear Waste Policy Act in this?

MS. SCHLUETER: They are the applicant and we're not.

MS. TILGES: So I guess that means no, you don't?

MS. SCHLUETER: Well, this 90 day rule does not apply to us because we are the regulator. We are the independent agency that has to decide whether or not we should issue the license.

The 90 day statutory limit applies to the applicant.

MS. TILGES: Anyway, I think you have pretty well answered it. My other question is on Slide 10, talking about whether to decide to accept DOE's application, you talk about enough documentation to support DOE's safety claims.

Considering that this is the first of its kind experiment in the world, how would you know? You have nothing to compare it to.

And the last question is what on earth does "to the extent practical" mean? You use that term all the time and I have never been able to understand it. Thank you.

MS. SCHLUETER: Well, I think you will see as we go into some of the technical discussions that we have developed certain areas that are outlined in the Yucca Mountain Review Plan which will guide our review on our license decision. And Pat and others will get into that. And your other question?

MR. CAMERON: It was what does "to the extent practical" mean, the source of which is the Nuclear Waste Policy Act?

MR. MARKS: And I didn't understand the answer to the first part of the question. Could you explain that, please?

MR. CAMERON: Herb, we have until 7:30 to deal with this, and we are going to try to be as clear as possible. We will come back to that question, okay?

MR. MARKS: I appreciate it.

MR. CAMERON: Now, I will put that in the parking lot. Janet, do you want to talk about "to the extent practical" that was asked about?

MS. SCHLUETER: Well, the NRC has placed a determination into our rule and those are the two conditions which are described on the earlier slide.

As far as identifying circumstances of which the final environmental impact statement would not be adequate, because either the actions being taken are outside of the boundaries as they are considered, and they significantly impact the environment.

Or there is significant substantial new information that makes this inadequate. So that is our interpretation of those words.

MR. CAMERON: Mitzi, did you want to add something to that? This is Mitzi, from our Office of General Counsel.

MS. YOUNG: (Off Microphone) To the extent practical, with legal terms, they use extra syllables. But Janet was correct. The standards were used to interpret that under the criteria that were on the slides that she shared with you.

MR. CAMERON: Okay. We are going to go to Commissioner Herrera now, and Herb, we will go back to that question and try to give you an explanation later on this evening. Commissioner.

COMMISSIONER HERRERA: Thank you, and good evening everyone again. Thank you again for being here. I have a couple of questions, and one is about your ability to receive the application, and I think it is a good point.

I mean, the Policy Act obviously prescribes the period by which the DOE could submit an application, but what you are telling us tonight is that you can submit the application despite what the Federal law dictates the period of acceptance should be.

MS. SCHLUETER: There is nothing that prohibits or precludes us from accepting an application after that 90 days.

COMMISSIONER HERRERA: So then what is the purpose of that time clock? If there is no occasion for someone to not comply with it, and it is a portion of the Act itself, then why is that part of the Act itself?

MR. CAMERON: Well, there are all sorts of requirements in the Act, but some of them apply to one agency, and some of them apply to another, and I think that Janet is probably going to give us an explanation of the reason, and how it works. Janet Kotra.

DR. KOTRA: (Off microphone) Just as amplification, it is actually a very long answer, and it has a lot to do with the Department of Energy, but it lays out obligations and deadlines for a number of agencies.

The Environmental Protection Agency, for example, was given direction to contract with the National Academy of Sciences to develop new criteria. Those standards would apply for about five years after the Act required them to promulgate them.

We were obligated to promulgate our conforming -- or to make our requirements consistent with the Environmental Protection Agency, and so we were given one in which to identify ones.

We were not precluded from adopting EPA standards because they were five years later. Likewise, I think that if someone wishes to challenge the Environmental Protection Agency for its tardiness on that, I think that might have be possible. That might have affected our ability to adopt, but that did not happen.

Likewise, our obligations under the Atomic Energy Act are to review on the basis of safety the applications that we receive, and as Janet indicated, there is nothing legally as far as I know -- and I can check with our Office of General Counsel to correct me if I am wrong, but I don't believe there is any legal restriction for our reviewing -- you know, our basis for our determination has to be in compliance with --

MS. SCHLUETER: Commissioner, I am going to bring this back, but I just want to see if there is one -- do you have a clarification on the Commissioner's question? Mitzi.

MS. YOUNG: (Off microphone) You were correct that the

Commission says that it shall submit the application within 90 days, but they also set out a additional provision that says the NRC shall consider an application, and it doesn't say that it must be submitted within 90 days, and so there is room for any lawyer to argue about the deadline.

In addition, an NRC requirement in our regulations includes a requirement that DOE certify and make documents available on the licensing six months before you intend to submit the application. That to date has not happened, and so we have an additional time period that is not even addressed in the Act.

And so our current rules would allow DOE to submit their application after 90 days.

MR. CAMERON: So then we are going back to the Commissioner, Herb, and try to get back to you on this. But what I think I hear the NRC saying is that this is an obligation under the Act on the Department. Commissioner Herrera.

COMMISSIONER HERRERA: I guess somewhere in the Act it says to submit within 90 days and in parentheses it says I am just kidding, or no, not really.

But the second question pertains to new information and obviously 9-11 is probable new information, and the circumstances of that, but the 9-11 we would have to consider.

You mentioned that in the post-9/11 environment that there has been some modifications of standards for -- I would say strict safety precautions that existed would be taken for an existing licensee for our nuclear power plants, and is that a statement that is --

MS. SCHLUETER: (Off Microphone) There have been security improvements in those that have licensing ability, including nuclear power plants.

COMMISSIONER HERRERA: And can you just briefly describe that? I know that we will talk about security in greater detail later, but can you talk about some of those additional measures that have been adopted at nuclear waste sites?

MS. SCHLUETER: No. This safeguarded information.

COMMISSIONER HERRERA: Okay. Was that pre-or-post 9/11 that Congressman Markey making the comments about the adequacy of security at existing licensee sites?

MS. SCHLUETER: Well, I am not --

COMMISSIONER HERRERA: Have you had new standards in place before or after he made those comments? Those comments are fairly recent, and did you adopt the standards post-9/11, and the Congressman has some significant area of expertise in that regard, and I think it was the subject of some Congressional hearings.

So I just want to find some context to the time that the security measures had been adopted were post-or-pre 9/11?

MS. SCHLUETER: There were enhancements to security that were made relatively prompt after 9/11, and there continues to be an evaluation for possible enhancements beyond that.

Congressman Markey has communicated with us on several occasions about security and as you are aware he has had hearings and so forth.

COMMISSIONER HERRERA: Are you saying that you all adopted increased security measures soon after the 9/11? I believe Congressman Markey's comments came less than a month ago.

So with the assertion that you have adopted greater security measures since the post-9/11 environment, you still had a leading Congressional Member who found your security measures that you adopted to be insufficient.

And I ask that in the context of information, because that is something that we obviously now have to consider with respect to DOE's application. I am not sure exactly when that would be considered.

It would seem to me that as part of the site process, that in order to determine whether or not Yucca Mountain is suitable for a nuclear waste repository, that you would make the assessment of security, and the potential threat to homeland security, a potential terrorist attack, your ability to mitigate those issues, prior to a decision being made, because it would seem to me that if you are dealing with what we obviously know to be one of the most dangerous substances known to man, you would take the security issue before the site recommendation is adopted.

Because what if there is a situation where the President gives a recommendation, and the Governor's veto is overturned by both the House and the Senate, and we lose this battle in court, and then those threats are still there.

How are we to be given assurance that the Nuclear Regulatory Commission will adopt security measures that will be adequate to protect the site in perpetuity, because that is what we are talking about.

We are talking about perpetuity, at least in my lifetime, and my son's lifetime, and his son's lifetime. So I am just curious as to what assurance do we have? There has been promises made in the past that have been ignored time and time again.

MR. CAMERON: I think that we are going to get into that in the security part of it, and so we will come back to that, Commissioner, and there is someone here if you wanted to talk. And then we are going to go to you, and then we are going to go to the next presentation, and then come back and revisit these issues. Dennis.

MR. BECHTEL: (Off microphone) Dennis Bechtel, Henderson, Nevada. A final environmental impact statement was issued. However, as Secretary Abraham noted today in the Energy and Natural Resources Committee, there will be a supplement dais that will hopefully cover the transportation issues.

And I am wondering is this supplemental EIS to be considered part of the final EIS in your eyes, and then again in talking about new information, how does that or how will the NRC treat the new information in this supplemental EIS, and would that change the conclusions in the final EIS?

MS. SCHLUETER: (Off microphone) The Energy Department may or may not choose to issue a supplement to its final environmental impact statement. But as I mentioned, the NRC is required to make a decision on whether or not we will adopt it. We are under no obligation.

And we are not to repeat that process, and that's why (inaudible) and to adopt it when practical. As part of that process though, we have to make a determination as to whether or not (inaudible).

If the Energy Department had issued a supplement, obviously that would be taken into consideration, but if they did not issue a supplement, or if they had issued a supplement and it still was inadequate, the NRC might choose to issue a supplement to its final environmental impact statement, in which case we would conduct public meetings in which we would lay out our plans for doing so.

And also we could issue it in draft form for comment, and then go

to a finalization phase. So the DOE might issue a supplement, or we might choose to issue a supplement.

MR. CAMERON: Okay. Thank you, Janet.

MR. HERESZ: Would that in fact have any influence on, say, licensing? I guess that is sort of the bottom line. If you felt that the SEIS did not cover transportation issues adequately, would that affect their licensing?

MS. SCHLUETER: We would not issue a license until we could make a determination that not only are safety requirements met, but also have all of the obligations been met, and it could include a supplement.

MR. CAMERON: Okay. Thank you. This is our Office of General Counsel again, Mitzi Young. Do you want to add something to that?

MS. YOUNG: I would just piggy-back what Janet said. The standards that we have for adoption of standards are those that are nationally recognized when you supplement an environmental impact statement. So that is what the NRC is going to look at when it makes a decision on any license.

Any supplement you issue would be part of the EIS, part of the environmental impact statement, and it is all treated as one document, even though if they have multi-supplements.

MR. CAMERON: Thank you, Mitzi, for that clarification. This will be for this part of the meeting, we will take one last comment/question, and then we will come back, and if you could tell us your name, please?

MS. ZOLKOVER: (Off microphone) Adrian Zolkover. This is a little bit complex. If a supplement to the draft environmental impact statement, May 2001, the DOE states on page 2-8, "Commercial spent nuclear fuel would be the major contributor of heat in a repository. Commercial spent nuclear fuel waste package loading could be buried by placing younger fuel in a surface aging area to allow heat output to dissipate so it could meet general rules for later emplacement."

DOE would consider aging as much as 40,000 mthm -- and I think that is tons -- of commercial spent nuclear fuel during a 50 year period. Aging would require an extended emplacement period."

As reported in the Bulletin of the Atomic Science, January/February 2002 by Robert Alvarez, "On average, a spent fuel pond holds 5 to 10 times more long lived radioactivity than a reactor core. According to the NRC, as much as a hundred percent of a pool of cesium 137 would be released into the environment and fire."

The 40,000 tons of spent fuel that DOE wants to put on top of the ground, at most 90 miles away from Las Vegas as I estimate it, would be the equivalent of 15,000 to 20,000 nuclear fuel ponds.

The Las Vegas Review Journal, February 16th, 2002, Steve Tetrow, reports that Spencer Abraham stated that transportation routes and shipment schedules would not be public eye. The environmental impact of this would begin possibly before today and have a potentially far greater impact on the environment than the plans on a repository.

Why is it that the NRC is requiring an environmental impact statement in this issue.

MR. CAMERON: Okay. It is linked to -- Adrian's question is linked to the environmental impact statement again. Janet, do you have an answer for that question?

MS. SCHLUETER: I am not sure what -- in other words, the issue concerning fuel blending, waste handling, above-ground storage facilities, and so forth,

are all part of -- or would be part of our safety review.

In other words, that information is in the environmental impact statement now, but those are the type of issues that are encompassed by our nine key technical issue areas.

MR. MARKS: This is okay with you then?

MR. CAMERON: Adrian, we would need to get all of this on the transcript, and if you could just give the NRC staff a chance to answer this, then you may hear what you want to hear. Janet, were you finished? And I think that Janet has something to add.

MS. SCHLUETER: What I was trying to say is that the issues that you mentioned, as far as the fuel blending, waste handling, storage facilities above-ground, and so forth, are matters which we would be looking at as part of our safety review once the license application came to us.

The issue of transportation is one in which the Energy Department would make a decision as to whether or not a supplement needs to be issued to the EIS to address these matters.

We would look when we received the license application the degree to which the Energy Department had supplemented.

MR. CAMERON: Janet Kotra.

DR. KOTRA: The issue that you have raised, which was that it first came to light as one of the alternatives --

MS. SCHLUETER: Could you speak up, Janet?

DR. KOTRA: The supplement EIS was the first time that the DOE explored that option. As far as I am aware under the Nuclear Waste Policy Act that would not currently be permitted, but that is an issue that our Office of General Counsel would have to examine because that would constitute surface monitoring and retrievable storage.

And I don't believe that on our own, or on DOE's own without a change to that law that that could be in effect. And that would have to be examined by attorneys.

As Janet indicated, all of the DOE's activities for a repository and its plans, which would not be spelled out and will not be spelled out until we receive a license application, would be examined very closely for compliance on existing standards.

And so I think there is an additional problem to what the scenario that you have discussed, in the sense that it would have to be examined against the prescriptions that exist in the current nuclear responses.

MR. CAMERON: Okay. Thank you.

MR. MARKS: I have one question.

MR. CAMERON: We have to move on.

MR. MARKS: This is critical.

MR. CAMERON: We will come back to that. We need to get the information --

MR. MARKS: I think this should be discussed.

MR. CAMERON: We will discuss it.

MR. MARKS: The lady said something that is incorrect.

MR. CAMERON: Okay.

MR. MARKS: She said --

MR. CAMERON: Herb, we will discuss it, okay? We will get back

to it.

MR. CAMERON: We are going to go to two presentations on the Yucca Mountain Review Plan, and we will come back. We will stay as long as you want, okay? And we will talk about these questions.

MR. MARKS: I think we should complete that question now.

MR. CAMERON: Herb, I'm sorry, but to complete that question may not be just you, but it may be a bunch of other people. We want to hear the public, and the information on the review plan, and so we are going to put that information out for you, and then we are going to come back, and you can ask the question, and we will discuss it.

MR. MARKS: What time will we come back to my question?

MR. CAMERON: When we are done with these presentations, okay?

MR. MARKS: How long?

MR. CAMERON: Towards the end of the meeting, and it depends on how many questions there are on these presentations.

MR. MARKS: How long will these presentations take?

MR. CAMERON: They are not going to take long, Herb, okay? But we are going to get started on them so that we can get done with them, and see if there are questions on them, and then come back to questions that are outside --

MR. MARKS: I don't see why you refuse to follow up on the --

MR. CAMERON: Okay. Jeff, please go ahead.

MR. CIOCCO: Okay. Thank you. And good evening. My name is Jeff Ciocco, and I am with the Nuclear Regulatory Commission. I am going to provide you with an introduction to the draft Yucca Mountain Review Plan.

It is a plan that the NRC would use to assess the safety of the site if there was an application submitted, and this is what he plan looks like, and there are copies of it over there, and it is also on the internet, and it is on Cds as well.

In general, I am going to start this evening where I will go through the purpose of this public meeting, and I will cover the purpose and scope of the review plan. I will tell you what is covered in the plan, and what isn't covered in the plan.

I will go through some performance-based and what that means, and I will go through the main chapters of the review plan, and individual structures for each section.

I will tell you how you can comment on the plan, and I will give you a brief introduction into the following presentation.

The purpose of this public meeting is to describe the scope and content of the Yucca Mountain Review Plan. If you are not familiar with the plan, you can go back to my presentation and you will have a good understanding of what is in the plan.

If you are familiar, you will get a better understanding, and you need to ask questions in either case.

We also seek your views on how well the draft Yucca Mountain Review Plan will assess the safety of the site. It is the NRC's decision-making program for this site, and openness is one of our five principles of good regulation, and so we want to make this publicly available to you.

The purpose of the plan is that it instructs the NRC staff on how to assess the safety of the site. It ensures the quality and uniformity of the staff review.

It ensures the quality of the staff review because each individual section, particularly in Chapters 3 and 4, are correlated to site-specific regulations for Yucca Mountain.

It ensures the uniformity of the reviews because each section is structured very similarly to the concluding statement about the safety evaluation in that particular area.

We want to make the NRC's review strategy public to you, and we also provide guidance on the information that DOE's must submit in the license application.

So really there is two purposes for the Yucca Mountain Review Plan. It lists the information required in the license application, and it describes what is acceptable to the NRC, and it provides review guidance, step-by-step procedures to the NRC staff on how to evaluate a license application if one is submitted to us.

The scope of the Yucca Mountain Review Plan. The Yucca Mountain Review Plan would be used for the three phases of licensing that Janet described to you.

The first phase is the construction authorization or the building permit, where we would review all sections of the Yucca Mountain Review Plan.

The second phase is the license to receive and possess fuel, spent fuel. The third phase is amendment for permanent closure. Now, what is not included in the Yucca Mountain Review Plan is in the scope and the site recommendation process, and that is a process that is currently under way in Congress.

This review plan would be used down the road when and if a license application is submitted to the U.S. Nuclear Regulatory Commission. The environmental impact statement, the NRC has separate regulations and processes for reviewing the environmental impact statement, and the Yucca Mountain Review Plan addresses the safety of the site. The environmental issues are addressed separately.

And finally transportation issues will be regulated by the NRC and several sister agencies of the U.S. Department of Transportation. Those issues are regulated separately from the Yucca Mountain Review Plan. We are assessing the safety of the site once nuclear material is received on site, and that is the scope of the Yucca Mountain Review Plan.

How is the Yucca Mountain Review Plan risk-informed and performance-based, and what does that mean. First, the Yucca Mountain Review Plan implements and provides guidance on site-specific regulations for Yucca Mountain.

Those regulations use the risk of health effects as a basis for the Yucca Mountain safety criteria. The regulations call those the performance objectives, such as the EPA standards, the individual protection standards,a nd the ground water protection standards, and human intrusion standards.

Next the review plan applies these safety criteria, the performance objectives, and the EPA standards, and uses them as a basis for the acceptance criteria. That is how we say that the Yucca Mountain Review Plan is performance-based.

And finally the Yucca Mountain Review Plan is performance based or is risk-informed because while doing a comprehensive safety review of all of the information the staff can also focus on those areas that are most important to safety.

Next is the main chapters of the plan. There are five chapters of the Yucca Mountain Review Plan. The first chapter is the introduction, which really provides an overview of a lot of different information.

What is the licensing review philosophy, such as the NRC does not select sites, nor do we pick designs. The NRC's reviews are comprehensive, and focus on issues most important to safety.

And the NRC will defend its licensing decisions, while the Department of Energy, the applicant, or potential applicant, must defend its safety case in its license application.

It also includes a general licensing review procedures, and it has a brief description of how each individual section is risk-informed and performance-based.

Chapter 2 is the acceptance review. It describes and provides guidance and it is really the first screening of the license application using an acceptance checklist based on the regulations.

It determines the completeness of information of the engineering design concepts, and it also determines if sufficient information is available to begin conducting a detailed technical review.

And next is Chapter 3, and it is general information, and now we are getting into the specific contents of what must be in a license application in Chapter 3.

Its intent is two-fold. First, it is to provide an overview of the engineering design concepts, and secondly, it allows the U.S. Department of Energy to demonstrate the influence of the site characteristics on the engineering design in the overall performance of the site.

It also includes in Chapter 3, Section 3.3, the physical protection plan, and that is the security of the site; and Section 3.4, is the material control and accounting programs.

Chapter 4 is the review plan for the safety evaluation. This is about three-fourths of what the plan is. It is how we would evaluate the safety analysis report in both the operational area and also in pre-closure in Section 4.1, and Section 4.2 is the evaluation of the post-closure case for long term safety.

And Section 4.3 is the research and development program for developing safety. It resolves safety questions and it would assess the performance confirmation program, and then the quality assurance program, and the administrative requirements.

There is also a glossary and there is about 300 terms defined in the back of the review plan.

The structure of each section. Each section is drafted similarly like I said earlier to provide for a uniform review. It talks about he areas of review, which is the scope of each section, such as the physical protection plan.

Next is the review methods, and it provides step-by-step procedures that the staff would follow to determine if compliance with the regulations were met.

Then we have the acceptance criteria. It defines what an acceptable compliance demons ration is with the regulations, and we have then the evaluation of findings.

It documents inclusions of the staff evaluation after all of the information has been reviewed. It would include a listing of all of the information

reviewed, the basis for the staff's conclusions, and a concluding statement, a finding, of that evaluation.

And finally we have the references, which is really a list of everything included in that section; and often rather than describing detailed procedures included in another NRC document, we will provide a reference to it rather than reproducing that information.

How to comment on the plan. At this meeting tonight, we have forms over here, or you can do it electronically and submit the form, and you can also submit comments in writing. And the comment period ends on June 27th of this year.

Finally, the NRC seeks your views on the Yucca Mountain Review Plan. The following presentations will include Pat Mackin talking about safety during operations, and that is Section 4.1, and Tim McCartin is going to talk about the long term safety at the post-closure in Section 4.2.

And I am going to come back to you and talk about security from theft and sabotage, and that is the physical protection plan and material control and accounting program in Chapter 3.

And then finally we will get a presentation on the adequacy of monitoring of the site. And that concludes my presentation, and I will be happy to take your questions.

MR. CAMERON: Okay. Pat Mackin is going to give us the first substantive part of this review plan. This is what happens before the repository is closed, safety of operations, and then we will go on to you for questions and comments after this one.

MS. TILGES: And we will be able to ask questions about Jeff's presentation?

MR. CAMERON: Absolutely. Again, questions about both of these presentations. We are just trying to get them both in together to give you more time. Okay. Thanks, Kalynda. Pat.

MR. MACKIN: My name is Pat Mackin, and I am an employee of the Center for Nuclear Waste Regulatory Analyses. And just for clarification, as Janet mentioned earlier, that is an agency established with the specific purpose of assisting the NRC with an independent safety assessment for a repository at Yucca Mountain.

The NRC regulations for a repository address two major time periods in the lifetime of a repository. The first of those is during construction and operations; and the second of those is after a repository would be closed.

I am going to talk about the period during construction and operation, and as I start out, I want to mention that the Yucca Mountain Review Plan includes information that has been learned over the years from operating nuclear facilities that do many of the same things that would be done at a repository.

And those would include handling spent fuel, packaging spent fuel, and protecting workers and the public from radiation doses.

There are a number of aspects that the Department of Energy must present in the license application dealing with pre-closure operations, and that the Yucca Mountain Review Plan can turn to establish its criteria for the review.

First of all, it is a pre-closure safety analysis. That is the primary means by which the Department of Energy must show that its repository would comply with the health and safety standards.

Second, I am going to talk about requirements for who can operate such a repository, and what the training and qualifications would be.

Third, I am going to talk about how such a repository would be operated. Next, I am going to talk about a requirement in the regulations that DOE provide a plan for retrieval and alternate storage of waste should that be necessary up to the time that the repository would be closed.

And lastly the regulations require that DOE look ahead for long term, and if a repository is licensed, and it would eventually be closed, and surface facilities would be decontaminated and dismantled.

And the DOE must provide in its plans for how that would be done and in a way that it would protect workers and the public.

First is the pre-closure safety analysis that is required by the regulations, and what it is. A pre-closure safety analysis is a way of assessing the safety of a complex facility such as a repository, and it asks three questions.

Let me put that a different way. DOE must ask and answer three questions, and the NRC would independently assess whether they had done so adequately.

It must ask what could go wrong, and how likely those things are, and what the consequences of those things would be, and for a repository the consequences would be radiation exposures to workers or the public.

The techniques for a pre-closure safety analysis are similar to techniques that are used by the chemical industry in designing and operating chemical plants, and by the petroleum industry for refining facilities, and by the NRC for other kinds of nuclear facilities, and the NRC staff are trained in these techniques.

Okay. The pre-closure safety analysis will do a number of things. First, it must identify hazards, the events, the sequence of events that could go wrong at a repository. Next, it has to look at the likelihood of those events and sequence of events.

Next, it has got to look at and examine the consequences. And again consequences might be radiation exposures to the workers or the public. In assessing consequences the DOE would have to identify whether there are any machines, equipment, components, that are necessary to be operated to ensure that workers or the public do not exceed their exposure levels. Those kinds of things are defined as items important to the safety.

The consequences of things that could go wrong in a repository then have to be compared to the public health and safety standards. The NRC will not license a repository for construction unless the Department of Energy can demonstrate that it would be operated such that those standards would be met.

And finally the pre-closure safety analysis for those items that are important to safety would have to be contained in a detailed design review and analysis.

I talked about the pre-closure safety analysis, and now I am going to talk about who would operate such a repository, and what their qualifications are, and there are several pieces to this.

First, with the DOE organization structure itself, the DOE would have to demonstrate that it has an adequate chain-of-command that reports who is responsible to who, and how authority is delegated.

Secondly, I mentioned earlier that there are going to be likely items important to safety, and that the DOE license application must demonstrate that each of those items is managed by someone, and that the job requirements for those positions are well-defined and adequate.

Third, a lot has been learned around the country and around the world about what is required to train operators for a nuclear facility, and that information has been incorporated in the Yucca Mountain Review Plan.

And it covers such things as what are the criteria for hiring people, and how are they qualified and how are they trained, and how are they re-qualified as time goes on.

And finally any worker in any nuclear facility has to be trained in the hazards and proper handling of radioactive materials. The DOE must present such a program in their license application, and the NRC will independently assess it.

I have talked about how you evaluate the people that have been operating a repository, and now I am going to talk about how a repository would be operated.

The first part of that is that if the NRC grants a construction authorization, over time equipment, components, and machinery will be built at the site.

As those facilities are built, they have to be tested to ensure that they operate properly. There has to be a well-established program for how to do that.

Secondly, just like for our automobiles, it is not an option to install a piece of equipment and let it run. You have to periodically test it and maintain it.

The DOE must present a plan that shows that the items important for safety are routinely tested, and those plans have to show who those people are that would be qualified to run those tests, and what the satisfactory testing would be, and what to do if something is not right.

Anything that is important to safety at any nuclear facility has to be conducted with a procedure, a formal written procedure, and DOE must present its plans for developing and providing these procedures, and these procedures include things such as what are the operating steps, and what are the requirements for equipment and tools, what are the qualifications to do the operations, and what are the expected results, and what do you do if something does not work out right.

I mentioned earlier in the pre-closure safety analysis that the Department of Energy has to identify those things that could go wrong at a repository. Well, if things can go wrong, there must be plans about what to do if they do go wrong, and that is where emergency planning comes into play.

There are very specific requirements in the Yucca Mountain Review Plan and in the NRC regulations for what acceptable emergency plans are, and that DOE has to submit such a plan in its license application.

The Department of Energy must show that it can adequately control the land around Yucca Mountain, and this is for two purposes. One is to protect the waste from disturbance by people, and the other is to protect the people from the waste, and they must have an adequate plan for doing that. And finally construction of a repository is a complex undertaking, and it requires good scheduling to show that things happen in the proper sequence.

The DOE must present such schedules and the NRC will assess them. Regulations require that DOE have a plan, a capability, to retrieve the waste from the repository and store it in alternate ways up until the repository is closed.

The Yucca Mountain Review Plan provides criteria for how we evaluate such a plan. And it will look at the processes, and the plans, and how such plans would protect worker development safety and the public.

Finally, the DOE has to describe how it would design a repository to make it so that it can be disassembled, the surface facilities can be disassembled at the end of operation in a way to protect workers and the public.

All these things I have discussed are aspects of safety during operations that the Department of Energy must demonstrate in its license application, and that the NRC will evaluate using the Yucca Mountain Review Plan. And Jeff and I will take your questions.

MR. CAMERON: Okay. I am going to go to Kalynda first, because I believe she had a question for Jeff. Kalynda.

MS. TILGES: Kalynda Tilges, Citizen Alert. Jeff, on Slide Number 27, you said that the scope of the review plan does not include transportation issues. Why?

MR. CIOCCO: (Off microphone) Why isn't it? Because the Yucca Mountain Review Plan complies and it is for the safety of the Yucca Mountain site, and specific to Part 63, 10 CFR Part 63, the site specific to the Yucca Mountain regulation.

We do have separate regulations for the transportation package design, and the quality assurance, and physical protection of transportation, and the Department of Energy also regulates shippers and carriers.

However, this plan is specific guidance for that regulation, or that site specific regulation, once material is received on-site, and for the operations, and for safety, and for the disposal, and other administrative requirements, as well as the physical protection.

So it is complying or it is evaluating the safety of the Yucca Mountain site.

MS. TILGES: Well, DOE for years has been telling us that they are not responsible for transportation and the NRC is responsible for transportation.

MR. CIOCCO: Well, there is a joint responsibility for the transportation, and the Nuclear Regulatory Commission and several sister agencies -- the U.S. Department of Transportation, and -- well, did you want to add something, Chet?

MR. CAMERON: This is Chet Poslusny who will address that transportation issue.

MS. TILGES: Hi, Chet.

MR. POSLUSNY: Okay. Briefly, you asked why the transportation is not part of the Yucca Mountain Review Plan. Transportation regulations under Part 71 for the NRC and under 49 CFR for the Department of Transportation.

Those regulations support shipments of spent nuclear fuel train loads, and also would support shipments of spent nuclear fuel and for larger shipping campaigns, if there was one, in the future. That is the first answer.

Secondly, the impacts of transportation are part of the evaluation of an EIS that exists on the record. Again, we told you what our job is relative to the final EIS and the NRC process.

So the review of transportation impacts exists in the final EIS, and the regulations already exist for transportation, safe transportation in the United States.

The NRC wou'd have to review the package if DOE intends to use one for transportation or several; or the DOE could choose and use existing cast designs that the NRC currently has approved for shipments to a repository.

MR. CAMERON: Is there anything else on that?

MS. TILGES: Just a comment, that just for the past 20 years now the DOE says that the NRC is in charge of transportation, and the NRC says the DOD is in charge of transportation.

And the DOT says it is DOE, and so maybe one day we will find out.

MR. CAMERON: Okay. Thank you, Kalynda. We will now go to Commissioner Herrera now. Commissioner.

COMMISSIONER HERRERA: (Off microphone) Thank you. Yesterday, I asked about the nature of the repository itself and how the Act, I thought, dictated that it would be a geological repository, and I think in the answer it was mentioned that it had to be substantially a geologic repository (inaudible), and that the repository be of a geologic nature; is that correct?

Well, I was informed yesterday by one of our staff members as a result of communications with the Technical Review Board, apparently the Technical Review Board, the day that Congress was voting to override the Governor's veto, was (inaudible), and came to the conclusion that as it stands now with the science currently in place, 98 percent of the repository would actually be engineered, and 2 percent of it would be a natural geologic repository.

Now, I am not a mathematician, but it doesn't seem that a 2 percent geologic repository meets the substantial portion requirement. Does someone want to comment on that?

MR. CAMERON: Commissioner, that is an important question and our next presentation, our next presenter, Tim McCartin, is going to deal with that. So if you could just wait until that time and directly address that. I know that you have another comment.

COMMISSIONER HERRERA: I just want to make sure that the question gets answered directly, and not just through the presentation, because I appreciate the presentation, because they are very informative, I guess, but I think that --

MR. CAMERON: Well, Tim -- well, why don't we answer your question.

COMMISSIONER HERRERA: Well, we can wait. I don't want to mess with the order. That's fine.

MR. CAMERON: All right.

COMMISSIONER HERRERA: The second issue, and I think Kalynda makes a good point regarding transportation, the gentleman said that there were existing regulations that would dictate transportation issues.

The ones that are currently in place for the existing shipment campaign, correct? Is that an accurate assessment of what you said, sir?

MR. POSLUSNY: Chet Poslusny. They would cover existing shipments which occur on a yearly basis, and they would also cover any future large shipping campaigns to a repository.

COMMISSIONER HERRERA: Okay. And how many shipments would you say in total has the Department of Energy actually undergone in its history of transporting nuclear waste?

MR. POSLUSNY: I am not familiar with that number, but --

COMMISSIONER HERRERA: Would the number be about 1,030?

MR. POSLUSNY: It was about 1,300 NRC-approved shipments of spent nuclear fuel. I am not familiar with DOE's, because we don't regulate their

shipments currently.

COMMISSIONER HERRERA: Okay. So for the NRC it is about 1,300?

MR. POSLUSNY: Over the past 20 years.

COMMISSIONER HERRERA: Over the past 20 years?

MR. POSLUSNY: Yes.

COMMISSIONER HERRERA: Do you know how many shipments would come as a result of 77,000 tons of nuclear waste being transported to Yucca Mountain? Is it safe to say that it is substantially more than 1,300 or the 3,000 that Ms. Navis mentioned?

MR. POSLUSNY: Yes, substantially more in mileage and the number of shipments. Yes.

COMMISSIONER HERRERA: So wouldn't it stand to reason that if you have add substantially more shipments, and you had additional security concerns, and additional concerns for transportation associated risks, and therefore the regulations should be at least looked at, and perhaps updated to comply with this new environment and the fact that the amount of shipments -- excuse me, but to compare the DOE with NRC's history of shipping nuclear waste to the proposal by the DOE to ship 77,000 tons is like comparing an ant to an elephant.

I mean, it just seems to me that we would have to at least look at those regulations before we move forward with our recommendation process, because those are substantially different issues that we are talking about there.

MR. POSLUSNY: We agree totally, and we are doing exactly that on two fronts. On the first front, we are doing vulnerability studies for both transportation and storage casks, and looking at potential threats and potential attacks beyond those which have been considered in our current regulations.

And also others, which I don't have the details, and I can't tell you what they are, but those studies would be finished this coming December, well before any large major campaign would occur.

COMMISSIONER HERRERA: I'm sorry to interrupt, but I imagine -- and let's say for the sake of argument that you go to adopt new regulations with respect to the issues that we just discussed.

Now, I would guess that DOE would have to substantially comply with those new regulations; is that correct?

MR. POSLUSNY: Shipments made in NRC-approved casks would have to be done that way with new regulations. We would modify Part 71 of our regulations, and DOT would modify their sister regulations, and DOE would follow.

And the safeguard cask test would be modified as well if we decide to do that.

COMMISSIONER HERRERA: I asked those questions in that order because there is still a tremendous feeling among residents of Clark County quite frankly that the scientific community, including the Technical Review Board, that when the Department of Energy could not meet its standard for a geological repository, you relaxed the standard.

I know that was disputed yesterday, but that still is the perception, or that is not just my perception, but those of the Technical Review Board members, who are much more highly qualified than myself to speak to those matters.

Now, if the same thing were to happen with respect to transportation concerns, you could see that there would be a recipe for disaster, and

that's why I have been supporting that we address that question.

MR. POSLUSNY: It would not be a separate standard for just the DOE. It would be the same standard for anyone who would ship spent nuclear fuel.

Now, I talked about security regulations that may be changed, and that is based on an analysis we are doing. We are also looking at the safety aspects of a review of the casks.

We are doing a package performance risk study currently, which would include full-scale testing for the cask, both for impact studies, and also for fire.

And currently we have a planning meeting scheduled for August, and also in Vegas, looking for comments, and suggestions, and technical, and any kind of comments we could receive on that as well. And that would affect the safety regulations on the cask.

MR. CAMERON: I think we are going to put transportation in the parking lot and come back to that so we can address that. There is a whole lot of important issues to be discussed with respect to that.

COMMISSIONER HERRERA: Well, you mentioned full-scale exercises. Is that full-scale physical modeling?

MR. POSLUSNY: Yes, real testing.

MR. CAMERON: There are a lot of important questions here, transportation being one of them. We need to make sure that you hear what is in this important document, and get a chance to ask questions about that.

And then we can come back and we can talk about other issues of concern. So it is just a question of sequencing. Herb, do you have a question on this?

MR. MARKS: Yes, I do.

MR. CAMERON: Okay. Great. Go ahead.

MR. MARKS: First of all, I don't want to give you the wrong impression. We are concerned citizens, and we don't harbor hostility towards any members of the NRC.

MS. TILGES: Could you speak up, please?

MR. MARKS: I said that I don't want any mistaken impression being conveyed by this meeting. I am sure that none of the citizens of Las Vegas have deep down animosity directed toward the members of the staff and the employees of the NRC.

We are expressing our deep concerns over issues, over all the issues pertaining to the safety and impact of the proposed Yucca Mountain repository on our lives, our health, the environment, and probably for future generations, the economy, the stability, life in this region.

So that our expression reflects that deep concern and I hope that you can understand that. This is not a personal attack. But with regard to Mr. Pat Mackin's presentation, you have indicated that you would consider, or that the DOE is required to consider, about issues pertaining to what could go wrong.

And how likely is it that what could go wrong will go wrong, and what would be the consequences if it went wrong?

And this format that you follow is similar to what is followed in chemical and refinery industries, and also by the NRC with regard to other facilities.

I would like to make an observation that there is a major difference -- in fact, several major differences -- with regard to Yucca Mountain than the matters

that were used as an analogy for a model.

In the case of Yucca Mountain, we are dealing with a project that is utterly unprecedented on the face of the planet as was alluded to. You have admitted that you have no experience whatever in the construction of a spent nuclear fuel repository, and apparently no other country has.

Secondly, not only is this unprecedented, but with regard to (inaudible), these industries do not deal with the same materials that have the same characteristics as radiation.

So we are dealing with something as someone has expressed, with something that is the worst and most deadly material on the face of the earth. This quality of difference creates enormous challenges and enormous obligations for any agency that assumes responsibility for its safety.

Secondly, not only is this the most deadliest material created by man, but it also is a project that cannot be reversed. It has a life span that is beyond our imagination.

In other words, when you ask what are the consequences in normal industry, or normal public policy, if something goes wrong, it can be stopped, and the process can be reversed, and the environment can be cleaned up.

These are not possible with radiation processes with respect to Yucca Mountain. It is those characteristics and the inter-generational impact that makes this unique.

Lastly, there is another characteristic with regard to Yucca Mountain that is unique amongst any licensing procedure you have ever been engaged in, and that pertains to the public policy, wherein the Federal Government is coercing Las Vegas, Clark County, the southern Nevada region, to be exposed to the risks or the processes that I have just described.

That is a policy without precedent in our nation, and certainly without precedent in the regulatory processes of the NRC, and it is those unique characteristics with regard to the coercion, the shifting of risk, the deadliness of the material, the risk of permanent environmental damage that will be irreversible, the impact on the economy that will be irreversible, the impact on generations that will be irreversible.

It is those differences that make your modeling statements -- to cast them in very serious doubt.

MR. CAMERON: Thank you, Herb, and thank for your opening statement about animosity. We realize that these are issues of deep concern here.

MR. MARKS: Absolutely.

MR. CAMERON: Pat, I think that -- is there something that you would like to respond to in terms of what Herb said? I think he was addressing your part of the presentation?

Is there anything that you want to say on that, in terms of the first of a kind, et cetera, et cetera?

MR. MACKIN: I believe that we would all agree with that, that this is a first of a kind endeavor, but has very serious matters to consider, and complex issues.

MR. CAMERON: Okay. Thank you. We are going to go Steve Frishman now.

MR. FRISHMAN: Steve Frishman, for the State of Nevada. Pat, for your pre-closure safety analysis, you talk about the elements of that analysis, and

at some point in the probability of events, there is a cutoff.

And if you could say what that cutoff is, and then maybe relate it to something like the possible event of either a military or commercial aircraft crash on the surface of the repository.

MR. MACKIN: The Department of Energy is required to consider events that could occur with up to one chance in a million for the operating period of the repository.

MR. FRISHMAN: And that is one chance in a million per year?

MR. MACKIN: Yes. Now, that is a very difficult number to understand. In fact, some people say that that it is almost certain not to occur, but they are -- the Department of Energy will have to demonstrate, one, that it has considered all those events using the kinds of techniques that are accepted for that purpose.

And the NRC will independently assess whether they can so operate before we would concur in their safety analysis.

MR. CAMERON: Steve.

MR. FRISHMAN: Well, just for information. I raise that partly because of a global concern relative to both commercial aircraft and of course the Nellis training area.

And I also raise it because in licensing procedures for a private fuel service facility in Utah is going on right now, and they have the military aircraft traffic that is very similar to the numbers and in configurations to Nellis.

And the battle is not over yet whether the probability of a crash is high enough to even be considered.

MR. MACKIN: Right.

MR. FRISHMAN: And so I just bring that up and that people here should understand that and help you to facilitate and get that issue out.

MR. CAMERON: Thanks, Steve. We are going to go to Irene. And you do have to hold this pretty close.

MS. NAVIS: Irene Navis, with Clark County. A couple of comments. One is that in the safety during operations section, we would like to see the NRC go into just a little bit further on that.

I am looking at organizational structure, and moving into looking at perhaps organizational culture, and the history of the proposed licensee, and not just the organization structures. That is one recommendation we would like to make for the final document.

And also the Yucca Mountain Review Plan seems to be focused on the evaluation of the license to construct a repository, and in the final plan we would like to see go a little bit further and place more emphasis on the license amendments with regard to receipt of waste and permanent closure, and be a little more focused in those areas.

And in particular that provision of construction being substantially a bit weak, we would like to see a little bit more definition added to that as a quantification.

A couple of other terms that we found kind of confusing and need to be quantified and perhaps clarified, you seem to mix the term reasonable assurance in the review plan and reasonable expectations listed in Part 63, and we don't know if those are interchangeable, or if they have different definitions. So we just want that clarified. Thank you.

MR. MACKIN: Thank you.

MR. CAMERON: Thanks, Irene. Let's take one more on this issue, and if there are other questions on this issue, we will come back to it. But I want to get Tim McCartin up here to talk about long term performance.

And, Tim, I want you to think about if there is any mention to your presentation with the issue that came up before this long term safety. If there isn't, we will just wait and pick it up.

But I thought there might be so that we could try to get that out, okay? But I will leave that to your discretion. Kalynda.

DR. KOTRA: I wasn't going to ask this all at once because I thought we were separating the two presentations, and so I apologize. Just to kind of follow up on what Irene said, that question was brought up at the Pahrump meeting as well about taking into consideration the Department of Energy's abysmal track record in contamination when it is under their control.

And at the Pahrump meeting, I believe the answer to that question was that you weren't required to take their past track record into account, and that they would start with a completely new slate.

That is just a comment and I was going to bring it up, but Irene already did. And on Slide Number 38, on operating and maintenance procedures, you talk about restricting access and land use.

I am a little confused as to how that could happen seeing that Yucca Mountain is actually less than five miles from the Highway Number 95.

MR. CAMERON: Pat.

MR. MACKIN: If I understand your question, it really boils down to would it be safe to continue transportation on Highway 95 with a repository in place.

MS. TILGES: Well, I hope I haven't opened up a full can of worms here. This whole meeting of the draft Yucca Mountain Review Plan seems a little premature considering there is a premature EIS, because they don't even have a final plan yet.

But the last of the new flexible plans that have been introduced call for an extremely large surface facility, such as Adrian mentioned, and huge pool repositories having to do with fuel, and we are talking about this type of structure and this type of surface facilities less than five miles from the main highway, the only highway that connects the State from one part to the other.

And it seems to me that this is just one of the issues, and not to mention the Nellis flyovers and planes have crashed, and bombs have gone awry, and so the likelihood of that happening is that it has already happened.

But we are talking about this kind of facility with surface cooling ponds less than five miles from the major public access way. And I fail to understand how that can ever be made safe, and how you could ever consider that could be made safe.

MR. MACKIN: If I could provide an answer to that, and perhaps Tim would like to add to it, but we don't have the Department of Energy license application with its design, and that if the design had those facilities, they would be evaluated if they met the safety criteria, and if they didn't the NRC would not grant the license. We don't have a design that shows those facilities.

MR. CAMERON: Kalynda, did you want to add anything?

MS. TILGES: I guess I don't understand what you mean by safety requirements.

MR. MACKIN: Safety requirements of the health and safety standards of the EPA, and the ones that are in the NRC regulations.

MR. CAMERON: Okay. Thank you, guys. Let's go to Tim McCartin.

MR. MCCARTIN: I am Tim McCartin, and I am an employee with the Nuclear Regulatory Commission. I would like to say one thing to Herb, in terms of his previous statement.

When we first started doing public meetings in Nevada in 1999, I still remember one of the first meetings where somebody came up and said very simply that we are counting on you to protect us.

And let me say that we understand that it is a very serious burden, and it is a important burden. I don't think we were ever offended by anyone in Nevada.

I think we are here to hear you, and I think it is always appropriate for you to remind us of that heavy burden that we have. We take it very serious.

I will never forgot those words, and I appreciate what you said also, and sometimes people get emotional and say things in a loud voice. And I grew up in a large family where the person who spoke the loudest and the last was supposed to be rough, but I appreciate what you said, and I think it is always appropriate for a citizen to remind us of the important job that we have got.

MR. MARKS: I appreciate your interpretation and I appreciate your sincere devotion to the idea of protecting Southern Nevada.

My own concern, and my own conviction, is that the people of Southern Nevada should be the ones making the determination.

So that while I appreciate your expression and your devotion, that is not something with you that I share.

MR. CAMERON: Thank you, Herb. Tim.

MR. MCCARTIN: I am going to be addressing long term safety, in terms of long term, I am referring to that time period after waste is taken or placed in a potential repository.

In terms of safety, we are talking about the behavior or future behavior of the potential repository, and would be within the safety requirements set by both the U.S. Environmental Protection Agency and the NRC regulations.

And tonight I will talk about three specific aspects of this. One is that I will describe the safety requirements, and I will then describe how the Department of Energy is required to evaluate safety.

And finally I will finish up with how the NRC will review this safety evaluation. In terms of the requirements for the repository, there are three numerical requirements.

One, for individual protection, and a separate one for ground water protection, and a third requirement that is a way to judge the safety of a repository if there was an inadvertent drilling through the repository, and what is referred to as human intrusion.

These three requirements were propagated by the Environmental Protection Agency, and they have been incorporated into our regulations. There is a fourth requirement, and that is a requirement for multiple barriers.

This is a requirement that says that there has to be safety functions associated with the repository that are both natural and engineered. And I would like to talk about that in a little more detail.

When we talk about engineered barriers, we are talking about safety functions that come from man-made materials. This would be -- an example would be the waste package and the drip shield. A waste package is a relatively straight-forward concept.

The drip shield -- and some of you may be new to that term, but it is sort of a tent that surrounds the waste package, and what it is designed to do is prevent drip from falling directly on the waste package, and it is sort of like a tent if you will.

And hence the name drip shield, and it is shielding the waste package from drips hitting directly on the waste package. And it is a man-made feature, an engineered feature.

And also they are required to have safety features that are associated with the site, the geology if you will. The waste is buried approximately a thousand feet below the surface, and that thousand feet of rock prevents anyone from coming in direct contact with the waste. That is a safety feature.

Additionally, potential releases from the waste package will have to seep through these same rock layers, and possibly going thousands of feet before there is the potential that these releases could come in contact with human beings. That is also a safety feature of the geology.

I would now like to address Commissioner Herrera's question in terms of this is the repository in our regulation, and also the Nuclear Waste Policy Act also requires that the repository be comprised of multiple barriers.

There has to be barriers associated with the engineering, and there has to be barriers associated with the geology. Now, that does not mean that in terms of -- and I would like to draw an analogy to fire protection, and it is the easiest way I can think of drawing this analogy.

And buildings are designed so that they don't have fires. There is electrical codes, et cetera, so you don't have a fire. However, on the ceilings, there are smoke detectors, and there is sprinklers.

So there are other things there. Now, we don't have a fire here today, and so the sprinkler system, and the smoke detectors, aren't working. They have a capability that is there.

Maybe there is never a fire in this building ever, but that capability is still there. Likewise for the repository. If the waste package never leaks, is the geology providing you something.

Our regulations require that the geology needs to provide some capability, and whether that capability is actually called upon is a different issue.

But in our regulations the Department of Energy would have to show that the geology, these rock layers, provide a capability to reduce and limit the releases of radionuclide to potential exposures. So that capability will be evaluated.

Now, I know that you have referred to a NWTRB publication that I believe was referring to some Department of Energy calculation, 98 percent, versus 2 percent.

One of the problems that the Department of Energy has struggled with that NWTRB also, that if nothing gets out of the waste package, that means the geology does nothing.

Well, likewise, I once again want to go back to this. If we don't have a fire, that doesn't mean that there isn't a capability to the sprinkler system and smoke detectors.

That capability is still there, and it is an exercise. Somehow people are trying to do calculations to show what this capability is, and that is the calculation 98 percent versus the 2 percent.

And what the Department of Energy did as I understand it, because they found a number of calculations where they artificially failed some of the containers, and let's assume all the waste packages failed today, and let's assume some other things failed.

And they get different results, and in comparing these different results, they come up with percentages of what percentage they relate to. It is often difficult to interpret those numbers.

I am aware of the 98 percent versus the 2 percent. My understanding is that those calculations are related to a very small aspect of the repository inventory.

Most of the contaminant doesn't get out, but they look at a very small part of that. It is a way to try to explain it, and I don't know if it does a very good job.

The NRC regulations, what it is called upon, they need to talk to the capability of the natural and engineered barriers. That capability would look at how long does it take the waste to migrate, and how much would be held up, and these kinds of things that would give a better representation I think of the capability of the barriers.

However, there is this problem of how best to describe barriers when the waste package doesn't fail. Would you like me to stop and --

MR. CAMERON: Why don't you finish your presentation and then we are going to go back to the Commissioner and see if that is a good explanation for him, okay?

MR. MCCARTIN: Okay. That is a little more detail than I usually give about the barriers, but that is the regulation part of the requirements for the repository.

I would now like to try to address how will the Department of Energy evaluate the safety, and in that the regulations require a systematic and thorough analysis of the repository.

And in the regulations we use the term performance assessment to describe that systematic and thorough analysis that the Department will have to conduct.

We have three questions that describe this type of analysis; what could go wrong; how likely it is; and what are the consequences. And if you remember, those are the exact same questions that Pat Mackin had for the pre-closure safety analysis.

And you are right. When you are looking at safety, there is a lot of things that you do similarly. These questions are asked in the same way. However, I would like to now go into how does this apply to the repository long term safety.

It is slightly different in that regard how he answered these questions, because it is the long term behavior than the operational behavior. In terms of what can go wrong, as I said, we require that the Department of Energy have a very thorough analysis.

In looking at what could go wrong with the repository, we have three categories that we have identified, both in the regulations and in the review plan, to make sure that this analysis is systematic and complete.

The three categories are features, events, and processes. Features are the kinds of things that you can see and measure; a fault, or a large crack in the rock, and you can see how wide is the fault, and how long is it. These are features, things that you can see and measure.

Events are the kinds of things -- something that happens at a particular instant in time; an earthquake, a volcano, is something that could happen at a particular time period.

In contrast to events, there are processes. These are things that -- and not necessarily something that happen at a particular instant in time, but happen gradually over very long time periods.

For example, dripping of the water into the repository, and corrosion of the waste packages, and something that happens gradually over a very long time period.

So, you have features, events, and processes, and DOE is required to identify all these types of things, and how they might affect the repository, and get into how they will affect the performance of the barriers.

DOE has to identify what was engineered and geologic barriers. And these features, events, and processes as you can see, could cause some disruption, some effect on these barriers or the repository.

After having analyzed what could go wrong, the next question is how likely is it. First, one must consider the probability, how often something occurs. Also associated with the probability is how big it is, and the extent.

For example, earthquakes. Small earthquakes occur more frequently than large earthquakes. So when you look at the frequency or the probability, it is also related to how big it is.

And secondly is the location. Where does it happen. I will go back to my dripping into the repository example. Is it dripping over all of the waste packages, or is it dripping in a particular location, and how likely is that to occur.

Finally, having done how likely it is, and what could happen, the next thing is what are the consequences if these things occur. And there are a couple of things that the Department of Energy is required to look at.

First, they have to look at safety during normal conditions. What do I mean by normal conditions? When barriers are performing as expected.

But also if you noticed, with the features, events, and processes, and we are looking at what can go wrong, safety needs also to be evaluated during what we would call during disruptive conditions, when things that could go wrong, if they occur, such as large increases in rainfall, volcanoes, et cetera.

All these would also be related to the functioning of each of the barriers. This also gets back to looking at how the barrier is performing, and once again I will go back to the 98 percent, and the 2 percent, and look at a very narrow part, and look at the dose and nothing more.

We will be looking at the functioning of each of the barriers, and what is the barrier doing, and how has its function changed, and by that possibly let's say that after releases occur from the waste package, maybe it takes thousands of years to travel from there to some potential location where it could be intercepted by humans.

Well, that thousands of years, we would expect the Department to look at how that barrier functioned. Is that travel time significantly reduced by some

of these features, events, and processes? How does it change?

And each barrier has its own function, and we would require the Department to look at the function of the barrier; the 98 percent, and the 2 percent, yearly related to the dose.

And ours is a more general, I think, comprehensible look, and we are not just interested in that final answer. How is this barrier performing, and how is the geology doing, and how does it change with time?

Okay. That covers the requirements for the Department of Energy, and that is the performance assessment that they are required to do. As I said, I would go through the requirements for the repository, and how DOE needs to evaluate safety and performance assessment.

Now I would like to go to that third part, how is the NRC going to review this safety evaluation that the Department is required to conduct. First, we want to look at the purpose for the barriers.

What are the barriers doing, and how they have performed over time, and what can go wrong with them. We will review -- and it is up to the department to identify or what is the function of the barriers, and how they change with time.

Next, we will look in the performance assessment in those three questions that I identified; features, events, and processes. The Department is required to have a thorough comprehensive list of what can go wrong, and we will review that list to see if we agree.

We will consider it. The NWTRB has raised comments, and our own advisory committee have raised comments. There have been other groups in Nevada that have raised questions.

We certainly have heard all of those things, and when we look at the Department, we are aware of all of these questions that have been raised in looking at what can go wrong. And then the likelihood and then certainly the consequences.

There is ultimately estimating that future behavior on the repository, and it is a very complex problem. It is the future behavior. The Department has scientific models, and the NRC has also developed some of our own scientific models to estimate this future behavior.

That reliance on scientific models requires that there is scientific information that is supporting those features, events, and processes likelihood and consequences, and that calculation needs to be supported by scientific information.

And clearly with a problem as complex as the Yucca Mountain facility, there is going to be differences of opinion in the scientific information. You probably read the newspapers over time on some of these differences.

The NWTRB, the ACW, our advisory committee, also raised differences of opinion between scientists on what the information is saying.

That information we will evaluate, and the department is also required to evaluate and consider these differences of opinion. We have alternative conceptual models is the words that we use in the regulation, and that is, looking at alternative conceptual models is really scientific differences of opinion of what can happen and that needs to be evaluated.

And I remember -- and I don't remember if it was Andy, but someone raised the question of we have never done this before, and can we be sure, et cetera. And that is a very important question.

There are things that our regulation also requires. We heard from the NWTRB, and they refer to it as multiple lines of evidence. And by that they mean you are not relying on a single piece of scientific information to make your decision.

And you have multiple ways to get at this information. You have laboratory tests, and you can conduct tests in the lab to give you some information.

You also can conduct tests in the field, and certainly the Department of Energy is conducting experiments at the Yucca Mountain site, and Nye County has some wells that they have put in. There is information from the field that is in investigations.

And most importantly, another phrase referred to was what is natural analogs, and once again, yes, these scientific models have to estimate things far into the future.

Natural analogs. There are certain geologic processes that you can observe in nature and take measurements to get an understanding of how a future repository might behave.

And the natural analogs are a very important part of that. One example is that in a rock formation the same type of rock formation as Yucca Mountain, there is a uranium deposit in between the rock formations, and that has been studied by the NRC, and it has also been studied by the Department of Energy, to look at -- it has been there for tens of thousands, hundreds of thousands of years, and how has the uranium migrated through this same kind of rock that is at Yucca Mountain, and that is a way to give you a little more confidence.

And that part is multiple lines of evidence. You don't rely on one piece of evidence. You use multiple lines of evidence, and in that way we can try to get more confidence in our estimate of the future behavior.

Having done that for our review, I want to give an example here of the types of things that we would be looking at for a particular example, and I used dripping water as one example.

Clearly, there is present-day testing going on, and measurements going on by the Department of Energy to determine where dripping might occur, and how much dripping could occur, and we will be looking at those tests also.

Future climate changes. The present day testing doesn't necessarily tell you if the climate 5,000 years from now is cooler and wetter, and what will happen, and how many waste packages might get dripped in that time.

We would be looking at future climate changes, and some of that is certainly done with -- once again these scientific models. Thirdly, waste effects on the rock and water.

As was mentioned the fuel does generate a deep heat, and this heat will affect the properties of the rock, and it will affect the water, and how is that going to affect dripping.

That needs to be evaluated, and you need to do some tests, and they are currently doing some tests like that at the test site with respect to the heat, but that needs to be evaluated also.

In terms of the -- and I guess that Chip wanted me to mention the long term surface aging. I think that the NWTRB has recommended at times to the Department that they go with what is called a pool repository, and keep the temperature down.

Part of the strategy for the Department of Energy could be if they take the recommendation of the NWTRB that they might keep some of the materials

in the pool at the surface prior to putting it into the repository.

And that is a way to thermally manage how much heat goes into the repository. And lastly the long term changes in the drips. As I said, you can look at the drips today, and you can do experiments in there, and look at the dripping in there.

But relatively speaking the drips of the tunnel are smooth. With time, you would expect what they call drip lap. Some of the rocks from the ceiling would fall and it would no longer be smooth, and the fact that it will no longer be smooth could effect that dripping.

We expect that the Department can evaluate how that future behavior will evaluate in time, and we will also be looking at that. So when you look at the review plan, there is a lot of mention of different components of the science, and you will see these kinds of things mentioned, and that we are trying to look at all of the different aspects, and how will the repository evolve over time.

And with that I would like to conclude by saying the long term safety depends on both the site and the man-made barriers, and it requires both.

It requires a thorough performance assessment, and lastly, it requires some scientific information that would support the performance assessment, and with that, I will be happy to answer any questions you may have.

MR. CAMERON: Thank you very much, Tim. Let's as the first order check in with Commissioner Herrera about the natural barriers. Commissioner.

COMMISSIONER HERRERA: (Off microphone) Thank you. I appreciate your answer, although I have to admit that I don't have the scientific expertise to know whether it was a good one or not.

My only question is -- and I understand your explanation and I understand the analogy to the fire, but if this is that simple, then why is it making the review board so concerned about that issue?

They have made it plainly clear that there is substantial concern about that issue, and what is the root of their concerns?

MR. MCCARTIN: Right. And I agree that -- and therein lies the problem, that the analyses that are presented, and have been presented to date, do not give a good understanding of what the different barriers of the repository are doing.

That is at the heart of it, and there isn't a very simple answer to that, and I think that everybody is scratching their heads to try to come up with what is a better way of understanding what the barriers and their contribution are.

And I think it is incumbent upon the NRC and the Department to have a better way to describe it. I hope right now that in the regulation we define the barrier as something that had the ability to have an effect on the movement of water, or the movement of waste.

And I think that is the way that I would like to see it, and how is it going to affect the movement of waste or the movement of water. I think that needs to be described.

And unlike -- well, the results that we have seen today -- oh, if I fail all the containers, I get a dose of X, and if I failed all this, I get a dose of this. Well, what does that mean? Well, I mean, the difference between these two.

And it doesn't really tell you what is happening and why, and our own ANCW has been critical of that. That it seems to be that you fail all these waste containers, and something that can happen at T-zero, at the very beginning.

There are other barriers that might mask the behavior, and cover the behavior of another barrier, and it is a complex problem. But to me when you describe the capability of barriers, in terms of how they affect water, rain, and waste.

MR. CAMERON: Commissioner.

COMMISSIONER HERRERA: This is my final question, because I promised my wife three hours ago I would take her to dinner, and she is getting inpatient with me.

Obviously the NRC's role in this is post-site approval, and you will accept the DOE's application, and identify deficiencies, and ask them to remedy these deficiencies, et cetera, et cetera.

Well, shouldn't that be resolved to an almost absolute certainly before the site process is completed?

I mean, in an ideal environment, shouldn't a question of that degree, of that substance, be one that -- for example, the movement of water in the repository, the movement of waste in the repository, shouldn't that be addressed before the application gets to you, because those seem to be the heart of the site suitability concerns.

MR. MCCARTIN: Well, the NRC's role is for the license application --

COMMISSIONER HERRERA: I mean, ideally, shouldn't -- I mean, if I put the cart before the horse, making the site itself final before addressing one of the most important critical questions of the site itself?

I mean, I understand that your role as the NRC is to identify the deficiencies, and ask for them to do remedies to the degree possible. But let's say for the sake of argument that Yucca Mountain has a geologic repository isn't suitable because of the movement of water, or the movement of waste potentially.

Then we have lost our opportunity because we made a decision based on incomplete information, and now we are forwarding you an application that doesn't address that.

MR. MCCARTIN: Well, what we are working towards is ensuring that the Department of Energy gives in the license application, gives us the information so that we can review that very issue, and we can evaluate the role of engineered and geologic barriers.

We make no decision of whether they comply. We want them to give us enough information so that we can do our technical review, and it is our technical review at the licensing hearing that will decide whether they have complied.

But we need the information, enough information to make -- to be able to do our technical review.

MR. CAMERON: Okay. Thank you. And I guess we should thank Mrs. Herrera and everyone else. There is a number of people who want to ask questions here.

MR. MARKS: I had just a follow-up.

MR. CAMERON: We will get to you, Herb. We will get to you. We are going to go to Adrian, Irene, Steve, and Herb.

MS. ZOLKOVER: I think underneath all of this there is an assignment of responsibility. The NRC has a job to do, and you have nuclear power plants with maybe three guards, retired people who don't know how to yield a gun.

And the NRC says, well, if it is more than one truckload, or three people, one inside or two outside, they don't need to know how to do anything more

than that, because the government has to do it.

And the NRC is like, who? Me worry? It is not being done. There are terrorists out there. Something has fallen through. One reason I say this is that I think the simpler it is, maybe the better it is.

Gary Tubbs and his article, "Whose Nuclear Waste," observes in MIT Magazine of Innovation and Technology Review, January/February of 2002, "The more geologists have learned about Yucca Mountain, the less viable that model has become. In the past year, both the National Research Council and the Harvard University of Tokyo Collaboration, advanced an idea that seems to be gathering support among experts in the nuclear waste debate."

"The gist of it is to slow down, rethink, and do it right. The industry has learned to store spent nuclear fuel on site in dry storage casks. These concrete or steel casks are easy to use, easy to license, and according to the Nuclear Regulatory Commission, will keep the spent fuel safe for a century."

"Indeed, says DOE Williams, everyone agrees that dry cask storage, known technically as monitored surface storage, is an adequate temporary solution to the problem of spent fuel, at least from the safety and security points of view."

The Science Magazine, January 13th, '95, at four articles from a symposium at Cal-Tech on L.A. earthquakes in L.A.

And they postulate that from measuring all the stress, Southern California would have had to have had in the L.A. area basis, a 6.7 earthquake every 11 years for the past 200 years to have released the energy that is stored. There is so much energy.

And when there is that much tension it generally releases a big moment, and which would be a 7. something going over 15 no-faults for a hundred miles around. And then you read in the footnote that they have underestimated the probabilities and dangers in every case.

And another footnote says that they have not included the San Andreas in their scenario. Then I guess -- and I read someplace where an expert said that the Las Vegas area would probably suffer from that, either one of those or both of them, the equivalent of what L.A. had in '94.

When I went to the Yucca Mountain site, I asked a USGS scientist what happened in earthquakes. He said, well, what happens is that it goes around the tunnel.

Now, in L.A. in 1994, one reason that a moderate 6.7 earthquake, where 80 percent of it was dissipated in the Suzanne Mountains didn't knock out the whole city, and this moderate 6.7 -- and there was a problem that there was a complex configuration. It wasn't just one thing.

It wasn't a hole in one. It was two angles, and that means that things wash kind of. That ain't so simple. And another minor detail that I am concerned with is if water gets to those things, and they are hotter than boiling, steam takes up 600 times the space of the water.

You could have explosions. You can't take an average rainfall. You can have a cloud burst, and it is a mountain, and it all goes down like a swimming pool down into one place, and then starts up.

I am really not very convinced at all, and I think the safest thing to do would be to put those things into steel containers, and have maybe 20 places monitoring in the U.S. Put them on 12 foot pads thick of concrete, and put 12 feet all

around so that they could unplant them if they need to moderate something, and give up on this repository.

MR. CAMERON: Thank you, Adrian. I am going to ask Tim to talk to Adrian's points on the earthquake and how that fits in to long term. And I am going to put the alternatives issue up here. But could you speak to that?

MR. MCCARTIN: Sure. Earthquakes are one of those events that needs to be evaluated. It is one of those issues where there is some scientific differences of views that the Department will have to consider.

There are differences in views in evaluating the extent and the number of earthquakes that could occur, and that might occur at the site. It will be evaluated. Regarding this steam explosion, the Yucca Mountain rocks are fractured, and there are a lot of fractures there.

And the Department has even conducted some thermal tests, and people will say that the mountain breathes, and that there is a flow of air. So it is not in a confined environment where this steam would build up.

It would be vented, and so the steam explosion shouldn't occur.

MR. CAMERON: Okay. Thanks, Tim, and we are going to go to Irene, and then to Steve, Herb, and Dennis has a question, and I think Kalynda. Irene.

MS. NAVIS: Thank you. I was at the TRB meeting a couple of weeks ago and their focus was really performance confirmation, and I know that is in your next section. But they did talk a lot about ongoing testing through the licensing process.

So my question is how is the DOD's plan to continue testing through licensing on these safe barrier safety issues impact the licensing process? How will the NRC evaluate that future testing?

For example, as they are testing the drip shields, and they realize the drip shields aren't such a good idea, or they maybe need to be made out of a different material, or something, at what point does somebody say time out, and you either have to go back and readdress this, or this is a big enough problem where we have got to stop your license clock right now? How do you address that?

MR. MCCARTIN: There are a couple of points that you have raised that are all very important. First, in making the initial determination, the NRC has to have sufficient information to know that the repository will be safe.

However, that isn't good enough. There is what in the regulation is called a performance confirmation program. That program is designed to say, okay, what is the -- if you look at the barriers that are important to performance, and the key safety functions that you have, this performance confirmation program is directed to we want you to conduct tests to confirm what you have told us in the license application, called the safety function of the barrier.

This performance confirmation program would continue, and is required to continue from the start and all the way to the time of the permanent closure.

And at key decision points, the DOE is required to use that information to update the performance assessment. First, there is the construction authorization as Janet mentioned, and then there is a license to actually receive waste at the site.

It would be updated at that time, and then at the time of closure, it would be updated again. However, the regulations require that if DOE learns anything that has a significant effect on the decision that we make, they are required to let us

know, and let all the affected parties know we have found this information, and here is the safety implication.

So regardless of these scheduled updates, they are required, and the NRC -- and as part of our inspection and enforcement, we go out and look at this thing. We are looking over their shoulders.

And so the information would be evaluated at those scheduled times, but if there is something that is found out that is important, they have to report it to us, and it would be determined at that time if any changes were necessary.

And clearly the ability to retrieve the waste is affected by that. If they learn at some future date that this is not going to be safe, that's why we --

MR. CAMERON: Thanks, Tim. We have just these two little short subjects to go. One of them is the performance confirmation program. Okay. Herb, and then we will go to Dennis. Herb, you need to hold that close.

MR. MARKS: Tim, in addressing Commissioner Herrera's question, are you saying that the DOE has not yet provided the necessary information to make this assessment or determination with regard to the barriers?

MR. MCCARTIN: Well, right now people have alluded to the 293 agreements that we have with the Department of Energy. Part of that is based on additional information that they have to give us. We had a technical exchange with the Department I'll say 6 to 9 months ago regarding barriers.

And we did tell them that while they have done these dose calculations, and done what they call neutralization analyses, they fail a barrier and see what the dose is.

And we pointed out to them that the regulation requires you to describe the capabilities, and that does not describe the capabilities. So they are aware that they have to give us additional information.

MR. MARKS: So how could they recommend this to the President without that very basic determination with regard to suitability of the site?

MR. MCCARTIN: Well, remember that the recommendation is not saying that they had all the information today for a license application. Obviously the 293 agreements say they need more information.

They have a lot of information of the site, and that they have provided.

MR. MARKS: The DOE said that those additional 293 were minor, and that they were not substantive, and they were not show stoppers to use the Secretary's statement of words.

MR. MCCARTIN: I would agree that the -- and I would have to go back and look at what he said, and it could be that they are not show stoppers, but in terms of if they are all minor, there was some significant information that was not provided.

MR. MARKS: Well, how could you say they are not show stoppers if they address the very basic critical issue of barriers to radiation, and what constitutes the barriers, and the relationship between the barriers.

This is fundamental to the suitability of the site.

MR. MCCARTIN: They have to show that there are multiple barriers, that is correct. The Department is saying that they have the information that they believe they will be able to show in a license application.

MR. MARKS: Well, they cannot yet present that to you.

MR. MCCARTIN: Correct.

MR. MARKS: And yet at the same time they have recommended a site to the President and the Congress. To me that seems to be beyond belief and responsibility for something as serious as nuclear waste.

On the same vain, I think it is appropriate to go back to Janet Kotra. You stated that in response to a question from Adrian in which she quoted that the current proposal of the Department may include 400 or more cooling ponds sitting out in the open at Yucca Mountain.

And you observed that this was not part of the basic initial proposal made by the DOE, and that therefore they might not be in compliance with their own -- with the requirements.

DR. KOTRA: Well, let me clarify what I was saying.

MR. MARKS: I would appreciate that.

DR. KOTRA: (Off microphone) The Nuclear Waste Policy Act of 1982, as amended in 1987, currently gives the siting of a nuclear fuel storage facility while there is a total decision made with regard to the repository, it would have to be determined if some of these alternate designs were considered, including the ones that Adrian mentioned, and whether that would constitute monitored surface storage

As Tim indicated, the Department of Energy has a great deal of flexibility to provide the design to us. We do not design the repository for them. They come to us with a design, and we have to evaluate that according to criteria as Janet Schlueter indicated.

At that time, a decision would be made, and I would assume that the Department of Energy would not uphold the design that is currently proscribed or prohibited by law.

I want to just go back to a point that you made just before coming back to me, and that is that you have to remember what the purpose of the site recommendation is.

If other conditions are present, and the President's recommendation to Congress, if allowed to go forward by the decision that is currently under consideration by the Senate, would only allow the Department to come forward to the Nuclear Regulatory Commission with a license application.

It is the licensing decision of the NRC and where safety decisions are made, and where all of this information has to be brought forward. We are leaving out our game plan if you will and seeking your comment on how we would evaluate that application, and determine if all the necessary information is in place.

Based upon the site characterization activities at this time, the Department feels confident that it will be able to come forward to the Commission with an application.

But they can't -- it is not reasonable to expect them to have written a license application before they got permission to write the application. And that is what the recommendation, if allowed to go forward, would perhaps do.

MR. MARKS: I have another question.

MR. CAMERON: Well, I do want to give other people the opportunity and we will come back to you. Dennis.

MR. BECHTEL: Let me see if I can frame this question correctly, but I have always been intrigued by this term, integrated repository performance, and made up of engineering elements and natural systems.

I guess where I am looking at the kind of big picture is how you actually salute and march on for DOD to go ahead and construct. How do you take all

these individual elements, and prioritize them, and weigh them, and not get to a point where perhaps if you will have a real bad element that is not going to work, and you have all these better elements that have kind of mastered that element?

I mean, how are you going to take all together all these pieces, and put them together, and not perhaps miss something dramatic? I think we did talk yesterday about the site guidelines, and where the old guidelines and individual pieces come together.

And if the sub-surface or saturation zone isn't going to work, well, that is a flag that the site isn't any good. And now that it is integrated, it is a little unclear in my mind how these bits and pieces are going to fit together, and you really don't miss something, and how you weigh that and prioritize it.

MR. MCCARTIN: Well, in terms of weight, I might have to ask you a question of what exactly do you mean by weight? Now, the elements --

MR. BECHTEL: How do you prioritize pieces.

MR. MCCARTIN: Well, in terms of the elements, I assume or what I understand is the performance assessment includes this scientific model of the site that starts with the surface rocks and the repository. It is an integrated model, that's correct.

And the first way I would say are we sure that they have -- that the department has all the pieces, and I think it starts with the old standard review plan, where up front the first thing we ask is to describe the barriers of the repository.

What are those elements that are causing the repository to be safe, and that will be the retention of the rocks above the repository that limit the amount of water that comes in, and the waste package, the drip shield, the saturated film below the repository.

You will have all those pieces that make up the Yucca Mountain region, and those barriers, what we are asking for is to tell us the capabilities of those barriers, and that's how in terms of prioritization where do you -- where is the largest amount of performance, the greatest safety factor coming in.

And that's why in terms of the capabilities of the barriers, we ask for -- the way that it is going to work, and the way it is going to be safe, is that it is either going to slow down the movement of water, or it is going to slow down the movement of waste.

The most likely way that waste will eventually or could eventually get to humans would be through this water pathway. So if we are looking at that kind of description, we would look at those barriers, also looking at what could go wrong, and what are the things to look at that could go wrong with those barriers. And it is a complex problem.

MR. MARKS: But if the barriers would work --

MR. CAMERON: Dennis, we need to get this on the transcript. We have a question here and we have a question here, and we need to just get these two real short presentations on security and adequacy of monitoring on, and then open it up to make sure that we get these parking lot issues taken care of.

We have done a couple of them, but then to open it up to others. The Yucca Mountain Review Plan doesn't deal with Transportation, but we know that that is an issue, and we know that there are some questions on transportation. So let's go to this young man right here.

MR. NAMANNY: My name is Wilson Namanny, and my question is in regards to what kind of communication are the NRC and the test site having? Do

you see the tests that are going on -- the sub-critical, and tests that are occurring on the ground? How are they going to affect -- are you restricted on the test site, or --

MR. MCCARTIN: Well, the program is required to -- and Pat has talked a little about that, but identifying any kind of restrictions that need to be in place to ensure that the barriers of the repository keep their function.

And nuclear testing, I guess if it ever resumes, that there could be some aspects of that, but they are required to identify the kinds of things that need to be restricted in that areas.

MR. CAMERON: Do you have a follow-up on that?

MR. NAMANNY: Well, there was like sub-critical -- what was it -- critical nuclear testing underground, and that they are trying to do more and more of it. How are you working with that situation?

MR. CAMERON: Well, the Department is required to identify anything that could disrupt the barriers.

MR. NAMANNY: Are you guys going out of your way to deal with it, or --

MR. MCCARTIN: Are we going to do what?

MR. NAMANNY: Are you going out of your way to work with that?

MR. MCCARTIN: Well, we have to wait for them to submit a license application. However, given that a license application is submitted, would we look at what they have identified in the activities, and what is going on in the area? Yes.

MR. CAMERON: And I think that part of the question is, is how do you ensure that any tests that DOE is doing on one side of the house doesn't perhaps harm the integrity of a future repository.

And I think that is what you are trying to get at.

MR. NAMANNY: Yes.

MR. MCCARTIN: It would need to be considered, and the requirements for land use, and restrictions of activities in the area, and that could include any activities at the test site.

MR. CAMERON: Okay. We may come back and explore that, because I think I know where you are coming from on that one. I will give you a final on this one, and then we will get these two others on, and then open it up.

MS. TILGES: Just to do a little clarifying on what he said, and this leads me to another question that I had not thought of before. DOE is not required to take cumulative effects from nuclear testing, such as the radiation that is out there already, into consideration for Yucca Mountain. Is the NRC required to do that?

MR. MCCARTIN: Well, cumulative effects in the region would be considered in the EIS. It is not part of licensing for a particular facility. However --

MS. TILGES: If it is not in the EIS, they are not going to consider it at all.

MR. MCCARTIN: Well, in terms of the regulation, the limit that the NRC specified are 15 millirems. The reason that it is 15 millirems, and not a hundred millirems, which is actually the public dose limit, is that you are accounting for multiple -- or the potential for multiple sources.

So the fact that for Yucca Mountain itself that it is far below that public dose limit, the overall dose limit.

MR. CAMERON: Perhaps, Kalynda, you should give an example of what you mean by cumulative effects, because people have different -- you know,

there would be many different types of cumulative effects.

MS. TILGES: Oh, I guess -- let's say the millions of curies of radiation that is already in the ground after 328 nuclear blasts on Western Piute Mesa, and let's say it travels down under Yucca Mountain.

The DOE is not planning on taking that into consideration in its presentation or its -- well, I am losing a word here, into its effects and how it will affect the repository. They are treating it like two separate issues, like they don't even belong together.

And I want to know if the NRC in this safety review is going to require them to take those cumulative effects and doses into consideration.

MR. MCCARTIN: Well, the EPA standards specifically apply for releases from the Yucca Mountain facility.

MS. TILGES: In other words, no.

MR. MCCARTIN: No.

MS. TILGES: Thank you. And the comment that I had before this gentleman's one prompted that, is on multiple barriers, slide 44, and when you were answering Commissioner Herrera's question.

I am a little bit confused. I thought I heard you make the statement that if no waste leave the packages, the mountain doesn't do anything, or the mountain isn't required to do anything.

However, over on slide 50, you talk about the waste effects on rock and water, and indeed they are doing heat tests on the mountain right now to find out what the effects of the heat of the packages will have on the mountain. So if that is what you actually said, that wasn't completely correct.

MR. MCCARTIN: Well --

MS. TILGES: It was confusing.

MR. MCCARTIN: Well, okay, it might have been confusing. What I was attempting to say was that if no releases occur from the waste package, one might say that the geology is nothing doing, per se. It was never -- let me finish.

It didn't contribute anything to safety. It didn't have to do anything. And I liken that to if there isn't a fire here, that fire system is doing nothing. That smoke detector is doing nothing.

But the capability is there, and the geology still has its capability to retard, slow down, the movement of the waste. The fact that it is not there, that capability is still there. Just like with those sprinkler systems, the capability happens there, and that is what I was referring to.

And I was trying to explain that is why our regulations look to the capability. The capability will be there regardless of whether the waste package is leaking or not.

MS. TILGES: I think that is a premature statement. Just really quickly, one last thing on Slide Number 49, where you talked about safety reviews and you consider scientific information.

And I was curious where you are planning on getting your scientific information? I hope to god it is not the DOE.

MR. MCCARTIN: Well, the DOE, as the applicant, is required to support their case, and we look at the evidence that the DOE has put forward. The NRC does not make a safety case for the Department of Energy. It relies on the Department of Energy.

We review their safety case, and we deny their license if we don't

like the information they have. But we are not the developer of the repository. That is an independent role that Janet talked about. We are not the developer of the repository.

We are determining whether it is safe, and it is based on what DOE has presented.

MR. CAMERON: Okay. Thank you very much, Tim. We are going to go real quickly to get some information out on security, and on monitoring, and performance confirmation issues.

And then I would go out to you to see if you have any specific questions on that, and then address some of these other issues that you wanted to hear about. So we are starting with Jeff Ciocco, who is going to give us a capsule on security.

MR. CIOCCO: Thank you. My name is Jeff Ciocco and I am going to talk about security from theft and sabotage. These are two very important programs in Sections 3.3 and 3.4 of the Yucca Mountain Review Plan; the physical protection program, and the material control and accounting programs.

The first section is Section 3.3, the physical protection program, and the regulations and the review plan lays out a plan that establishes the physical protection goals, and performance objectives.

And it lays out the capabilities and what the system must be able to do, and it lays out specific elements that must be included in the physical protection plan and would be submitted to the NRC for approval.

The performance objectives. That the DOE must establish and maintain a physical protection system to assure that the waste operations at the site would not be harmful to the national security or defense, and would not pose an unreasonable risk to public health and safety.

The capabilities of the system is laid out in the regulations and the review plan establish that the waste must be stored in a protected area, and an area enclosed by physical barriers, and with specific access controls, and you can only allow authorized access.

The system must be able to detect and assess unauthorized access, and it must be able to provide accounting communication with a response team.

The main elements of the physical protection system is that there is a security organization, physical barriers that would channel people, vehicles, materials, into the protected area.

There must be entry controls to verify and identify all people, all materials, and there must be reporting of safeguards back to the NRC, and there must be a response plan. This is called the safeguard contingency plans.

This must be submitted in addition to the physical protection plan, and these are plans for the what-if's. What is it that could happen at the site, and there must be very detailed response plans.

And finally we heard quite a few people explain already that since the September 11th terrorist attacks, the Nuclear Regulatory Commission has done a top to bottom review of physical protection.

Next is the material control and accounting. Its objective is to protect against attacks, and respond to theft or loss, especially to fuel and high level waste. It establishes the basis for identifying, controlling, and accounting for all on-site nuclear material movements.

The main elements are first the material balance must account for all the materials on-site that DOE would be authorized to possess, and provide a physical inventory of the nuclear materials.

And it provides for specific record-keeping requirements, such as received, inventoried, disposal, transfer, and there is also controls for the material transfers.

And in conclusion, these are the two plans that DOE must provide NRC a high level of confidence that the site would be safe and protected against radiological sabotage, i.e., attacks, and that they would prevent theft or diversion, especially of fuel and high level waste.

MR. CAMERON: Okay. Thanks, Jeff. Another real short presentation on performance confirmation, and we will then go to questions on that.

MR. MACKIN: I plan to discuss that if the NRC were to grant a license to DOE to construct and operate a repository, it would have to demonstrate how it is going to show that what it said was safe continues to be safe, and there are three parts or programs that do that.

One would have to be a performance confirmation program, which Irene addressed earlier, and secondly, there would have to be some way to address the kinds of things that Tim discussed that might crop up unexpectedly.

And third would be how can we have some confidence that the scientific information that DOE is using is reliable. First, I want to talk a little bit about performance confirmation and what it is.

It is a test, evaluations, measurements, experiments, that DOE is required by the regulations to conduct up until a repository would be closed to show that things are performing the way its license application said it would.

That the rock remains strong; that the structures are operating or the barriers are performing as they said they would. We have it for a couple of reasons.

One is because the performance assessment that Tim talked about has to be updated, and the way that you update that is from information you get from the performance confirmation program.

And lastly, I had mentioned earlier that the DOE has to have a plan that demonstrates the capability to retrieve waste, and the way that you may find out that something is going wrong that requires that is through a performance confirmation program.

It covers a lot of things. It covers the geologic barriers, the earth barriers, such as the rock and soil properties. It also covers the design testing of components important to safety.

Finally, it covers those waste packages that may be a very important man-made barrier in a repository. And lastly DOE must demonstrate that they have got procedures in place to ensure that anything they find in this area is reported to the interested parties, the NRC and others.

I mentioned that there has got to be a way to deal with something that could arise unexpectedly during the operation of a repository. The DOE must have a program that resolves such questions.

The first thing they would have to do is have a way to identify and describe in terms that could be understood by experts outside of DOE.

Secondly, they have to have a program in place that would answer those questions. Then they have to provide a schedule for that that would fit in with

what is actually going on at a repository, or else the operations would have to be curtailed or stopped.

Next, it might be necessary as I mentioned earlier to curtail, modify, or stop what is going on at a repository to accommodate these questions being answered.

And finally, and must importantly, there would have to be a demonstration that it would be safe to continue with this question sitting out there. If not, then the operation of the repository would have to be stopped.

The last piece of monitoring is in a way to develop confidence that DOE's scientific information is reliable, and that is basically through a quality assurance program that addresses everything important to safety, and that covers all aspects from how you report data to the field, to the way that calculations are done, and the qualifications of the scientists that do it.

And lastly, those people who would be implementing this quality assurance program have to be shown to be free to make hard calls without fear of losing their jobs.

The three things that I just talked about -- performance confirmation, how to resolve safety questions, and how to ensure reliability of operation -- would operate together to give confidence that what the DOE said was going to happen would continue to be safe throughout the period of the repository operations. Thank you.

MR. CAMERON: Pat, thank you. Let's first see if there are questions on either security or performance confirmation, the last presentation. And let's go right here.

MR. KAHN: Hi. My name is David Kahn, and I am an attorney here, and I am a Democratic candidate for the U.S. Congress as well. In regards to the security issue, I have seen on the DOE proposed transport routes for the waste to get to Yucca Mountain from all of the population centers of the United States, which is what is going to happen, that some of the routes anticipate barging, putting the waste on barges around the Los Angeles area, and around the Miami area, and in some parts of the Great Lakes, and I believe Wisconsin.

And I am wondering how can you secure nuclear waste on barges when instead of having to prevent the blowing up of trucks by terrorists, or attacks on the casks themselves, you have to prevent a barge from sinking in the oceans or in the Great Lakes.

And I am wondering if that has been addressed in the safety plans, because it is currently in the DOE's routes for transport, and so I think it is fair game for a task question.

MR. MACKIN: First let me say that the physical protection program, which I presented, was for the physical protection for the site, and I will let Chet talk about the physical protection for the transportation.

MR. POSLUSNY: Thanks for that question, and that is a serious question, as any shipment of spent nuclear fuel is a serious situation, especially since 9/11. There are current regulations in place to deal with the security of any shipment of spent nuclear fuel.

They require escorts, and they require pre-approval by the NRC. We would have to look at any shipment plan, including one that would use a barge to make sure that it is, number one, safe; and, number two, protected from any risks.

We don't have that detail yet, or any shipments planned that we

know of right now.

MR. KAHN: I guess in line with that, and rather than ask it later, is the NRC going to have hearings on its role in the transportation of nuclear waste, or is it simply going to defer it, number one, or number two, rely on these 18 or 20 year old regulations that we passed to have trucks go from one facility to another from time to time, as opposed to all the waste in the country focusing on one point, which is what is happening now.

And I am just wondering is the NRC going to have independent hearings, or include in its hearings some way to address the issue of the transportation, or is it merely going to say that DOE is in charge of transportation, or the DOT.

Because from what I am reading from a letter that your Chairman sent to Senator Durbin on May 10th, a copy of which I have reviewed, the NRC does have the role of signing off on the transport, and that if there is a problem en route, the Governors of the States, or in our case, Nevada, are primarily responsible, and the NRC does not have to respond to that, unless and until the Governors of the States say, hey, come help us.

Otherwise, the NRC just gathers information and watches the State deal with whatever calamity has occurred.

MR. CAMERON: I think it is really important that people understand how we deal with those issues, and whether the framework is including anything that you know what is going on now that might affect that, and that the public might comment on. I don't know.

MR. POSLUSNY: Let me speak to the first part of the question. When an application comes in, and it is accepted, and we do a review, there will be an opportunity for a full and public hearing that the NRC does in its normal operations and processes.

If contentions are raised at that point in time and accepted by the Board at the open hearing, there is a potential for the issue to be raised. And we don't know what will be raised, but it is a possibility.

Now, let's talk a little bit about spent nuclear fuel and accidents. There is an infrastructure in the shipment of the fuel. Normally, for example, when they ship spent nuclear fuel from point A to point B, they are responsible for the safety and security of that shipment per the regulations.

They also must coordinate with State, local, and also Native American Governments, through which the route would be used, well in advance of the shipment.

They do that coordination, number one, for security reasons; and, number two, for emergency response capability reasons. Emergency response capability for shipments to Yucca Mountain are further, let's say, funded or will be funded in the future by DOE resources.

And that is another capability that has to be established, and it is not established yet. As far as the first responders to any accident, normally the local police, followed by the State, and in the case of a very severe accident, the Department of Transportation actually gets involved, as well as FEMA.

MR. CAMERON: I guess the answer to the question about whether there will be a separate hearing on transportation, the answer to that is no.

MR. KAHN: No. All right.

MR. CAMERON: All right. Let's go to Dennis, and we will go back

over to here. Dennis.

MR. BECHTEL: I have a quality control question with regard to the canisters for transfer of waste. As I understand it, you certify the design, right?

MR. POSLUSNY: The NRC reviews the design, or anybody that uses that design must have an NRC approved quality assurance program in place.

MR. BECHTEL: Okay. It was indicated earlier that you are involved in full-scale testing now?

MR. POSLUSNY: The NRC has a package performance study in place that will include full-scale testing, yes.

MR. BECHTEL: (Off microphone) And in doing that do you -- and I am not sure how far you go back, but you actually review, say, through quality control how the cask is manufactured, or is it just the -- well, the reason that I am asking the question, is we had an incident about a year-and-a-half ago when (inaudible) and slightly radioactive, but not really dangerous.

But apparently it was the design of the container that somebody reviewed, and the design was fine, but somebody reviewed or read the blueprint wrong and constructed it wrong, and there was a stress failure and a leak.

(Inaudible) and I built the canister, and that part of quality control, and I was just interested in how you do it.

MR. POSLUSNY: Let me just tell you in general. Number One, we do approve their quality assurance program, and it must be in place before anybody ships. But in addition through inspections, number one, and design levels, and fabrication levels, and we look at their programs, and we have a staff at the headquarters that actually do that type of inspection.

MR. BECHTEL: And is that monitored periodically?

MR. POSLUSNY: Yes, both for storage casks, as sell as transportation casks. As far as the tests, the full-scale test, I am not sure how they are going to approach that, but those details are being discussed and there is a meeting in August and please come to that meeting. It will be here.

MR. CAMERON: Okay. Let's go back here.

MR. NAMANNY: (Off microphone) I have a question about notification of Native Americans on shipment routes.

MR. POSLUSNY: Yes. Our regulations require transportation regulations that if a shipment route goes through a Native American land, that they must be involved and notified in advance, and the Department processes that.

MR. NAMANNY: Well, the whole issue on the Native American Land on Yucca Mountain is that it is Shoshone land, and you are not really working with them, and so (inaudible) and you are not really working with them.

If you are going to say that you are going to be working with Native Americans, at least say which tribe and be more clearer.

MR. POSLUSNY: Yes, thank you for that comment, and the issue of the land, the native land in the Yucca Mountain site is a separate one from this discussion.

MR. NAMANNY: Yes, you're right.

MR. CAMERON: Thank you for that reminder.

MR. KAHN: I have one other question, and it is a pretty simple question, and somebody here hopefully can answer it, and the question is in all of your modeling for the future of Yucca Mountain, as I understand it the modeling goes for thousands of years. What have you decided is the expected failure rate?

In other words, does all of your modeling anticipate that there will never be a problem at the site given all your safeguards, or have the scientists and engineers that have come up with these designs and plans determined that there is some percentage, or some risk of fault in these casks and with this material?

And if so, can you tell us what it is here in this public forum?

MR. CAMERON: Tim, you are going to handle that, right?

MR. MCCARTIN: Yes. In terms of the model that the NRC has, we have our own independent capability to evaluate that. We have in the analyses assumed what is called a certain number of juvenile failures; failures of the waste package that, and they are leaking from day one because of manufacturing defects, or something just wasn't done right.

MR. KAHN: You are talking about the casks?

MR. MCCARTIN: Yes. And there was a fairly simple analysis of looking at general manufacturing defects for large metal containers, et cetera, and we came up with a number that was -- well, it is around 35 to 50 containers from day one in our analysis.

MR. KAHN: Is that (inaudible)?

MR. MCCARTIN: Yes.

MR. CAMERON: We really should get this on the transcript. Tim.

MR. MCCARTIN: And in addition to that, now there is the evolution over time, and as time progresses containers are estimated to corrode and leak with time, and eventually in the NRC models, I will say that there has been a lot of variation in information and design over time.

But there is containers that will start to fail, I'll say, from around 5 to 10,000 years, and obviously all would fail around 50,000 years. DOE has different numbers, and the application is on what DOE does, but we have done -- but those are what our analyses are, and in the DOE analyses, I think they have far fewer right now juvenile failures; one or two, I believe, in approximating what they have.

I think the last estimates that I remember seeing from them -- and once again, analyses have changed over time as more information has come in, but I think their packages begin to corrode around -- I'll say 8,000 years, and they go out as far as many 200,000 years.

MR. CAMERON: Okay. Thank you, Tim. I know that Kalynda has a question for either Pat or Jeff.

MS. TILGES: Thank you. DOE has changed their site guidelines so much at this point that Under Secretary Robert Carr tells us that there is no longer a definition of show stopper. So what I am wondering is as the NRC is the last line of public protection, is your definition of safe simply what the legal requirements are, or what the public wants?

MR. CAMERON: I think that Janet would probably be the most appropriate one to field that one. Do you get the gist of what Kalynda is asking?

MS. SCHLUETER: Perhaps you could repeat it?

MR. CAMERON: I think that this is -- you are wondering if there is sort of a moving target here? Go ahead.

MS. TILGES: Luckily I wrote it down.

I said that the DOE has changed their site guidelines so much that Under Secretary Robert Carr tells us that there is no longer a definition of a show stopper.

So with that in mind, the NRC has the last line of public protection, in remembering what the person in Calente (phonetic) said, is the NRC's definition of

safe simply whatever the legal requirements are?

Or is the NRC willing to step up to its public role and consider safe what the public wants?

MS. SCHLUETER: Well, standards that are in place as you know are ones which are consistent with the Environmental Protection Agency standards for both the individual and also the ground water.

So there is a system in place in which the staff will conduct a thorough evaluation of the application to ensure that those standards through a total system performance evaluation have been met.

So as you have heard from the presenters today, it is a complex system, and we are far, far away from that decision point. We first would receive that license application and conduct a very detailed technical review before we could make that decision as to whether or not the repository as proposed by the Energy Department would be safe.

MR. CAMERON: Okay. I know that there may be others. Herb.

MR. MARKS: Before I came down tonight I heard Dan Rather on the CBS News, and the President is on a trip to Europe, and he is meeting with the Soviet Union, the old Soviet Union, Russia.

The commentary was that we are entering a period that is more dangerous from the view of a nuclear event than the entire Cold War. That is mind-boggling and unnerving. There was a comment that the greatest single threat in the world today of a nuclear proliferation has to do with the Soviet Union helping Iran with the building of a nuclear power plant.

Additionally, there were a lot of intrusion events in the Soviet Union, and there was no trouble in gaining access to spent nuclear fuel at abandoned plants.

Now, what is the implication for us? We are seiged and barraged as I commented earlier with regard to the terrorist threat, and it has presented a new environment for Yucca Mountain.

The race to build Yucca Mountain has been overrun and overcome by world terrorism. The plan is to ship nuclear wastes. It is my understanding that we would be shipping approximately 2,000 metric tons per year, and at the same time the industry would be replacing that 2,000 metric tons by new waste.

So that in effect there is no net diminution to the existing plans of nuclear waste. The recommendation is based upon getting rid of the waste so as to reduce the nuclear threat at existing terrorism, and at existing plant sites.

That does not make any sense whatsoever. This meeting is unsettling in a number of respects. The point has been made that there is no precedent whatsoever for the work that you are doing.

With regard to the legislation that Kalynda alluded to, there is a 90 day prohibition in the regulations with regard to the submission of the application, and four of your representatives attempted to answer, and a final response was, yes, there is a 90 day deadline, and there is that prohibition.

But parsing words on the other hand, the NRC can still accept an application. If that is not parsing words, I don't know what is. With regard to the site itself, Commissioner Herrera specified the issue of what percentage of the barrier is man-made, and what percentage is geologic.

With regard to the original recommendation of the site, Yucca

Mountain was chosen because it is a geologic site. It was supposed to isolate and contain radiation. That determination failed in terms of studies made by the DOE sometime in the mid-1990s.

What did the DOE do with that failure? Did it come back to the Congress and say that the site doesn't work? No. It circumvented the standard and went to what has been declared here to be a 98 percent man-made barrier, instead of a geologic barrier.

What is the legitimacy of Yucca Mountain under those conditions? Secondly, with regard to the site, Adrian has stated that the proposal now from the DOE includes 400 cooling ponds out in the open.

Supposedly they are going to be within 5 miles of the major transportation route. Janet Kotra stated that this new format, this new model, may not be in conformance with the law.

This whole discussion is most unnerving, and most unsettling. The issues with regard to safety are a joke. You are talking about models that have to do with other industries, with other nuclear power plants.

We are now dealing with a repository that is unprecedented, and that has never been constructed before, and that is surrounded and confused with all kinds of uncertainties.

You are asking the 1-1/2 million people in Southern Nevada to endure that burden, and to shift risks that make no sense from the East, and when you could have hardened cask storage. None of this makes any sense. It is absurd. There is nothing reassuring about this meeting at all.

MR. CAMERON: All right. Let's go to -- and we have time for some more questions and comment, but we do need to allow Dennis Daniels -- and let me thank Dennis and also thank Clark County for the hospitality here for using this room.

And I know that Dennis has to close up at some point, and so let's get some more comment, but I think we are going to aim for closing down at 10 after, because it is going to take a while for us to clear out of here. And, Andy, we will get to you. Irene.

MS. NAVIS: Just a couple of quick comments. I think one of the reasons that you are seeing so much frustration is that we in Southern Nevada see really clear links between the transportation and the repository side, and in particular the lack of a final repository design.

That link is not always clearly recognized or admitted to by the DOE, and so that frustrates us that are dealing with that every day, and trying to answer those questions for our public.

I think that one of the things that can be done in this final review plan is that to the extent that the NRC has responsibility over transportation, security, and safety, if you could put something in the review plan that either makes clear what that role and that responsibility, and the proposed regulatory actions are, that you would impose on the DOE, and could we get you to put it in the review plan.

Or include Part 63 as an appendix or something so that everybody could clearly see why transportation isn't appropriate, or it belongs to another rule, and tell us what that rule is.

I don't think that is real clear in here at all, and that might alleviate some of this confusion and concern that people have over the transportation issue, because it looks like you just flat omitted it.

So just say something about transportation, laying out why you are not going to go into it here, but you are going to go into it somewhere else here, and that might help those of us here in this room who have been complaining about it all night, and also the rest of the public that are going to take until mid-June to review this.

MR. CAMERON: Thank you for your comments, Irene. Let's go over here to Andy.

MR. HERESZ: My name is Andy Heresz, and I live in the State of Nevada, and live in the County and in Las Vegas, and I am a registered and active voter, and also a taxpayer.

I am also a United States Air Force Veteran, and I am a really very angry U.S. Citizen. And I think the reason for my anger is that I don't want to see any nuclear garbage in our Yucca Mountain, meaning Nevada's Yucca Mountain.

I live here, and it is my home, and it is where I want to be, and it is where I want to stay. I am not a visitor, and I am not here for 2 or 3 days, and I am heading back East. This is it for me.

Now, it might be hard for you to understand that, and that this is not just a technical formality or procedure that I am going through. This affects my life, and I want it to stay the way that it is.

I am vehemently opposed to the NRC licensing Yucca Mountain as a nuclear garbage dump. I don't call it a repository, and I don't call it a storage facility. It is a garbage dump. It is an insane idea to dump thousands of tons of man's most deadly waste on our land and is utter stupidity.

Intelligent and concerned adults understand a nuclear garbage dump is not, is not environmentally safe, nor a long lasting answer to the problem.

Technology holds the answer, and not dumping your nuclear garbage in our State of Nevada. Sound science. That is the favorite phrase that we have been hearing from the Republican administration in Washington, D.C.

What in the heck does sound science mean? You hear it and everybody talks about it. How should we understand it? How does it relate to nuclear waste in the Yucca Mountain? Well, there is one simple convenient explanation.

It is a smoke screen. It is a smoke screen, meaning screw Nevada. That's all it means, and nothing else. An independent panel of scientists -- and I emphasize independent. They have no allegiance to either the NRC or DOE, and it is called the Nuclear Waste Technical Review Board.

And they were charged by the United States Congress with assessing DOE's suitability study of Yucca Mountain, and they issued their report, and they said that, quote, the scientific benita (phonetic) from the work in Yucca Mountain has been, quote, weak to moderate.

They also listed almost 300 questions, which the DOE has failed to answer so far. Now, I am not a scientist, but I don't think any of you people would say that this is sound science.

It doesn't sound like it to me. It is certainly not the kind of endorsement I would expect a project that for the next 10,000 years is supposed to safely contain 77,000 tons of high energy nuclear garbage. There is no reason to have any nuclear garbage in our Yucca Mountain.

MR. CAMERON: Thank you, Andy. Let's go to Kalynda and then we will see if there is anyone else, and Dennis.

MS. TILGES: Yes, I have some process questions about this

whole thing. If you sign up for a transcript tonight, will you get all three days of transcripts?

MS. SCHLUETER: We can certainly make that available.

MS. TILGES: So do we have to specially request them? People who have not been to the other two meetings, would they have to specially request the past two days of meetings as well as tonight, or their signature for a transcript tonight, would that be enough to get them all three copies of the transcript?

MS. SCHLUETER: We can do whatever the individual would prefer. We can send all three. That is not a problem.

MS. TILGES: For those who were not at the other two meetings, I would suggest that you do that. There is a lot of very interesting information.

Also, something that we had talked about earlier on, Janet, on the first night. Most people in this room have either not seen or heard of the document until tonight, including some of us who were on your distribution list or should have been.

So for an issue this important, Citizen Alert is formally requesting a 90 day extension on the comment period for this. I mean, you've got until 2004, and there is no big rush.

And we would like more comment meetings with adequate time for all questions and comments, because I don't believe you can hold a public comment period and not have time or not give people time.

We have had meetings, and meetings, and meetings in the past, and it has happened every single time, and that you never schedule enough time for everyone to get their questions and comments taken care of.

The last part is you all say that you are an independent and unbiased agency. But yet, you, the NRC, did the environmental impact statement for the PFS Skull Valley site, and acted as a very ferocious advocate for the site of that internal repository.

With that in mind, how can we trust you with Yucca Mountain?

MR. CAMERON: Okay. Thank you, Kalynda, and while the staff is thinking about it -- and I don't know whether that was a rhetorical --

MS. TILGES: That last one was not a rhetorical question. I would like an answer.

MR. CAMERON: Someone --

MS. SCHLUETER: Well, I think Chet was ready to answer a portion about PFS.

MR. CAMERON: All right. That's great, Chet.

MR. POSLUSNY: PFS was an independent application sent to us to do an independent review, and produced a safety evaluation report, which approved the design. That was the first step, and the second step was to go to hearing.

Part of the hearing was to identify and to respond to the intentions. The hearing process requires that all parties give their intentions, and part of that was to explain how we made our finding.

It is a deep probing period, and we just describe how and why we made our findings, and that was my understanding. I was there.

MR. CAMERON: All right. Dennis Bechtel.

MR. BECHTEL: I have a process question. There were a lot of good questions yesterday and today, and probably in Pahrump. Will the NRC respond to those questions?

MS. SCHLUETER: Well, let me make sure that we are clear. I would say that questions have been asked through all three sessions, and we have done our best at that time to answer the questions. If there are ones that individuals feel they would like a further response on, we would be happy to do that.

With regard to the comments, the comments will be considered, and we will read the transcript to glean those comments, and treat them equally with the written comments, and as part of the finalization process for this document, there would be some documentation on the disposition of those comments, and how they were resolved.

MR. CAMERON: And let me talk about the parking lot. And unfortunately I don't think we are going to be able to obviously exhaustively -- and I don't want to forget that there is a question back there. I don't want to forget you.

But we talked about consideration of long term service aging, and we talked about natural barriers, and I think that there are some things that could be said about alternatives to a repository, because I think that lies in the legal area.

It does not lie within the NRC's perview, and I don't know if we will get to that, Adrian. But I think we talked about site security, and transportation security.

We have given an answer on the 90 day thing. Herb mentioned his opinion of what our answer was, and the only thing that I think we could say in that regard is that we didn't say it was 90 days prohibition. It is a 90 day requirement on the Department of Energy to submit a license application to the NRC.

It really doesn't have anything to do with the NRC. It is a requirement on the Department of Energy, and if someone wants to try to hold the Department's feet to the fire so to speak on that, then obviously you are welcome to do that.

But I think we are covered, except for Adrian's alternative issue. I think that we have covered the parking lot issues or the corral, or whatever crazy name I have given it at the time.

Comments that have been made in questions about the Yucca Mountain Review Plan, they are required to be addressed by the staff in doing the final report, and we are going to put this in.

I just want to say that you can call the NRC staff, or e-mail them, if you have a question.

I want to introduce Bob Latta, and I don't know if we have introduced Bob tonight. Bob is our on-site representative here in Nevada. Pick up the phone and call him if you have questions, if you have concerns.

MR. LATTA: I am just one member of the team here. With me tonight also is Ben Muro, and we also have another on-site representative who is going to be joining us in about a month, and his name is Jack Carroll.

Yes, we are here, and we are available to answer questions for you. I am not an infinite source of information, but I can certainly field the questions, and if I can answer them, I will, and if I can't, I will find somebody who can.

MR. CAMERON: Thank you, Bob.

MR. NAMANNY: I have a question. What was meant by you or the NRC and Skull Valley? What kind of --

MS. TILGES: We couldn't hear the question.

MR. CAMERON: All right. Let me restate it, and I think Chet can give an answer. For people who don't know how the NRC is involved in Skull Valley,

what is going on at Skull Valley that the NRC is involved in. And Chet will give us an overview of that.

MR. POSLUSNY: (Off microphone) (Inaudible) Storage here is a company that is being sponsored by a number of utilities to build an above-ground dry storage facility, and that company is entering into a lease with Skull Valley to rent property from them for a period of 20 years for that facility.

And that application was received by the NRC about 3 or so years ago, and we finished the safety evaluation and the environmental impact statement the past year, and now that decision is currently being considered, and that will continue through the June, I'm told, before we make a decision.

There is no time limit on that decision period. So we will see what happens with that. Also, there is one further thing that is in the parking lot that I wanted to get to real quickly.

MR. CAMERON: All right.

MR. POSLUSNY: Commissioner Herrera asked a question about the comment on our security requirements, and I just wanted to reflect on that a little bit. We issued advisories to all of our licensees, reactor licensees, and those who ship nuclear fuel, among others, right after 9/11.

Those have been in place since then, and we have also issued orders that either impose them legally on those licensees, or modify those to add additional requirements in the security area.

If someone from Congress has commented on those, I am sure that we will hear about that comment, and we will respond, and either justify or perhaps change those.

MR. CAMERON: Okay. Thank you. We really have to close now, and it is awfully hard in 3 hours or 4 hours, or 5 hours, to get all of your questions and comments, but we appreciate you coming tonight, and listening, and talking to us.

There is an evaluation form on the meeting, and if you care to give us your views, we try to use this to improve our meetings. And thank you again for being here.

(Whereupon, the meeting was concluded at 10:15 p.m.)