UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD HEARING

In the Matter of

U.S. Department of Energy

High-Level Waste Repository

Docket No. 63-001-HLW

ASLBP No. 09-892-HLW-CAB04

January 26, 2010

9:00 a.m. PST

Before the Administrative Judges

CAB04

Judge Thomas Moore, Chairman

Judge Paul S. Ryerson

Judge Richard E. Wardwell

A P P E A R A N C E S

For the Nuclear Regulatory Commission Staff:

Margaret Bupp, Esq.

Adam Gendelman, Esq.

Andrea Silvia, Esq.

For the Nuclear Energy Institute:

David Repka, Esq.

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Martin Malsch, Esq.

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Charles Fitzpatrick, Esq.

P R O C E E D I N G S

>> JUDGE MOORE: Good morning, ladies and gentlemen. I'm Judge Thomas Moore. On my left is Judge Richard Wardwell, and on my right is Judge Paul Ryerson. Construction Authorization Board 04 is hearing argument today on the 11 legal issues identified in the Board's Order of October 23rd, 2009. The terms of the oral argument were set in our earlier January Order of January 11th, and pursuant to that Order, the issues will be heard sequentially, starting with legal issue 1. Each side, as identified in the Order, will have 20 minutes for argument on each issue, beginning with the proponent of the involved contention. Only one counsel for each party will be allowed to argue with respect to any one issue. Counsel arguing first may reserve a brief time for rebuttal, but I would caution counsel that rebuttal is just that, to be strictly confined to responding to arguments advanced by opposing counsel. The Board will keep an eye on the clock, and on those issues in which the Board has numerous questions, we will take that into account in allocating your time. By the same token, counsel certainly need not feel compelled to use all its allotted time in the absence of Board's questions,

and in that regard, in that regard, the Board is fully familiar with your written filings.

The argument this morning is being recorded on the DDMS. It is also being web-streamed for public viewing at the links published in our January 11th Order as well as being broadcast on the agency's broadband network.

We will begin this morning by having counsel identify themselves for the record. Please state your name, affiliation, and who you represent, and we will start with DOE.

>> MR. SILVERMAN: This is Don Silverman. I'm with Morgan, Lewis & Bockius, representing the Department of Energy.

>> MR. KUYLER: Ray Kuyler, also with Morgan Lewis, Department of Energy.

>> MR. MALSCH: Marty Malsch, representing the State of Nevada.

>> MR. LAWRENCE: John Lawrence, State of Nevada.

>> MR. FITZPATRICK: Charles Fitzpatrick, State of Nevada.

>> MS. BUPP: Margaret Bupp, NRC staff.

>> MR. GENDELMAN: Adam Gendelman, NRC staff.

>> MS. SILVIA: Andrea Silvia, NRC staff.

>> MR. REPKA: David Repka, representing the Nuclear Energy Institute; and on my right is Mr. Rodney McCullum, who's the Director of Fuel Cycle Services for NEI.

>> JUDGE MOORE: Thank you. Although there are only four parties arguing this morning, I'm sure the court reporter would greatly appreciate it, as well as those reviewing this on the webstream or the broadcast, if counsel would identify themselves and the party they represent before they start each argument. At a convenient time this morning, the Board will take a brief recess and then at approximately noon or thereabouts, at a convenient time, we'll take a 90-minute luncheon recess. We'll then re-convene with at least one brief afternoon recess and go until somewhere between 5:00 and 6:00, or perhaps a little later, if we're within striking distance of finishing all 11 issues. If not, we will continue with the legal arguments tomorrow after the case management conference, which will convene at 9:00 a.m.

If the parties have nothing for us, before we start, then we will commence with legal issue 1, and NEI, if you would approach the podium and begin.

>> MR. REPKA: Good morning. My name is David Repka and I'm representing the Nuclear Energy Institute. I would ask to reserve two minutes for rebuttal. Legal Issue No. 1 relates to NEI's Safety 005. Contention NEI Safety 005 asserts that the DOE plan for criticality control in the disposal packages is unnecessarily conservative and will result in disposal control rod assemblies being required to be inserted into many waste disposal packages to meet post-closure performance objectives. The result of this conservative approach will be that workers at Part 50 Reactor license sites, who will be required to install those control rod assemblies, will receive occupational doses that are unnecessary. Our contention is that those occupational doses and the design of the repository that would use these control rod assemblies is contrary to the requirements that DOE maintain doses, occupational doses As Low As Reasonably Achievable or ALARA. DOE and the staff both take the position that those consequences to Part 50 Reactor licensees do not need to be considered. Both the staff and the DOE are taking a narrow, legalistic approach that will lead to a result that's contrary to safety. Their approach would lead to a situation where DOE, in the design of

the repository, has no accountability with respect to the radiological dose that that design will cause. Their position would result in only one narrow offsite population not being protected by NRC ALARA requirements, Part 50 Reactor workers. To be sure, NEI supports the Yucca Mountain repository. NEI's contention is simply that this one limited aspect of the license application is unnecessary, contrary to regulations and contrary to protection of public health and safety. The waste --

>> JUDGE MOORE: Counsel, if Part 50, by your statement, clearly covers reactor employees, then why do you need duplicative coverage under Part 63?

And, second question is, where do you draw the line between fuel handling and shipping or transportation?

>> MR. REPKA: Okay. Trying to address your first question first. I do not believe there is duplicative coverage. The ALARA obligation that extends to DOE is a design obligation, and relates to the design of the facility and the related aspects of the waste package preparation. Fuel handling is the Part 50 Reactor licensees' responsibility, and as DOE has made the argument that they don't control fuel

handling. And we believe that's a strong man argument. We're not asking DOE to control fuel handling. Reactor licensees are responsible for maintaining doses ALARA with respect to inserting the control rod assemblies and doing those things that they can control. What Part 50 Reactor licensees don't control is the design of the repository, the design approach that would require the control rod assemblies be inserted in the first place. And that's the activity that is unnecessary. That's the activity for which DOE has control and has accountability and has responsibility under the ALARA regulation that applies to both operation and design of the facility. An example --

>> JUDGE MOORE: Can -- yeah, can I add a hypothetical on this then?

If a plant was so designed, let's say it's a new innovative plant that has been licensed but has been so designed that it requires a different type of fuel or, for instance, no cladding on the fuel, hypothetically, so it's an action by this plant that is requiring a fuel fabricator to do something out of the ordinary, that, in fact, may increase the exposures to the fuel manufacturers' employees. Would your same argument apply to that

then?

>> MR. REPKA: I think in that situation, there may be an obligation, with respect to DOE and the design, to consider whether that control rod assemblies are necessary for that facility. And if the cladding design has some effect on the criticality analysis so that it may be necessary to insert the control rod assemblies, then the control rod assemblies will be necessary. The point is they have to consider the clad design, they have to consider everything in the design process for the repository. And if conservatism is leading them to a result that is contrary to safety, they can address that there. I think that's a situation that, that would be a given, that DOE would have a responsibility to at least consider.

An example that I would come up with is one where suppose that DOE were dictating that the waste needed to be packaged in egg cartons, paper egg cartons, and said, you know, this is how it has to be packaged at the site, it'll be put into a transportation cannister, it'll be safe for transport, but while it's at the site, go ahead and put it in these egg cartons. Well, that's something that they need to consider the ALARA implications of

that.

If it was the -- if the licensee was designing the package, the licensee would control that and would be forced in their process -- their design process to consider the ALARA dose of packaging in egg cartons. There is no reason that DOE shouldn't have to consider that, too.

>> JUDGE MOORE: But if the NRC required that, would they have to?

>> MR. REPKA: If the NRC required --

>> JUDGE MOORE: Does the regulator have to consider ALARA?

>> MR. REPKA: I think that there is no regulatory obligation, the same as would apply to the licensee to consider ALARA, but I certainly would think that the NRC and its rulemaking process would consider all the implications of its requirements and certainly would address any comments or concerns that were raised regarding that in its rule.

>> JUDGE MOORE: Is there in Part 63 or in the ALARA regulations in Part 20 a general requirement that ALARA be considered in design?

>> MR. REPKA: I think that --

>> JUDGE MOORE: Because there is a counterpart in Part 50.

>> MR. REPKA: Yes, and I think that 2011.01 (b) extends to the design.

>> JUDGE MOORE: But it doesn't explicitly say design, does it?

>> MR. REPKA: It doesn't use the word "design," but it does talk about to the extent practical consider ALARA, with respect to the activities of the licensees. If you then look at the Yucca Mountain review plan, which is the staff guidance document that DOE itself has relied upon, there is, in fact, a criterion that DOE selectively omitted that specifically says ALARA should be considered in the design. So, this is fundamentally a design issue. So --

>> JUDGE RYERSON: Counsel, Mr. Repka, the ALARA considerations that you are talking about arise out of Part 20, correct?

>> MR. REPKA: Correct.

>> JUDGE RYERSON: If Part 20 didn't apply, what would be your position on Part 63 -- 63.11, specifically? Would you see that as also creating an ALARA obligation or totally Part 20?

>> MR. REPKA: I think 63 -- I think 63.111 is what ou are referring to, I think 63.111 is the regulation they are relying on that's limited to the

activities, to the GROA itself. I think that's a very limited reading of that regulation, and I can certainly say that it was not meant to preclude consideration of ALARA in design, but there is certainly nothing in Part 63 specific like in part 2011.01 (b) that, I think, extends to the activities that are at issue here.

>> JUDGE RYERSON: So, you are relying on both sections?

>> MR. REPKA: I think we are relying on both sections and we are also, I think, a thing we are relying on here is just the general obligation to protect public health and safety. And certainly in NRC case law, I think it's well established with the contention can plead non-compliance with the specific regulation, but also can plead that there is a gap in the regulations, where there's a safety issue. And if nothing else, we believe that this aspect of design element would leave out an important safety consideration of an important radiological dose that should be considered.

>> JUDGE WARDWELL: Back to your example of the egg carton enology. Doesn't that say, then, the heart of your contention here has nothing to do with conservatism or cost. The egg carton analogy would

be less conservative and less costly. So, in fact, to what-degree does your contention rely on these statements that you have throughout it relating to cost and conservatism?

>> MR. REPKA: Yeah, and I think -- I was going to address that with respect to the second aspect of this issue. I think the contention has been characterized as being one about cost. I don't think it's one about cost at all. I think the contention is about criticality and compliance with the criticality requirements and the conservatism and the implications of that are primarily dose consequences. You know, in fact, this is a -- the secondary thing is these, these control rod assemblies will lead to increased costs, but they will also lead to increased doses. So this isn't a situation where we're arguing that increased doses ought to be ignored, because in order to save money. It's the opposite. It's compelling increased doses at increased cost. But the costs are very much a tertiary concern and an implication of what's going on. The contention, again, is really about criticality and it's about occupational dose that will result.

>> JUDGE MOORE: Counsel, did this issue

arise only when DOE switched tracks a number of years ago, two or three, and declared it was going to have a clean GROA, if you will, and dispensed with the wet transfer storage operation that was originally planned?

>> MR. REPKA: That is quite likely. I do not know the answer to that. In fact, I will consult with my technical adviser and come back to that when I come back for rebuttal.

>> JUDGE MOORE: Assume for a moment that DOE had a transfer facility at Yucca Mountain, and ignore your tad cannister arguments, would this issue even be before us?

>> MR. REPKA: It would not, because certainly DOE would have no objection to the content -- objections they have raised would not apply and that's the point we've made is that if you took the logic of pushing activities offsite, you could push all, you know, any number of repackaging activities offsite.

>> JUDGE MOORE: This goes back to my first question -- where is shipping and waste handling? Where is that line drawn?

>> MR. REPKA: I think that's probably a line drawn, you will know it when you see it, but I

think clearly here, we haven't crossed that line. This is a design issue, because it's the design that's requiring installing these devices that don't need to be installed in the first place to meet criticality. So clearly it's a design issue. If there was something being done in the insertion of these devices that could be done better or more efficiently from a dose perspective, that might be a fuel handling issue. But that's not what this contention is about.

>> JUDGE WARDWELL: What is the net effect of this contention if you were successful in it? What would happen?

>> MR. REPKA: I think what would happen is the control rod assembly inserts would not be necessary and if not all cases, certainly in more cases they wouldn't be necessary.

>> JUDGE WARDWELL: Is there a mandate on the applicant to achieve the lowest degree of exposure in ALARA, or to consider that in its decisions?

>> MR. REPKA: It's to consider, it's as low as reasonably achievable and it's clearly a balance, which would be addressed as a factual matter, but, again, here we are talking about we're not lowering

costs at the -- to gain we're not increasing doses to lower costs. It's the opposite. We are actually increasing costs and increasing doses. That kind of ALARA calculation doesn't really work.

>> JUDGE WARDWELL: That's why you are bringing up the conservatism and the cost issue in here as the component that is part of the decision-making process?

But on the other hand, the net effect of this may be exactly the same design, could it not be?

>> MR. REPKA: Well, I think what the net effect of it will be, if you remove some of the unnecessary conservatisms, there is an enrichment versus burnup curve, that's in the application that specifies when fuel is in an acceptable region versus non-acceptable with respect to criticality, and if you are in the non-acceptable, you need to insert these control rod assemblies. That curve will move, so the number of cases where you would actually have to insert the control rod assemblies would change. So, I think the first effect is the license and the range of the enrichment burn-up curve would change. Then the effect in the real world would be the control rod assemblies --

>> JUDGE WARDWELL: Let me ask this, so that you can conserve your time. Is there anything to prevent DOE from looking at this and say, okay, you have to look at ALARA for this and they look at it and say, well, no. The conservatism that we've built into this in regards to the long-term effects far outweigh the short-term effects of the increased dose exposures and the design doesn't change, is there anything to prevent them from doing that?

>> MR. REPKA: The only thing that could prevent them from doing that -- they could take that position, if they could defend it, but that's what this forum is about. This compliance with ALARA requires a balancing and I think we would make the argument and they would make the argument, and I think we would show that that position is incorrect.

>> JUDGE WARDWELL: Thank you.

>> MR. REPKA: I apologize. I don't have a watch, so I don't really -- I'm not sure where I am on time.

>> JUDGE MOORE: I will let you know.

>> MR. REPKA: Okay. I think one of the fundamental issues that DOE has raised here is a definitional issue, and they've argued that under the definitions in Part 20, that Part 50 Reactor workers

are not members of the public. I disagree with that.

I think that they are members of the public, because they are offsite relative to the repository. DOE relies on the definition of an occupational dose in Part 20 for that conclusion. But I could also look at the definition of member of the public, which would exclude occupational doses. So the whole definitional issue is one of, it's misdirection. The two point in opposite directions. It's clear to me that citing one definition without citing the other doesn't work.

>> JUDGE RYERSON: Is that definition also in Part 20, did you say? Where is that definition that you just --

>> MR. REPKA: There is a definition of member of the public in Part 20.1003, as well as occupational dose. There is also a definition of public dose, which refers to the fact that a public dose may be one that is received by a member of the public from exposure to radiation, or to radioactive material released by a licensee or to any other source of radiation under the control of a licensee. So in this case, it points us in the direction of the determinative issue being one of control. I think that's something that the staff cited in their brief

under 20.1201, talks about control and the staff, and DOE argued that these are doses that they don't control. But, in fact, as we have been talking about all morning, they are doses that they do, in fact control, that DOE does control through the design process. So I think that, one, the definition -- the definitional issue, you know, Part 50 Reactor workers are offsite. They are members of the public relative to the repository. And, therefore, can't be excluded on that basis, but even if you assume that these were occupational doses, 2011.01 (b) clearly extends ALARA to occupational doses and Part 50 Reactor workers would be covered in that context. And public dose definition points us in the direction of control. And so again, we're not arguing that DOE needs to control those things which it can't control, but we are arguing that DOE needs to control the design process and be accountable for the ALARA implications in that process.

I think I want to just say a few other words on the second aspect of this contention, just reiterate what I said already in an answer to a question from Dr. Wardwell, the issue relates to whether or not cost needs to be considered. Again, I don't think this contention is fundamentally about

cost. It's about occupational dose and in compliance with the ALARA regulation and I think that the costs, we've talked about costs, we've talked about dose. When we talk about costs, we're really mostly concerned about the cost in terms of dose, and those are things that need to be considered under ALARA. DOE has accountability in that context, but beyond that, these are issues that can be considered in addressing the licensing basis of the plant relative to criticality control. The Board may not -- if we assumed ALARA did not apply, the Board may not be in a position to tell DOE, we don't think you want to do that, maybe they could as a matter of public health and safety under the Broad authority to fill a gap in the regulations. But let's just assume that, you know, the Board was disinclined or felt it couldn't tell DOE, you know, you can do whatever you want as long as it complies with our existing regulations, you have no accountability with respect to the costs or the occupational exposures.

>> JUDGE RYERSON: Hasn't the Commission resolved that aspect of this issue for us already? The Commission's decision affirming most of the contention and admissibility decisions says our

regulations set a minimum safe -- standard for safety, not a maximum. And at least I read that as possibly addressing the second question that you posed. Do you see it still a live question in light of what the Commission has said?

>> MR. REPKA: I think actually, I think the Commission sent some mixed messages on that, but I think it is a minimum. I think the Board in defining whether or not, in fact, this complies with the criticality requirements meets the minimum criticality requirements is still -- if that's in dispute by a party, I think the Board is still free to say, yes, DOE, you comply with the criticality measures, we think it goes beyond the minimum. That regulatory margin will give the DOE some operational flexibility in the future knowing the licensing basis of the plant, knowing where the flexibility is to eliminate unnecessary requirements, eliminate -- or limit unnecessary specifications, I shouldn't say requirements. So I think that -- I think that aspect of this contention is still in play. I think beyond that, the Commission talked a little bit about margin in terms of the context of the contentions on drip shields and said that conservative -- conservatism is relevant there because it goes to the issue of

fundamental compliance, which also that context was put into dispute by other parties. So I think, again, I think, you know, I back up and say this contention is really about, A, accountability for real radiological doses and, B, it's about ALARA, and C, it's about what's necessary for safety.

>> JUDGE MOORE: Counsel, can you give me an example, across the entire spectrum of NRC regulation, in which ALARA has not -- has not had a geographical boundary?

>> MR. REPKA: I think that there's nothing that's quite analogous to this situation. I think that the parties, the staff, and DOE have raised the concept of this would be like Part 50 licensees being accountable for ALARA at fuel fabrication facilities. That's not the case and I think that really is a distinguishable situation because this is not a case where the Part 50 licensee is dictating exactly how to go about fabricating the fuel. So the -- I think there is nothing that's directly analogous that I can point to. However, I would say that if the Part 50 Reactor licensees were doing something like an egg crate design that was -- that the fuel fabricators felt was leading to unnecessary dose, that would be a situation, you know, and I don't know that it's ever

happened, I don't know that it could happen, but I think that that would be a situation where that ALARA dose would be considered. I think what doesn't work here is to argue that occupational doses are covered by ALARA, doses to the members of the public are covered by ALARA, but the only people in the United States who aren't covered by ALARA are, in this context, Part 50 Reactor workers with respect to the design. So that's a conclusion that I think just doesn't work as a matter of law or policy.

>> JUDGE RYERSON: Let me follow-up, if I can, on Dr. Wardwell's hypothetical. Suppose DOE demanded of a utility that the utility send nuclear waste in egg cartons, what are the utility's options at that point? Does the utility have the right not to send its waste to the national repository? What happens?

>> MR. REPKA: I think that it probably, and I'm speculating here because I haven't looked at that issue, but it would probably be a contract issue under the standard contract for waste disposal, DOE has its obligations to take the waste, the licensees are going to be obligated to do certain things to make that happen. So, you know, whether there is a contractual remedy for licensees, I don't know, but

that would be the first place I'd look. I don't think that there is -- I think in that context, Part 50 Reactor licensees would have very limited options to say, we don't want to do what DOE says.

>> JUDGE RYERSON: Certainly, the utility has more options with fuel fabricators then it would have the repository.

>> MR. REPKA: Correct. Part 50 Reactor licensees have every incentive in the world to move the material from their sites and, therefore, to expedite whatever DOE needs to make that happen.

>> JUDGE WARDWELL: Back to your definition of member of the public, it confuses me a little bit. As I read 21.003, it says a member of the public means any individual except when that individual is receiving an occupational dose.

>> MR. REPKA: Right.

>> JUDGE WARDWELL: How -- how do you allege that the workers at a -- whatever else that is packaging this material, or even in an active plant that are packaging this material, not be receiving an occupational dose?

>> MR. REPKA: Well, I think that's the problem with the definitions. They both exclude each other. And my point is that DOE are --

>> JUDGE WARDWELL: Both definitions, you mean the definition of the members of the public and occupational dose or --

>> MR. REPKA: Right, they exclude each other. So I think, I would have to read those regulations in concert and come to the conclusion that an occupational dose is an occupational dose that is on -- that you as a licensee is responsible for. A dose to the member of the public is something that you are responsible for. It's occurring off your site. I don't think you can necessarily get that out of the regulations, but the definition of public dose points you to the issue of control. And I think that's the only logical way to reconcile the regulations is to say that it's, it's the doses which you control are -- if it's on your site, it's an occupational dose, if it occurs to members of the public off your site, then it's a dose to the members of the public.

>> JUDGE WARDWELL: Are you suggesting we use common sense in interpreting these regulations?

>> MR. REPKA: That's -- I think common sense or judicial prudence or something, legal scholarship, one way or the other, but we can't have a result where you have two definitions that are

encompassing and then we're carving out a third category of unprotected workers.

>> JUDGE MOORE: Move on to your second issue.

>> MR. REPKA: Okay, and I think the second issue is the issue whether cost should be considered or not. Again, I think the premise of the issue is not, I disagree with the premise. I think the issue is really about occupational dose and cost only indirectly. I think occupational dose should be considered in the ALARA context and I think occupational dose also needs to be considered as part of addressing compliance with criticality requirement to say that this may be the minimum compliance with respect to criticality, but that there is margin there, and the Board is free to argue and conclude based on the record that there is flexible to reduce some of that conservatism to save dose going forward in the future.

>> JUDGE MOORE: Thank you. DOE.

>> MR. SILVERMAN: Thank you, Your Honors. Good morning. We plan to take ten minutes of the 20 minutes, with the staff taking ten minutes as well for all the contentions we're sharing. I'm happy to be here this morning. DOE's position on this

contention is, we think, very clear and is absolutely consistent with not only the plain language of the Part 63 regulations, but a clear history of the implementation of the ALARA requirements. And that is that we are not required to take into account ALARA considerations arising out of activities at nuclear power plant sites or at any other site. Part 63 makes it clear when it talks about --

>> JUDGE MOORE: Mr. Silverman, is the standard contract by which DOE is agreeing to take the fuel from utilities, nuclear power plant utilities, have anything to do at all with the way in which it is to be received?

>> MR. SILVERMAN: Help me out.

>> JUDGE MOORE: Does the standard contract say that it will be delivered to DOE's door or DOE will pick it up at the utility's door in X form?

>> MR. SILVERMAN: I am not certain exactly what the standard contract says, but my understanding is, if I'm answering your question, is that the Department's responsibility to pick up the waste and that the shipment of the waste from the reactors, and I can verify this, it's my understanding from the reactors to the repository is done by Department of Energy or DOE contractors pursuant to DOE regulatory

requirements, which include occupational dose requirements. They have regulations that govern that. Does that answer your question?

>> JUDGE MOORE: Well, I was trying to see whether there was an interplay between one set of obligations and ALARA and the DOE design?

>> MR. SILVERMAN: Well, certainly one thing that's clear to me is that the standard contract does not modify the NRC regulatory requirements, the Part 20 requirements, Part 63, and the meaning and interpretation of ALARA in anyway, and the scope and breadth of its coverage. And in Part 63, as you know, the ALARA issue comes up in the preclosure context, it is not a post-closure issue. When you look at subpart K., which are the preclosure standards in Part 63, you see that they establish exposure limits for the storage of waste by DOE at the Yucca Mountain repository and on the Yucca Mountain site. That's 63.201. The preclosure standard in 63.204, which is also a part of subpart K, sets a public dose standard for waste managed and stored within the Yucca Mountain site, a public dose standard. And Mr. Repka has indicated, and we completely agree, that these are occupational doses they're talking about at the reactor sites. And

those terms, in our view, are mutually exclusive.

>> JUDGE RYERSON: Mr. Silverman, suppose, again, I basically ask you the question I asked Mr. Repka, if a utility feels that DOE's requirements, with respect to the waste, are such that it's going to result in unnecessary exposure to its own workers, what are utility's options? Does it have a choice of any kind here?

>> MR. SILVERMAN: Yes, it does.

>> JUDGE RYERSON: Well, what is its choice?

>> MR. SILVERMAN: First of all, it's important to understand, one of the very first things Mr. Repka said was this would result -- DOE's interpretation would result in a requirement that control rods be placed in the spent fuel containers. That is not necessarily the case. The SAR itself requires "adequate reactivity controls." It does not specify that there be control rods. I'm not a health physics expert, but it's my understanding from talking with our experts is that there are methods by which the reactor could look, do additional analysis to determine how to load those fuel cannisters, when to load them, with what fuel, do additional analyses, find alternatives as part of their own ALARA obligations, and it is not a foregone conclusion that

they have to install these activity controls. We do not mandate in the safety analysis report. But our main point is that the regulations are clear, that the ALARA obligation applies to the waste managed and stored at the reactor site -- I'm sorry, at the repository site. That encompasses the workers at the repository site.

>> JUDGE WARDWELL: Mr. Silverman, if I might, those regulations are entitled something to the effect of activities at the GROA. And so naturally the regulation itself is going to deal with discussions of activities of the GROA. What I'm interested in is where in those regulations does it say that you do not, or that you are exempt from addressing other exposures in your ALARA evaluation?

>> MR. SILVERMAN: 63.204, which sets the preclosure standard, these are to be read together. The ALARA obligation is very much a part of the dose limits regulations, sets a public dose standard. But that public dose standard is for waste managed and stored at the site. So what we're looking at here is the dose from the activities at the site and its effect on people at the repository site and its effect on people who are members of the public. What we're talking about here is the mutually exclusive

situation where we have a reactor facility, workers engaged getting an occupational dose from worker activities at the reactor site and --

>> JUDGE WARDWELL: And we're talking about that in context of a requirement that is being driven by the high level waste facility at Yucca Mountain, DOE's activities?

>> MR. SILVERMAN: Well, it is not a requirement, as I specified before, to put in reactivity control rods. The Department of Energy made a judgment about how -- that there will be adequate reactivity controls, but they haven't required the installation of the control rods.

>> JUDGE WARDWELL: But you don't know necessarily of any other mechanism that might do that? I mean, that's a part of the evaluation?

>> MR. SILVERMAN: That would do what, sir?

>> JUDGE WARDWELL: Help me here in regards to where in the regulations are you not exempt from considering occupational doses caused by your actions as part of your license, whether, you know, including the words --

>> MR. SILVERMAN: We are exempt because of occupational doses are limited to exposures resulting from waste stored and managed at the repository site,

that's 63.204.

>> JUDGE WARDWELL: But that's because that section is entitled that, isn't it? I mean, that's why it only says it. In there it doesn't say, you do not have to consider outside activities?

>> MR. SILVERMAN: No, it does not, no, it does not, but maybe that leads to my second point -- Your Honor, to the best of my knowledge -- and I think the staff may be able to speak to this as well, I am, and I think the Board was hitting on this earlier -- I am not aware of the ALARA requirements for a particular licensee being applied to the activities of another licensee. Sort of what I'll call interfacility ALARA analyses. I think that that is not the way the regulations have, to the best of my knowledge, ever been applied. There is no gap here in our view. We have our obligations, the licensee has its own obligation with respect to the activities it controls, its employees, operating at its own facilities, the reactor facilities, under the control of the license -- of the different licensee. And if you carry this to the extreme, this position of NEI, if you just take the whole fuel cycle, for example, you would have a potentially enormous cross-hatching of ALARA -- interfacility ALARA

analyses, which don't occur. For example, enrichment facilities, there are some enrichment facilities that enrich waste up to 5%. There are some that have asked for authority to enrich waste up to 10%. Presumably, exposure to that waste would produce a higher dose. I don't believe the reactor facilities, I don't believe the enrichment facilities are doing an analysis or ever had to do an analysis to figure out what the dose impact would be and whether that was ALARA at the reactor site. The same thing with the fuel fab facilities, the reactor may impose -- the customer may impose some particular requirement specification for that fuel they want. But that fuel fabrication facility that does have its own ALARA requirements for its own activities, to the best of my knowledge, doesn't look forward to analyze activities outside its control and the impact of those specifications on activities at the reactor site. We just don't think this is ever the way the ALARA requirements have been interpreted.

>> JUDGE WARDWELL: Where would you draw the line, if you, for instance, hypothetically did require, you being DOE, did require that the individual plants ship it in egg cartons, would you also say that you're not responsible for evaluating

the ALARA aspects of that?

>> MR. SILVERMAN: The shipment?

>> JUDGE WARDWELL: Let's say that DOE requires a shipment to come in egg cartons, like was hypothetically brought up earlier, do you believe that your position still holds that DOE is not responsible for considering their actions on -- just because it happens to be their site?

>> MR. SILVERMAN: Obviously, we think, you know, the hypothetical suggests something that wouldn't happen, but I would say --

>> JUDGE WARDWELL: True, but where do you draw the line then, if are you implying, and in fact you would agree that logically have to look at ALARA?

>> MR. SILVERMAN: No, I would not. I would not. I believe the ALARA regulations are clear and have been applied historically for many, many years to focus the analysis on the activities and the effect of the activities of a particular licensee on its workers and on members of the public, and that any result of that would necessitate an ALARA review by another licensee, such as a reactor facility with respect to its own activities. And I do not believe we will find, once again, maybe there is an example out there, I'm not aware of it, where that is the way

the ALARA regulations have been applied. NEI has not cited any real regulation that supports their position.

>> JUDGE WARDWELL: Isn't the effectiveness of looking at historical precedence somewhat diminished by the fact that we are dealing with a site-specific regulation here, though?

>> MR. SILVERMAN: I don't think so. The site-specific regulation points us to comply with Part 20. You don't get terribly far until you look at Part 20. We're applying the ALARA concept which is a Part 20 analysis.

>> JUDGE MOORE: Mr. Silverman, you have raised a matter that goes to the foundation of this contention. The contention states that, the latter part of it, the conservatims will unnecessarily lead to the expectations that disposal control rod assemblies be inserted in some fuel assemblies at nuclear power plants prior to shipment to disposal. Now you have, as a matter of fact, said there is no such requirement.

>> MR. SILVERMAN: That's correct.

>> JUDGE MOORE: Before we can ever get to this legal issue, would that factual issue not have to be decided?

>> MR. SILVERMAN: Your Honor, if there is any question about the factual issue, I can get you the citation to the SARS section that says thou shalt have activity controls and it does not specify the need for the control rod assemblies as necessary and the only means of meeting that regulatory criterion that we've established in our SAR, and you can take official notice of that. I don't think we need a full hearing on that or adjudication on that issue.

Should I move on to the second point or do have you further questions?

>> JUDGE MOORE: Is there any significance to the fact that 20 -- Section 20.110 (b) applies only to licensees, but not applicants while the definition in section 20.1002 applies to persons?

>> MR. SILVERMAN: Can you refresh my memory?

>> JUDGE MOORE: License to receive and possess.

>> MR. SILVERMAN: 2011.01 (d), I don't have that in front of me, Your Honor, that was the title to that regulation. I'm sorry.

>> JUDGE MOORE: It is 111.01, did you say?

>> MR. SILVERMAN: 11.01 (d).

>> JUDGE RYERSON: 11.01. 11.01 is

radiation protection programs and (b) is just a paragraph the licensee shall use to the extent practical procedures and engineering controls based upon sound, radiation, protection principles, yada, yada, yada. An order that, doses to member of the public that are as low as reasonably achievable?

>> JUDGE MOORE: I was just wondering one, the definition -- I'm sorry, 20.111 -- 20.1101 (b) uses specifically the word licensee.

>> MR. SILVERMAN: I probably have to look at the whole reg., but I don't think the distinction -- there's a distinction their that affects our argument. Can I touch briefly on the second sub-issue, is that what you'd like me to do?

>> JUDGE MOORE: Yes. Please proceed.

>> MR. SILVERMAN: Thanks. And I'll be very brief. Our position is -- first, let me say that counsel for NEI has stated that the contention is not about cost. I think if you read the contention it is, at least in part, about cost, but the critical issue here is that we have a legal issue that we've all agreed to decide here today and that is, it does relate directly to costs And that's whether we, as the Department of Energy, have an obligation to meet the regulatory requirements, but to do so without

unnecessary expenditure of resources. Our position is we absolutely do not have that obligation, that the Atomic Energy Act does not provide any requirement except to meet the requirements of the safety requirements at any cost that's necessary. The Part 63 says nothing at all about the need to reduce expenditures in meeting regulatory requirements. NEI relies on the Nuclear Waste Policy Act for their position, Section 121 in particular, that is the section that directs the EPA to promulgate environmental standards for offsite releases and directs NRC to adopt implementary regulations. It is silent on the question of economics and the cost of compliance. We agree that the NWPA has the general policy, among others, of facilitating the development of the repository, but there is no directive for the Nuclear Regulatory Commission to factor into its licensing process economic and budget considerations. That is the decision of the Department of Energy. We don't think NEI pointed to any statutory or regulatory authority to support that position.

>> JUDGE MOORE: Where does the consideration of economic costs and the definition of ALARA apply?

>> MR. SILVERMAN: It comes in -- once you have the obligation to consider whether an activity is as low as reasonably achievable, then you do consider economic as well as other considerations. But until you have that analysis -- that obligation, we believe strongly, we do not have that obligation with respect to occupational doses at reactor facilities, for activities which we do not control, then you don't get into issues of costs. And when it becomes an issue of cost, it would be an issue for the reactor licensee. And, again, our bottom line is this is the way we believe regulations have been interpreted as far back as we can remember.

>> JUDGE RYERSON: You're not arguing though, Mr. Silverman, that the Commission has basically decided the second half of this question, in the June 30 decision?

>> MR. SILVERMAN: In the June 30 decision, I think that they've come pretty close to that. That's -- that would be the decision on the appeal of the admissibility issues. And I probably can't pull out every quote, but on page -- bear with me one second -- .

>> JUDGE RYERSON: I think 25 is where they say our regulations set a minimum standard for

safety, not a maximum. I was wondering whether you viewed that as deciding this issue for us or not?

>> MR. SILVERMAN: I think that that partly -- that is dispositive, as well as the statement on page 26, where the Commission says, we reiterate that in and of -- this is in a footnote on page 26, reiterate that in and of itself the assertion of DOE's analysis is overly conservative does not rise to a level of admissible contention because "overconservatism is not an issue material to a finding the NRC must make in this proceeding."

>> JUDGE MOORE: Thank you. Staff.

>> MS. SILVIA: Good morning. This is Andrea Silvia for the NRC staff. With respect to the first sub-issue. DOE is not required to address ALARA considerations at reactor sites remote from the GROA. Part 63 deals with operations at the GROA and radiation and radioactive material that emanates from the GROA. Nothing requires or indicates that its scope includes workers at remote nuclear reactor sites. Furthermore, Part 20 does not direct licensees to analyze how their activities affect other licensees. Part 20 is concerned with licensees reducing occupational exposers to their own workers and limiting doses to the public. NEI cites three

regulations in Part 20 to support its argument. 20.1002, 20.1003, and 20.1101.

>> JUDGE RYERSON: Ms. Silvia, what is your response, though, to the contention that this is a unique situation? This is a situation where the utility has, I think, very limited, if any, options in terms of whether it will send the waste to the repository if it's constructed? Does that -- does that bear at all upon your view that, well, it's unusual for one licensee to have to consider something that another licensee has some degree of control over if the second licensee loses control by reason of judgments made by the first license?

>> MS. SILVIA: I don't think it's all that different than the situation with low level waste disposal facilities, and in those cases low level waste disposal facilities do impose additional requirements beyond regulatory requirements for how they will accept fuel, excuse me, how they will accept low level waste into their facility and as far as what we're aware, the low level waste facilities do not analyze ALARA considerations of their design impacts at nuclear reactor facilities.

>> JUDGE MOORE: And the NRC does not require them to?

>> MS. SILVIA: Correct.

>> JUDGE WARDWELL: Could you point to anywhere in the regulations where DOE is exempt from considering any increased radiological exposures outside of the GROA?

>> MS. SILVIA: I don't think the regulations specifically say that I think it's more in the way of looking at Part 20 as a whole and Part 63 and that there is nothing indicates the intent to extend the ALARA considerations beyond the GROA with respect to occupational doses received by other licensees. For instance if you look at the radiation protection program requirements in Part 20, everything in that indicates that it was meant to apply to licensees own workers, and in terms of how they monitor the doses, in terms of the actions that a licensee could take too actually reduce the doses. A lot of the reporting requirements, for instance, would be impossible for DOE to do with respect to workers at Part 50 facilities.

>> JUDGE WARDWELL: Do you see anything faulty in NEI's position, as I understand it, in regards to sorting out the definitions of members of the public versus the occupational dose standard versus the public dose standard, in the fact that one

contradicts to a certain degree the others and -- but when taken as a whole and considering what would be a logical outcome that, in fact, leads you to believe that increased doses to other persons outside of the GROA still falls within the realm of the requirements that DOE must meet?

>> MS. SILVIA: I think NEI's asserting that there is a regulatory gap, and I don't think there is with respect --

>> JUDGE WARDWELL: You don't see anything contradictory in those three definitions, members of the public, the occupational dose, and a public dose when you try to sort this out?

>> MS. SILVIA: I think the workers at Part 50 Reactor facilities would be covered under the licensees of the Part 50 facilities --

>> JUDGE WARDWELL: But there are other high-level waste besides reactor facilities, I mean, there is FSE sitting out there on green grass right now that are going to have to make it to Yucca Mountain in some fashion.

>> MS. SILVIA: And workers at these FSE sites would be covered by the ALARA programs of their licensees as well, and I think as counsel for DOE pointed out, there are other actions besides

insertion of control rods to eliminate excessive doses, so it's something that's not entirely --

>> JUDGE MOORE: And what are those? Could you give us examples of the plethora of those that might be available?

>> MS. SILVIA: I think, not being a health-physics expert, I'm not entirely sure of the realm. I think probably the how the geometry of the control rods are put -- or not the control rods, of the fuel is inserted into the package would probably have an effect, how long fuel is aged before it is packaged for transport. So there's things that can be done within Part 50 or licensees on ALARA programs to reduce the doses to workers, and the other thing to mention, I think NEI is seeking to apply the ALARA principles to a design parameter that's important to postclosure performance because the insertion of the control rods, if it is done, would be done for the purpose of preventing criticality during the post-closure control period and ALARA considerations do not apply to post-closure activities, so DOE, if the insertion of the control rods is done for preventing post-closure criticality, then ALARA considerations do not apply because that would necessarily entail some balancing of the safety to

future generations with the present day costs of occupational exposures to workers, which is something I think the Commission explicitly said they were not going to consider -- they were not going to require consideration of.

>> JUDGE RYERSON: But if the exposures that NEI claims to be concerned about are all preclosure, I mean, they would be exposures at utilities, I mean, this is not a question of whether the adequacy of the post-closure standards that would apply to the general public.

>> MS. SILVIA: Right, but I think NEI is claiming that the post-closure standards could still be met even if control rods were not inserted. However, one -- there has been no showing that the post-closure standards could be met, but even if it could, it's within DOE's--it's DOE's proposal that the NRC is evaluating, and if part of their safety case is a certain element of conservatism, then there is nothing that prevents -- there is nothing from -- excuse me, there is nothing to prevent the DOE from using a margin of safety in an element of their design. And so I think it -- you necessarily have to get into the post-closure element of the design because the control rods are -- if they are

inserted, it will be to prevent post-closure criticality.

>> JUDGE RYERSON: In other words, you're saying to make the evaluation that would be necessary to consider the present exposure at a utility or the nearly present exposure, you would have to get into issues that the Commission has enclosed, which is the importance of maintaining the post-closure levels and that's already said, that's governed by a regulation, that's not something that could be waived, is that essentially your argument?

>> MS. SILVIA: Yes.

>> JUDGE MOORE: Counsel, section 20.1002, entitled scope, is the general provision that applies Part 20 to Part 63, and hence incorporates ALARA. If, with that in place, isn't 63.111 (a) (1) totally and completely redundant and unnecessary, unless we have a case of the specific defining the more general? And aren't -- must not the regulations be read that way? If Part 63 applies -- oh, I'm sorry. If Part 20 applies across the board, as it's been suggested, then why do you need 63.111 (a) (1) that specifically applies it to the GROA.

>> MS. SILVIA: I don't think you need the 63.111. I think, in this case, they are redundant.

In addition to the plain language of Part 20, the regulatory guide 8.10 describes the general operating philosophy acceptable to the NRC staff as a necessary basis for a program of maintaining occupational exposures to radiation as low as reasonably achievable. The reg guide 8.10 states that any program for keeping exposures ALARA requires two things. One, a management commitment to ALARA and, two, radiation protection personnel who remain vigilant. The discussion in this reg guide clearly indicates that the radiation protection program applies only to the licensee's facility, as discussed earlier. The Part 20 also contains and controls reporting requirements that require knowledge of information only the licensee would have about its own employees. This indicates that the licensees would only be required to apply the ALARA principles to their own facility. Furthermore, ALARA embodies the principles of reasonableness and practicality. It's reasonable and practicable for the licensees to consider and be responsible for ALARA considerations at their own facilities, not facilities of other NRC licensees have their own ALARA programs to implement.

>> JUDGE WARDWELL: Just for completeness, I assume your statement in regards to the question I

asked that you don't know of any specific regulation that exempts it, likewise that reg guide doesn't exempt them detract them from looking beyond the GROA.

>> MS. SILVIA: Correct, yes, Your Honor. If there is no further questions on this first issue, I'll go on to the second issue.

>> JUDGE MOORE: Thank you. Move on.

>> MS. SILVIA: DOE does not need to demonstrate that it meets safety and environmental standards without any alleged unnecessary expenditure of resources. With respect to financial costs and it's ruling on the admissibility of contentions, the Commission has already stated that cost and delay are not material to this proceeding. Similarly, the Commission agreed with the staff that with respect to NEI safety 4, that NEI cited no legal requirement that before the staff can make the safety findings associated with the seismic review of the applications, the staff must first find that the design is not too conservative, that the associated costs are not excessive. The Commission also stated, as Judge Ryerson pointed out, that our regulations set a minimum standard for safety, not a maximum. Therefore, asserting only that a design is too costly

or too conservative is not enough to bring it within the Commission's purview.

>> JUDGE RYERSON: Ms. Silvia, your position, or the Staff's position, then is that the second half of this issue is foreclosed, has been decide by the Commission; is that correct?

>> MS. SILVIA: I think the Commission clearly stated if the issue was only accepted -- excessive.

>> JUDGE RYERSON: Costs unrelated to ALARA?

>> MS. SILVIA: Yes.

>> JUDGE RYERSON: Your view is that the Commission decided that we don't have to.

>> MS. SILVIA: Right, I think the Commission has already ruled on that, yes. With respect to environmental costs, NEPA does not require a party to accomplish its purpose without any unnecessary expenditure of resources and with respect to dose costs under ALARA, there is nothing cited in the case, there is nothing in the case cited by NEI, nor in any case has the staff found that indicates the Commission will direct a license applicant to reduce the safety margin in order to avoid unnecessary expenditures. The NRC staff ALARA guidance states that a cost benefit analysis may be

helpful in arriving at the judgment, ie. the ALARA decision, but it should not be the decisive factor in all cases and that's from Reg Guide 8.8. If an element of DOE's design is needed to provide adequate protection of public health and safety, ALARA considerations would not override that design feature. To the extent that a design feature is needed to satisfy the post-closure dose standard, ALARA would not apply. The ALARA principal deals with optimizing the reduction of potential doses from radiation to members of the general public and workers. It does not require consideration of whether a specific expense is unnecessary. Although, ALARA considerations involve weighing costs and benefits of achieving further reductions that lower regulatory limits, they should not be used as a vehicle to second guess every aspect of a license proposal. Thank you, Your Honor.

>> JUDGE MOORE: Thank you, Counsel. NEI, take two minutes for rebuttal.

>> MR. REPKA: Thank you, Judge Moore. David Repka for NEI. Just a couple of points. First, Judge Moore, to respond to your question, you asked about what caused this situation with the packaging at the waste sites, it was a result of the

change in DOE to go through the transportation aging and disposal of cannisters and do the repackaging offsite. What -- if the repackaging was being done offsite, I wouldn't concede, however, that we wouldn't necessarily be concerned. NEI does have union members who are engaged in activities at the sites, and we may still be concerned with the ALARA design issue.

>> JUDGE MOORE: In that regard, it goes back to my very first question, where is the line between waste handling and transportation, because that seems to me to be overriding all of this.

>> MR. REPKA: I think -- again, the line we've clearly crossed it where we're dictating that certain activities be done in furtherance of the DOE project and in furtherance of the DOE license application. With respect to both DOE and the staff said that there were other options available to -- for reactivity controls, none were specifically mentioned. I do believe that that's ultimately a factual issue that would go into an ALARA consideration, would be a matter for the merits. But beyond that, we are not aware of any specific reactivity control measures that would -- could be accomplished without dose consequences. Staff

mentioned aging. We looked at the specification in the license application and it's an enrichment versus burnup curve. Aging is not a factor in that curve.

But again, those are fundamentally factual issues, and our point is any reactivity control is not necessary. So any dose would not be necessary. Staff says that we're looking again to somehow compromise the post-closure criticality objective. We're not doing that, we are not asking that that post-closure standard be change, reduced, overwritten; we're simply saying that it can be met and will be met consistent with ALARA. Finally, DOE again says this is not something that they control. Fundamentally, I disagree with that. This is a design issue that they do control.

And then one last point I'll make is DOE made the example about applying ALARA to other activities and other licensees and talked about the fuel fab facility applying for a bigger, a greater enrichment value for their fuel. Well, ultimately, that's a very distinguishable circumstance because there is all sorts of commercial responsiveness requirements and the reactor licensees would be the ones that would ultimately decide what enrichment fuel they would be using in their facilities and

believe me, they would consider the ALARA implications if they were going to go to a high enrichment fuel. It's not to say they wouldn't do it, but they certainly would consider the ALARA implications.

>> JUDGE MOORE: The reason for my question on where the line is drawn between fuel handling and transportation, you repeatedly in your brief and reply brief say that DOE could move more and more things offsite to contractors. You give no examples. What could they possibly do that doesn't run afoul of the definition of waste handling and disposal in Part 63?

>> MR. REPKA: I think it's -- the best example of what they could do, again, is push more activity packaging activities offsite. Again, that's certainly related and part of the transportation issue. It's preparing the cannisters for transportation and disposal or what the case may be. Again, it's something being done using reactor licensees as an agent for the transportation and disposal process that is ultimately their responsibility. But instead of requiring that only some cannisters be repackaged, they could require that all cannisters be repackaged, and they should

all be done offsite. Or conversely, they could decide that all repackaging be done onsite. That's precisely what they haven't decided to do. So there is a range of things that they could require to push activities offsite if they didn't have to consider the ALARA implications.

>> JUDGE MOORE: Thank you, Counsel. Let's move on to issue two. State of Nevada.

>> MR. MALSCH: Good morning, Your Honors. I'm Marty Malsch for the State of Nevada. Issue 2 relates to the treatment of climate change in the 10,000 year total systems performance assessment. Specifically, climate changes as they may be affected by anthropogenic greenhouse gas emissions. And the issue is whether Part 63 gives you the right in projecting the effects of anthropogenic greenhouse gas emissions to rely exclusively upon the historic geologic record ignoring all other evidence. DOE says yes, we say no; I'm not clear exactly what staff's position is. In any event, we believe DOE is wrong. DOE's position runs into a very serious problem right at the outset, because the applicable regulation, which is in 63.305 (c), simply provides that DOE must vary factors relating to climate based upon cautious but reasonable assumptions. There is

nothing in here at all about use or reliance upon historic geologic record. But to make things even worse, the rule-making record indicates that the Commission, in its original 1999 to 2001 Part 63 rule-making, considered the argument and specifically rejected it. In its notice of proposed rule-making, it offered up a proposed 63.115 (c) (3). And that would have provided that, "climate evolution shall be consistent with the geologic record of natural climate change in the regions surrounding the Yucca Mountain site." That was in the proposed Part 63 rule. It was specifically dropped from the final rule in favor of the language we currently see in 63.305 (c), which makes no specific reference whatsoever to the historic geologic record. So we see right off the bat, they will encounter some fatal problems, both in terms of the language of the regulation and the rule-making history behind Part 63.

>> JUDGE WARDWELL: Is there any place you can point to, Mr. Malsch, in the regulations that says DOE is required to look at anthropogenic climate change impacts.

>> MR. MALSCH: I think no. I think the regulation is silent. It just talks about projecting

climate changes based upon cautious but reasonable changes.

>> JUDGE WARDWELL: Don't we just sugar down to a merits issue then on whether or not using the historic geological record is sufficient enough to meet this reasonability standard associated with 305 (c)?

>> MR. MALSCH: I think that is exactly correct.

>> JUDGE WARDWELL: So, in fact, we could decide against your position here that there is nothing in there that requires them to look at it, but still move forward on the factual issues and you would be satisfied, would you not? I mean, no difference occurs, does it?

>> MR. MALSCH: Well -- yes, we have contentions in effect that say DOE has not properly evaluated climate change because it has not taken into account properly anthropogenic greenhouse gas emissions. As long as we are given the leeway to offer that evidence and make our case, and as long as those contentions remain admissible, we're satisfied.

>> JUDGE WARDWELL: But this legal issue that we're trying to decide now says that, if I understand it correctly, that there is a requirement

for them to look at the anthropogenic effects? And I'm asking you, where is that requirement specifically stated?

>> MR. MALSCH: Right. I think that's an overstatement, I don't think we would say on the face of the regulation a requirement to consider anthropogenic greenhouse gas emissions. As we have looked at the issue, we thought the issue was whether DOE in it's evaluation, in attempting to project the effect of anthropogenic greenhouse gas emissions had the right to rely exclusively upon historic geologic record. And I think their position in the brief is yes, they do and if they do so, it is legally sufficient, per se, rendering inadmissible Nevada's climate change contentions.

>> JUDGE WARDWELL: But didn't you agree to a wording of this legal issue and as I read that legal issue, that's kind of what it says to me, but correct me if I'm wrong.

>> MR. MALSCH: No, it's a little -- as I look back on it, the wording is a little strange, because it poses an alternative. It says, does the regulation require DOE to project future levels of anthropogenic greenhouse gas emissions and evaluate the impact of these. Or whether it is sufficient.

It's the 'or whether' part, that's a slight mismatch there I think in the way the issue was framed.

>> JUDGE WARDWELL: As I read, that it just meant that you would -- this was a specific analysis approach they could use and it is sufficient to do that on a legal basis, not on a factual basis.

>> MR. MALSCH: That's the way I read DOE's brief, they seem to be saying they had a right to approach anthropogenic greenhouse gases.

>> JUDGE WARDWELL: Your position is it not as I heard you, I think, is it not true that they are -- they have the ability to do that, there is nothing to prevent them from doing that legally?

>> MR. MALSCH: That's correct. They may try. Whether or not at that time try is successful really goes to the merits of the case.

>> JUDGE RYERSON: So, Mr. Malsch, just to clarify, your position then is that DOE's analysis based on the historic geologic record is neither required nor per se specific. It simply comes down to whether it's an adequate cautious but reasonable assumption of change?

>> MR. MALSCH: That's exactly correct. And I think whether DOE's approach, or for that matter, our approach, represents the use of cautious but

reasonable assumptions presents a factual issue for resolution at trial. Just to go through quickly, some of DOE's arguments. Since the Commission specifically considered DOE's arguments and rejected it, they really don't have much to go for based on the rulemaking record. There is indications in the rule-making record that the Commission believed that historic geological records would provide a solid basis for projecting climate changes, but that doesn't mean it's the only basis for projecting climate changes. It's also true that the Commission said that the Paleo climate record was a sufficient basis for believing that you could include it in your total performance assessment, but that's okay. That doesn't mean other approaches to the climate change process couldn't be used. And that really leaves the National Academy of Science made no legally effective findings or recommendations on the subject. In fact, there is a kind of a neat summary of the NEI's findings in the Commission's original notice of the proposed rule-making in Part 63.

It says, 64 Fed Register 8642 to 8643; and that summary indicates that there is no, in the Commission's view, NEI's recommendation or finding that anthropogenic greenhouse gas emissions should

be based solely upon the historic geologic record. That leaves only the 2005-2006 rule-making where there is no doubt that the Commission, in major part, based the rate on an assessment of the historic geologic record, but that only pertains to the post-10,000 year performance assessment. The commission in its proposed rule-making in 2005 suggested or proposed no changes in how climate change would be treated in the 10,000 year performance assessment. And the Commission specifically advised Nevada and other parties that, quote, "NRC requests and will respond to comments only on those provisions of Part 63 that we are now proposing to change." Since they weren't proposing to change anything, to treat this rule-making as affecting our ability to raise issues in the 10,000 year assessment goes way beyond the scope of the rule-making when we violate fundamental principles of fairness and for that matter would violate the Administrative Procedure Act.

That leaves only the EPA rule, which has language exactly like the NRC rule. It doesn't have any specific thing dealing with the use of historic geologic record. There is a very strange statement in the NRC rule-making about how EPA says we specify

the use of a geologic record. I have no clue what that can refer to, because there is no such specification in the EPA rule. My only speculation is they have been referring to how they approach the definition of the aquifir for purposes of applying to the ground. So, in conclusion, as Staff says, "we agree that DOE is given some flexibility in how to address climate change. If it wishes, it may try to get away with projecting anthropogenic greenhouse gas emissions based on historic geologic. Whether it will succeed does not raise a question of law, it raises a question of fact. And we'll see how that comes out. And we have our entitled by virtue of our mitigated contentions to challenge DOE for that purpose.

>> JUDGE MOORE: Thank you, Counsel.

>> MR. MALSCH: Thank you.

>> JUDGE MOORE: Mr. Silverman.

>> MR. SILVERMAN: Thank you, Your Honor. This is Don Silverman for DOE.

First, if I heard Mr. Malsch correctly on several occasions, I think he said that the Department of Energy was permitted, I could be mistaken, to use the geologic record as the basis for projecting the effects of the anthropogenic

climate changes going forward. That's an important admission if that's, in fact, what the records reflect. Our position is, Mr. Malsch started out by arguing that we have a problem fundamentally up front and that is with our interpretation of the regulations and that is first, that the language of 63.05 talks about cautional assumptions only and doesn't speak to the geologic record. Secondly, it argues the regulatory history of the regulations supports his decision. Let's be clear on the regulation, first. The language of this regulation is very, very general. It does not, he is correct, refer to the word "geologic record." All it uses is the phrase that we must vary factors related to climate based upon cautious but reasonable assumptions consistent with present knowledge of factors that affect the Yucca Mountain disposal system.

Our view is the language of the regulation simply doesn't clearly and explicitly specifically speak to the issue we are here today to decide, which is whether it's sufficient and appropriate to use the geologic record for purposes of determining the effects of the anthropogenic climate change.

>> JUDGE MOORE: But is it not your position

that it is sufficient as a matter of law to rely exclusively on the geologic record?

>> MR. SILVERMAN: It is absolutely our position. That is not based on this case we have a clear regulation that speaks collectedly to it, but because contrary to what Mr. Malsch has said, there the a very consistent regulatory history here that supports our interpretation that indicates that both the EPA -- frankly, going back to the National Academy of Sciences through the EPA rulemakings and through the NRC rulemakings, a consistent recognition that use of the historical geologic record was a permissible way to perform this analysis.

>> JUDGE WARDWELL: But not an exclusive way, I ask? Question mark. That's the key point, it seems to me.

>> MR. SILVERMAN: I don't think that is the key point. If I were to acknowledge, it's not the exclusive way. The point is whether it's a permissible way to meet the regulations, is it what the NRC intended as an acceptable means of meeting the regulation.

>> JUDGE MOORE: But your position is as a matter of law which removes it from factual challenge?

>> MR. SILVERMAN: Yes, as a matter of law, we are permitted to remove it from factual challenge, and if I may --

>> JUDGE MOORE: Well, that certainly, speaking only from myself, moves the definition of permitted to mean something other than what I believe it means. If, as a matter of law, it can be done this way and only this way, that is exclusively, and it's not subject to factual challenge as to whether that's a reasonable and cautious approach, being permitted to do it and being -- and being required when there is no other way to do it are two different things.

>> JUDGE WARDWELL: I didn't hear a question there, so let me ask a question. If, in fact, you had chosen another path besides the geologic record, i.e., evaluating the climate change the way Nevada suggested a better way to do it on a scientific basis, you would be in violation of the regulations. Is your position?

>> MR. SILVERMAN: No, I would say we would have a very difficult road to hoe in convincing the agency that we meet the regulations. I'm not sure I agree with where you are headed, maybe I don't understand. If our interpretation is, as a matter of

law, the use of the geologic record is a permissible and acceptable means of meeting the minimum requirements, the requirements of the regulations, and that is what the legal issue is, whether it is sufficient under the regulations to analyze effects using the geologic record, then if we have used the geologic record, then as a matter of law, we have met the regulations.

>> JUDGE WARDWELL: But when we're dealing with a regulation that says reasonableness, there are other ways to do it then also and then we don't we get back to the same old factual basis, whether or not that reasonableness is achieved when we're dealing with something as general as the terms that are in 305 (c).

>> MR. SILVERMAN: No, I don't think so, Your Honor. I think it's, it's clear that if there is a regulation provides as the regulatory history strongly supports that the department may use the geologic record, then that resolves the issue. If we had done it, this is what the NRC intended when they adopted the regulation as an acceptable means and that results --

>> JUDGE WARDWELL: Then why didn't they use the phrase "shall use?"

>> MR. SILVERMAN: The point is they did not use -- refer to the geologic record at all in the rule itself.

>> JUDGE WARDWELL: Then why didn't they, then, if your position is correct?

>> MR. SILVERMAN: They don't specify the geologic record is an acceptable means. They don't refer to it at all. I think the key here is the regulatory history, which I'd like to take a minute on, if I may. The plain language is not clear.

>> JUDGE MOORE: Before you start down the regulatory history route, as I understood the legal issue, it's divided into two parts. And DOE's position is whether 10 CFR.305 requires DOE to project future levels of greenhouse gas emissions such as CO-2 and evaluate the impact of these gases on future climate Yucca Mountain in the 10,000 year performance assessments and/or whether it is sufficient under the regulation for DOE to analyze the effects, which I believe as Mr. Malsch's position that as a matter of law, the first phraseology would preclude any factual challenge and the second after the or allows the factual challenge.

>> MR. SILVERMAN: I don't understand how that allows a factual challenge. If it is sufficient

under the regulation to analyze the facts, using the geologic record, that ends the inquiry if we use the geologic record.

>> JUDGE WARDWELL: And where does it say that?

>> MR. SILVERMAN: As I said, the plain language is not clear. So I object to Mr. Malsch's characterization we have a problem from the beginning that resolves that. He says it's clear in the plain language. He says it doesn't say anything on this specific point. We are acknowledging that you can't solve this problem just by reading this regulation. It doesn't speak directly to the issue. But --

>> JUDGE WARDWELL: But wouldn't the regulation -- if one was trying to create a regulation that allowed flexibility in evaluating climate change, wouldn't it come out like this?

>> MR. SILVERMAN: It might very well.

>> JUDGE WARDWELL: If one wanted to limit how you did climate change, wouldn't one logically say, you shall do it the way?

>> MR. SILVERMAN: Your Honor, you're right. The issue is not whether this is the only way. It is whether it is an accept -- we are here to determine whether we meet the regulatory requirements and if

the Commission has said you may meet the regulatory requirements, by using the geologic record as a surrogate, if you will for the speculation that would be involved in trying to predict future human impacts on climate, if that is chlorand if that is what the NRC intended, that resolves the matter. Require but it clearly did not do that, you admit.

The Commission promulgate regulation. It promulgates, said, based upon cautious but reasonable assumptions of change. I agree, that's not real spec. Right. But I don't think it's necessarily unclear. It could say that there is a fact question, obviously, as to whether something is cautious but a reasonable assumption. Why is it the case that we then have a hearing on that issue?

>> MR. SILVERMAN: Why shouldn't you have a hearing?

>> JUDGE RYERSON: As opposed to going to look at regulatory history? Why do we get to the regulatory history where we have a regulation that you may not like it. It's not as spec as you think it should be. But is it unclear? Does it require us to go look at regulatory history?

>> MR. SILVERMAN: Well, the answer to that is that you don't get to a factualgium, to decide the

issue as a matter of law when you have a clear regulation with clear language that speaks to the issue and then you can rely on the plain language of the regulation. Our position here is that this is very general language in the regulation. It's very hard to come to a conclusion based exclusively on the language of that regulation and the cannons of statutory and regulatory interpretations say, therefore, you should look ought the regulatory history for guidance on what that regulation means. You need to go through that step before you decide that there is a fact issue to the regulation.

>> JUDGE WARDWELL: If there were no regulation, where do you see it's not clear? It may be general and it may not dictate a spec method. But it seems to me the language is clear in 305-C.

>> MR. SILVERMAN: With respect to the use of the geologic record, which is the issue before us?

>> JUDGE WARDWELL: The issue before us is how to address climate change. They're very clear on how you do it.

>> MR. SILVERMAN: In a very general sense.

>> JUDGE WARDWELL: It's may be general. It's not definitive.

>> MR. SILVERMAN: I don't think the issue

is whether we're using cautious but reasonably presume shun. That is the legal issue before the Board.

>> JUDGE WARDWELL: As you state, is this not correct, if there is nowhere in the regulations that states that you may or shall use only -- the geological records?

>> MR. SILVERMAN: Absolutely. But, as I said, we are relying on a very consistent regulatory record and just to briefly do this, if I may, then the National Academy of Science's recommendation, findings and report itself, and the EPA regulations and the NRC implementing regulations that implement the EPA standard are very inextricably linked. They are all evidence in our view of what was intended by the regulator by the end of the day. The National Academy of Sciences report discusses using the geologic record to quantify -- it says on page 95, although the typical nature of past climate clang is well known. It is obviously impossible to predict in detail either the nature or time of future climate changes.

And then in particular on pages 68 to 69, it says, one critical gap in our understanding is with respect to future human behavior. There is no

scientific basis for predicting future human behavior. This informs, the National Academy of Science is not the NRC, but informs the EPA rule, which informs the rule. The DOE says we specify climate based on an examination of evidence in the geologic record. The evidence preserved in the recent geologic record provides a means to reasonably bound the range of possible conditions, most importantly, if I may, you if you may indulge me for a minute.

The NRC interpreting its own regulations, when it adopted part 63, it says the geologic record provides strong evidence of past climate over a long time, which provides a strong basis for predicting future changes. It says, comments suggesting that NRC consider future economic growth, i.e.,, human activity trends ignore inherently large uncertainties. It says, future predictions, which we're zoo saying we're not required to do, would add inappropriate speculation that, therefore, the rule precludes, does say precludes in this case, consideration of changes of assumption of lifestyle and land use, human impacts, that can be subject to speculation and future economic growth.

>> JUDGE WARDWELL: But nothing about CO2?

Is that correct?

>> JUDGE MOORE: Clearly in context.

>> MR. SILVERMAN: In context of climate change.

>> JUDGE MOORE: Mr. Silverman, the commission drew a line between such things as population changes around Yucca Mountain. And they specifically spoke to that. And water usage, because of population changes and predicting and projecting those things as opposed to climate change. I think you are mixing the two together and I certainly can't read the legislative history the way you just recited it with regard to that particular provision. I think the Commission made a very clear line that they were drawing between two different types of activity, one of which -- and they do reference and refer to the geologic record for climate change, but that's totally distinct from the other matter they were talking about.

>> MR. SILVERMAN: And the other matter they were talking about, your saying, Your Honor, was what?

>> JUDGE MOORE: Population change in the Yucca Mountain, economic growth in the area, water usage.

>> MR. SILVERMAN: No, Your Honor. One of the quotes I read from the statement of considerations says the geologic record provides strong evidence of past climate over a long time, which provides a strong basis for predicting future change.

>> JUDGE MOORE: That is true. And you contrast that to the other matters that they are not going to get involved with at all. And that's population change economic development and all of those things. I think they treat them as two distinct matters in all of this legislative history.

>> MR. SILVERMAN: Well, we disagree with that. I would add to the statements of consideration on final promulgation Part 63, and I think it was 2001 to 2009 rule-making where the NRC said, in implementing, this was the regulation implementing the final EPA standards that quote, "all climate predictions are based on and calibrated evidence, past climates contained in the geologic record."

>> JUDGE MOORE: In regard to that, that you just quoted, that is in a paragraph that the next sentence says, the values specified for depercolation rates adopted in the final regulation capture the range, uncertainty and deep percolation et cetera.

>> MR. SILVERMAN: Yes.

>> JUDGE MOORE: That clearly refers to post 10,000 year period, does it not?

>> MR. SILVERMAN: That portion does and that rulemaking was focused on.

>> JUDGE MOORE: Why, why in the same paragraph would the sentence before a switch in subjects be referring to the pre-10,000 period -- pre-10,000-year period, which is what you quote and the very next sentence refers to the post-10,000 year period in the same paragraph without any demarcation that's telling you they're totally switching horses?

I mean, doesn't it have to be read in context?

>> MR. SILVERMAN: It does have to be read in context and the post-10,000 year period and the use of the percolation rate if you will for that period, but the language that I'm reading from is that it first says all climate are based on the geologic record. I'm shortening up that sentence. We know that the NRC went on in the next sentence and in that rulemaking say in the post-10,000 year period, you may do something different.

You may use the percolation rate. We just

point this statement out. We recognize this is a rulemaking on the post-10,000 year period. We think this statement is supportive of the rest of the regulatory record that we rely on. It is consistent with the National Academy Sciences Report, from the EPA rulemaking and the NRC rulemaking. We don't believe the Department, I'm sorry, Nevada pointed out any specific prohibition in the regulations or the regulatory history that precludes the Department from proceeding in the way they did. If they have done what they are permitted to do, then the issue ought to be decided as a matter of law.

>> JUDGE WARDWELL: The proposed 63 and 115 (a)3 that said claimant evolution shall be consistent with natural climate change in the region surrounding the Yucca Mountain site. Any hypothesis of why that was dropped?

>> MR. SILVERMAN: I have hypotheses. I think Staff may be able to speak to this better than I. I would admit errors of hypotheses.

>> JUDGE WARDWELL: Doesn't it seem strange if they were back in your position, as I hear your position, it's more than just whether or not are you allowed to look at climate historic records to develop climate change, in fact, you have to use that

process that they would drop something like 115 A-3?

>> MR. SILVERMAN: Well, our position is not dependent on whether we have to or are permitted to under the regulations, but I understand your point.

>> JUDGE WARDWELL: We got a continuous Google here, under the regulation, it's cautious but reasonable. There is nothing either way. So when you say under the regulations, it's left opened in the regulations. You may have a position that the regulatory history supports the fact that it is sufficient and complete and conclusive --

>> MR. SILVERMAN: Yes.

>> JUDGE WARDWELL: -- that you can use a geologic record.

>> MR. SILVERMAN: Yes.

>> JUDGE WARDWELL: But we can't say that I don't believe that under the regulations, under the regulation allow freedom in that regard, do they not? Doesn't 305-(c)--

>> MR. SILVERMAN: I disagree.

>> JUDGE WARDWELL: Doesn't 305 (c) address freedom in how you address climate change?

>> MR. SILVERMAN: 305-(c) on its face does not specify precisely how you address climate change and, however, when we interpret regulations, we may

use the regulatories to support that regulation. With respect to -- and I think the Staff may speak to this, with respect to the fact that there was a proposed rule that phrased the geologic record and the final rule did not, again the staff can speak better to this. My view is if the Commission had several things. One, if the Commission had intended to preclude the use of a geologic record, then when that language was removed from the regulations, that's a pretty fundamental change.

I mean, now we're talking, you can't look backward, you got to look forward, you got to look forward and speculate about what the future of the world will look like in future human activity will look like. We would have expected they would have said something about that in the intent in their explanation and they did not do so. We think what they were doing was really essentially changing the regulation to essentially parrot the EPA regulation that the NRC had to be consistent with.

>> JUDGE WARDWELL: But the position isn't that you are precluded from using this. It's just that's the factual issue of whether or not it's sufficient to meet the --

>> MR. SILVERMAN: That's not a factual

issue, Your Honor, in my view. That's a legal issue.

>> JUDGE MOORE: Thank you, Mr. Silverman. Staff.

>> MS. SILVIA: Andrea Silvia on behalf of the NRC staff. Just to quickly address that DOE counsel has just been discussing. The removal of the proposed 63115 (a)3 language stating that climate evolution shall be consistent with the geologic record of natural climate change in the recent Yucca Mountain site was not found in the final Part 63 and in the rulemaking at 66 Fed Reg at 557334. We believe the Commission's explanation is that it adopted EPA4 CFR. part 197 subpart (b) 10 CFR. part 63 subpart L, which includes the 63.305, with the precise wording of the EPA standards in most cases and that was to be consistent with the Energy Policy Act of 1992's direction, for the Commission to modify technical criteria to be consistent with the EPA's criteria, and that no substantive change was actually intended by the removal.

>> JUDGE WARDWELL: So EPA didn't require any specific methodology to evaluate the climate change that if that's what their wording was, then. Is that your position?

>> MS. SILVIA: Correct.

>> JUDGE WARDWELL: So both the geologic records could be used and it can be defended successfully or there could be a requirement to look at the -- to address Judge Moore's statement concerning the population around Yucca was clearly prohibited by the climate change from global CO2 increases could be another way and if there is a factual issue on whether it will be resolved on whether or not one of the other meets this sufficient reasonableness?

>> MS. SILVIA: I don't think the regulation requires a specific manner. However, it's legally permissible for DOE to use the geological record and it becomes a facttual matter whether or not DOE was justified in relying on the geologic record.

HON. PAUL RYERSON: Does the Staff disagree with Nevada at all on this issue?

>> MS. SILVIA: I think Mr. Malsch said I don't think we have the same position. The regulations does not preclude the use of the geologic record. In addressing the use of the geologic record, the Commission in its statements of consideration for various rulemakings have made many statements suggesting that the geologic record is an appropriate tool.

For instance, in responding to the issue of whether the NRC should include potential future climate changes in a case referenced biosphere.

The Commission stated the climatic data support that one ice agents have occurred in the past history, two, climate changes in the past have exhibited a cyclical pattern and three cycle is back to another ice age. That's at 66 Federal Register 65775. The Commission also stated it believes there is sufficient information in the failure of the climate record to justify the climate change in the final reg layings regarding the effect on the repository components. That's the same page. The commission further stated that the natural systems of the biosphere vary, for example, climate change because the geologic record provides evidence of past climate over a long time frame which provides a strong base for predicting future changes. The postischemic behavior has a similar approach could not be used and the influence of local populations has on the biosphere. The suggestion that NRC consider alternative futures relating to human behavior is speculative and leads to problems deciding which are credible and which are unrealistic. The commission noted that it has

extensively investigated relevant research on future claimant clang in the Yucca Mountain area and that summarizing information and a status report. This IR.S Indirectly addresses the treatment of gas emissions and concludes for' high level waste repository, it is adequate for future idea logic conditions by studding conditions in the past climate. These statements reflect the commission's understanding that the geologic record is the basis for projecting future climate by Yucca Mountain.

Furthermore, the statement indicates the commission was concerned about the speculation inherent in the factors associated with future behavior. The Commission sought to avoid such speculation and attempts at determining which narratives are credible. The interpretation of 63305.

>> MR. FITZPATRICK: With the Commission statement to allow DOE to analyze the effects of anthropogenic greenhouse gases on future climate based and the historic geological record, not attempting to protect future levels anthropogenic greenhouse gases emissions which are necessarily affected by human behavior.

>> JUDGE MOORE: Do you agree with the

caveat that it would be subject to challenge?

>> MS. SILVIA: Yes. The Commission's final Part 63 reflects Staff continue investigation into this area and continue to intense a pragmatic appropriate to speculation area of climate prediction. Although, as the Judges pointed out, this affects on tell post-10,000 year period the commission did state that all predictions are calibrated on past containment of the geological record. This statement has remained for the initial 10,000 year period. 63.305 requires.

>> JUDGE WARDWELL: Why do you say that? Sorry, I scared myself. Why do you say that.

>> MS. SILVIA: Whether the climate predictions are going to be for 8,000 years from now or 800,000 years from now, the basis is still the geologic record and the starting point is essentially the geologic record.

>> JUDGE RYERSON: Let's come back to the legal issue that we're facing here and see if I understand how you all disagree with Nevada. By its terms, 63.305 (c) says nothing about historic geologic record. Correct?

>> MS. SILVIA: Yes.

>> JUDGE RYERSON: You believe based

on -- Staff believes based on the history of that regulation, that the historical geographic, geologic record is probably a good start. Is that your position?

>> MS. SILVIA: It may be sufficient.

>> JUDGE RYERSON: May be. In other words, in the Staff's view, there is inherently a fact question under, under 63.305-(c). Is that --

>> MS. SILVIA: Correct.

>> JUDGE RYERSON: Is that your position?

>> MS. SILVIA: DOE has flexibility and NRC will evaluate what DOE proposes to make sure that it meets the regulatory requirements.

>> JUDGE RYERSON: Okay. How if at all does your position differ from Nevada's, as you understand it?

>> MS. SILVIA: I think I heard Nevada say this morning is consistent with our position, however there is some language in the briefs that I wasn't sure if Nevada was intending for DOE to have to predict the levels of anthropogenic greenhouse gases into the future. And with that part, we disagree that is a requirement for DOE to specifically project levels of greenhouse gases at certain times in the future.

>> JUDGE RYERSON: You might argue the facts somewhat differently, but as to the question -- as to the issue of whether there is a fact question as opposed to a legal question, you are in Nevada's camp, as I take it, there is a fact question.

>> MS. SILVIA: Yes.

>> JUDGE MOORE: Thank you, Counsel. Mr. Malsch, do you have any quick rebuttal? Specifically start with the way the issue is framed, why have you not been hoist of your own as Mr. Silverman suggests?

>> MR. MALSCH: I don't think so. The way is issue is framed is largely crystalized by the second half of the question. And I think the issue is whether, if DOE chooses to base projection of anthropogenic greenhouse gases on the historic geologic record, they may do so. The question is whether having done so it is as a matter of law sufficient or whether that may be challenged. And I think we and the Staff are in agreement that it can be challenged. I have -- unless the Board has other questions, I have no other rebuttal. I do have one request though, that is that depositions on climate change contentions, including the contentions affected by this issue as well as the contentions

affected by the issue coming up, are scheduled to begin I think in February. So an early ruling on this issue would be greatly appreciated.

>> JUDGE MOORE: Thank you, Mr. Malsch. It's now 10:50. We will take a ten-minute recess. Re-convene at 11:00. Thank you.

(Recess)

>> JUDGE MOORE: Please be seated. We will now address Issue 3. Mr. Malsch.

>> MR. MALSCH: Thank you, Judge Moore. Marty Malsch for the State of Nevada. I would like to reserve a few minutes for rebuttal. This issue deals with the climate change in the post-10,000 assessment. And we believe that climate change processes the kind of FEP and feature processor, the climate change processes properly included in the 10,000 year performance assessment must be included as well in the post-10,000 year performs assessment, but operation of 10 CFR.63.342-C. Staff and DOE disagree claiming the depercolation rates instead in 342-C-2 is always applicable and controlling 10,000 years.

Now, as I stated before I begin this is a very difficult regulation to get one's arms around and I would submit and concede that our

interpretation is not perfect. I would submit that DOE's and Staff's interpretation suffers from far more serious -- the regulation 342-C. It provides DOE's performance assessments shall project the continued effects of FEPs beyond the 10,000 year performance assessment beyond the 10,000 year post-disposal period through the period of geologic stability. There is no exception made for any FEPs let alone any climate change FEPs. Then to emphasize the point that no included in our screen into the 10,000 performance assessment is excluded. The next clause of that same sentence says, pursuant to DOE must evaluate all of the 10,000 year FEPs in a post-10,000 year assessment and you would think all means all. The next clause of that same sentence says FEPs climate change and corrosion must also be included in the post-10,000 year assessment. Also, with normally we understood the name not to mean any substitution but in addition to. So the NRC provides repeatedly twice just to make the point clear that 10,000 year FEPS, 10,000 year performance FEPs must be extended without exception to the next 990,000 years.

Now, looking at the regulation, as I said, this is a difficult regulation to get one's hands

around. And it strikes us that the drafter of the regulation must be assuming there would be no climate change FEPs in the 10,000 year performance assessment. If you make the assumption that there are no climate change FEPs in a 10,000 year performance assessment, then the regulation hangs together. There are no FEPs to extend, but there is under 341-C, 2 an obligation to consider climate change and then (d)- is given option. It says it may represent climate change by the use of constant climate conditions and value. So, it changes together under that assumption, but once you assume the climate change FEPs are included in the 10,000 year performance assessments, you run into difficulties right away.

Now, our interpretation has the effect of reading 342-(c) to say you must extend climate change FEPs beyond 10,000 year period.

But then there is some duplication in the regulation, some redundancy, because 342-C-2, effectively says the same thing, shall include climate change FEPs in the post-10,000 year assessment period.

So our interpretation does suffer from an imperfection. It reads there is some redundancy in

the regulation.

>> JUDGE WARDWELL: Don't you also have a problem with the fact that exclusive of just that redundancy, in the first part of 342, it doesn't dictate that it be extended using the same methodology that was used in the pre10-K period, does it?

>> MR. SILVERMAN: It doesn't specifically address methodology.

>> JUDGE WARDWELL: It includes the same process that you went through in the pre-10 must be extended into the post-10, is what your position is; is that correct?

>> MR. SILVERMAN: I think that's correct. In part, that depends on how you define the FEP. If you define FEP as a fairly detailed parishion of description of a process and how it operates, you end up carrying all or most of the parameters over in the assessment after 10,000 ears.

>> JUDGE WARDWELL: That would be one option, but the regulation doesn't require that to take place. They could switch persons, say, oh, no, after 10,000, I'm going to do something different?

>> MR. SILVERMAN: I think that well, I'm not sure that's clear. It depends on what means by

shall extend 10,000 year thefts. I think if it means you shall extend the FEPs precisely as they have been defined in all details to the next 990,000 years, I think you are limited somewhat, except that --

>> JUDGE WARDWELL: But it doesn't say that.

>> MR. SILVERMAN: It is not spec. It doesn't say that spell. As I said, our reading would mean that 342-C, the opening paragraph would require climate change FEPs to be extended and in considered in the post-10,000 year period and then there is some redundancy because 342-C-2 then says you shall also consider climate change FEPs in the post-10,000 year period.

>> JUDGE WARDWELL: How many climate change FEPs are there, offhand, do you know?

>> MR. SILVERMAN: No, I actually don't know.

>> JUDGE WARDWELL: More than one?

>> MR. SILVERMAN: I think there is more than one. I honestly don't know the answer to that question.

>> JUDGE WARDWELL: So some may get screened out, there is a redundancy even those that did get screened out, hey, here's 3426 (c) come to be rescue that. You still got to look at it in the post-10,000

year period?

>> MR. SILVERMAN: I think that's correct. I think the question is then whether, you know, that would be sufficient or whether more would be need is to be done by 342-C-2. But there is a little redundancy, but there is already redundancy built into the opening paragraph. It says twice to extend beyond 10,000 years, FEPs included in the 10,000 year assessments. But that's just in Section 63.342.

>> JUDGE MOORE: Without even getting to one.

>> MR. SILVERMAN: Without even geting to one or two or three. Staff's interpretation, though, I would submit --

>> JUDGE MOORE: Under your interpretation, they are at least being consistent in their redundancy.

>> MR. SILVERMAN: That is correct. They are consistent in their redundancy. We must not be too concerned about the redundancy. On the other hand, Staff's interpretation and DOE's interpretation runs into some serious problems, because they would read the regulation as if it said, except as provided below twice in the opening language.

In addition, they run into a problem

because the use of constant climate conditions or values is preceded by the word "may" not "must". The only requirement in 63.342. C .2 is that climate change must be considered. The rest is discretionary. They may use, it may be represented by constant climate conditions or values.

>> JUDGE WARDWELL: But if they had chosen, if they chose to use that constant infiltration, that is by law acceptable?

>> MR. SILVERMAN: I would agree with that F. they may choose, they so choose by law acceptable. I will make one important point, though, that is the DOE and Staff's interpretation is not necessary to fulfill the fundamental purpose of the regulation. DOE and Staff says that we need to read the regulation the way you read it because as the interpretation leads to the use of arbitrary assumptions and causes unbounded and unresolvable speculation. But that's just not true. Under our interpretation, climate change FEPs identified in the first 10,000 years are carried over into the next 10,000 years and there is no need to create an entirely new species of post-10,000 year climate change FEPs. If they had not carried over, if there was no FEPs to carry over, then DOE still has to

include climate change but it may avoid speculation by choosing to use the constant climate conditions or value specified in paragraph two. So under our interpretation, there is no boundless, unbounded speculation or uncertainty. It's all pretty much straight forward.

>> JUDGE WARDWELL: But it would be if you are proposing that the FEPs that were screened in for the pre10-Period had to be extended using the same processes that were used in the pre-10 for the post-10-K-period, because then you wouldn't be using the constant infiltration. You would be using in their position speculative projections.

>> MR. SILVERMAN: That's what they say. But by decision, if the climate change FEPs in all their details, are screened in to the 10,000 year assessment, it seems to me by definition they are not speculative and not posing unsolvable issues. If they did, they should have been screened in in the first place.

JUDGE WARDWELL: The argument is, is it not, that the pre-- the difference between pre-10 projections and extending those out to two orders of magnitude time frame is somewhat speculative is their position, is it not?

>> MR. SILVERMAN: I mean, I agree, it becomes increasingly more speculative. If it were so speculative it was incapable of proof or incapable of any kind of scientific revolutionary, they would have been unable to define the depercolation rate. So obviously things were not that speculative and not that unfound ubounded, otherwise, they couldn't have specified the rate not first place.

JUDGE WARDWELL: But that rate could have, I'm hypothesizing now -- the rate was arrived at recognizing that doing it any other way than the way that they derive that would be truly speculative in that they took a shot at it and said, fine, let's all uuse this because we're in la-la land anyhow, this is as good of an approach we can come up with as by the collective wisdom of everyone that participated in this process, we'll liver with this, because we are -- we'll live with this because we are in this somewhat speculative land with.

>> MR. SILVERMAN: We are in a speculative land, I agree. I would say this, that the regulation does say that specifically DOE may project climate changes in the post-10,000 years using these particular specifications, not that they must, so it is opened for DOE, even.

>> JUDGE WARDWELL: Oh, sure.

>> MR. SILVERMAN: To do it in a different manner. Ward but we're not their address that.

I sense they haven't used any other alternative approach. That's not a fear.

>> MR. SILVERMAN: I think that is correct.

HON. PAUL RYERSON: Mr. Malsch, in the regulation, isn't and also the key into interpreting the regulation quite apart from the practical consideration here?

I mean, I think you argue, do you not that DOE is in effect saying it doesn't say and also, it says provided however that.

I think you would agree, provided it said however that, would you agree that DOE's position would prevail?

>> MR. SILVERMAN: I agree, I think that causes a serious language problem.

HON. PAUL RYERSON: Suppose it said provided further that, would you agree DOE's position would prevail?

>> MR. SILVERMAN: I think the regulation becomes ambiguous because of the word -- it suggests that previously, it suggests the preceding language is still somewhat awkward.

HON. PAUL RYERSON: Is there a difference between O*ERPB on the one hand and also and on the other hand provided further that?

>> JUDGE MOORE: It's really very similar. Isn't it really a question of instead of provided further, it really, if it would have to be read except for?

Because then it's clear that what precedes it is the accepted and what follows?

>> MR. SILVERMAN: I think would have been the ideal way to draft the regulation if the Staff's interpretation would have run with what was in it, obviously, it wasn't drafted that way.

I freely admit the and also if it is to be cannot be understood in its normal sense to mean accept, as provided for, except for. Is. I can't get there from and also.

>> MR. SILVERMAN: And also provides a serious staff interpretation and I would say --

>> JUDGE MOORE: Saying you speak to the argument that the and also is merely limited to qualifying the two methods that may lead us, to methods that may then will used to follow in, one and two?

C1 and 2?

>> Really, there's three,.

>> JUDGE WARDWELL: Corrosion has some limitations, igneous has some and the climate change.

All three, really all four of those issues that are there are addressed in some fashion.

>> MR. SILVERMAN: Yeah, I don't frankly under Understand how staff's interpretation would be correct among other things.

These four kind of FEPs considered are optional. It is how they may be addressed. If you strip away from the paragraph 342-C, all the maze, all you end up with is you must consider climate change, period.

>> JUDGE WARDWELL: I don't know if this will help you or not, I can somehow understand Staff's and DOE's position because when I first read it, that was how I interpreted it. It wasn't until I later that I saw the logic of what you are proposing. But I'm still struggling with that, in terms from a logic standpoint if you read through it without focusing on things, that is what they are trying to say.

But I have a further problem that I need help from you on and that's back to what I alluded to earlier. Let's say for the sake of argument,

your interpretation is correct, I still see nothing in everything that takes place before you get down, before the "and also," everything preceding the "and also" doesn't say anything to me that in the projection of those FEPs into the post-10,000 year period that you have to use the same methodology that you use in a pre-10 and help me see that in the wording here.

That limits DOE even if your interpretation is correct that one, two and three after DOE refers only to those that have screened out, even if your interpretation it that way, there is nothing in the paragraphs that I can see that says that the same methodology has to be used in the prepost-10 used in the pre-10, where do you see that?

>> MR. SILVERMAN: I think, you can only see it in terms of how one chooses to define a FEP. I mean, is a FEP screened into the 10,000 year performance assessment just climate change or is it climate change as it has been evaluated using the analysis techniques and parameters all considered together in the 10,000 year performance assessment, is that water carried over or was it just climate change as effect?

I mean, I had always assumed that what gets carried forward is the effect as it has been defined with a lot of its specificses and techniques going along with it. But I agree with you, it's not perfectly clear. Because it does not specify specifically that all details of the FEP methodology you get automatic carryover.

>> JUDGE WARDWELL: And one example might be effect that deals with the temperature aspect of climate change and that they, they have used the geologic record to indicate what was there for the first 10,000 years, but then moving forward, they may use some other aspect of how they want to project it in the forward. Or vice versa they may have used the CO2 rates in the last part and as modified by someone's analysis and they were comfortable with doing that up to the 10,000 year period and realized no -- like the infiltration rate, this is somewhat speculative so we're going to change our approach and recognize the carbon pay be limited whatever and that it's going to be self correcting and they may go ahead and project it?

>> Well, all I can say is on this point, the regulation isn't that clear, but from the FEP, I assume they meant to carry along with some essential

details as to what exactly it meant. Now, whether that includes all the details, I think remains to be seen.

>> JUDGE WARDWELL: Do you agree, then I'll let someone else -- I want to fix this point. If, in fact, the interpretation I just provided that there is no requirement that the methodology be carried forward, it's effect be carried forward, if, in fact, that is an appropriate reading of this, then wouldn't DOE also be free to lump all of the climate changes together as they move forward into the post-10,000 year period and use a constant infiltration rate to represent all the different climate FEPs?

>> MR. SILVERMAN: They could try to do so, but remember the issue in this frame is whether climate change effects properly screened in 10,000 year assessment gets carried forward so if we were to treat climate change in a 10,000 year performance assessment, then that victory of ours in a 10,000 year assessment would carry forward at least to the 10,000 year post-assessment period.

>> JUDGE WARDWELL: But under the interpretation approach that I have provided here, they could switch horses after the 10,000 year period

and just represent all of those as a constant infiltration rate even if your wording in the end also is accepted also.

>>MR. SILVERMAN: I can't say that isn't absolutely forbidden. I think it takes the definition of FEP. It might be a little awkward. As I said, the regulation isn't clear in the bounds and FEP, it doesn't include every single detail or just the essentials?

One last is the I struggled in vain to find a rule making history. I couldn't find it. Let me just mention one part that DOE and staff as a specialowe it appears in the final rule making in 74 Fed Reg 818. Here the NRC says this deals with seismic here the NRC says the seismic as occurs in the post-10,000 year assessment should be based upon the seismic as occurs in the 10,000 year performance assessments and that DOE would only consider the seismic effects listed in 63.342-C. Well, let's look at that, the part that says that the seismic has occurred identifies in the 10,000 year assessment can carry forward can only be through, if we're correct, that the four FEPs listed in 342-C, seismic corrosion, igneious. And the like, even if they're listed in 6342-C. So that supports our

carry forward argument. In other words, there wouldn't be no basis for carrying forward the seismic as it occurs. The second part appears to support DOE and staff because it says DOE would only consider the effects listed in 6342 CI except if the language here is may, not must. So the drafters would have been a bit strange, the drafter seems to be at least a bit estranged in the regulation. What one looks for in the rulemaking history and does not find is an indication that the so in summary, wily the the climate change FEPs properly included in the 10,000 year assessment by operation of the 342-C get carried forward in the post-10,000 year period. This is backing up quite a bit.

I want to clarify record in which of your contentions do you believe extend into the post-10-Kperiod and the reason I say that is 11 seems clear that it's extend into the post-10,000 year period. In 13, you used the phrase or more years in Item 2 in -- you know, stating the basis for it. Then during and beyond in 5, section 5 would be a brief. That's the only place that I could find that you talk about post-10,000.

Year period in 13. In 19, you only use or more years in Section 5 and that's the only time I

can see it is it your position that all three of those contentions extend into the post-10,000 year period even though there is no mention in the contention statement itself?

>> MR. SILVERMAN: I think, I have to go back and look at our contentions. I think the contentions we have focus on post-10,000 year climate change are 11 and 19. Of course, 202, which raises the broader question of how the regulation must be interpreted, whether there is a rule challenge there. I think the focus, though, is on whether 19 --

>> JUDGE WARDWELL: Is there any other place in 19 that I missed that it talks about the post-10,000 year period that provides 4 more years in Section 5?

>> MR. SILVERMAN: If my recollection is correct, I believe you are right. It's been a while since I've looked at those contentions.

>> JUDGE MOORE: Thank you.

>> MR. SILVERMAN: Thank you, Mr. Moore. Thank you.

>> JUDGE MOORE: DOE.

>> MR. SILVERMAN: Thank you, Your Honor, Donald Silverman for Department of Energy. The legal issue as stated is whether the Department was

required to carry forward FEPs climate change processes including FEPS in the first 10,000 years beyond 10,000.

Judge Wardwell correctly in our view captured our fundamental point, which is there is a distinction here between a FEP and the methodology used for projecting the effects of that FEP going forward.

>> JUDGE WARDWELL: I don't believe my -- maybe I should clarify it, what I thought your position was that everything after the and also applies to both screened in and screened out FEPs. In 342-(c) 1, 2, 3 and 4.

>> MR. SILVERMAN: Yes.

>> JUDGE WARDWELL: Apply to both pre and post-?

>> MR. SILVERMAN: It certainly applies to pre. The ones that were included in the pre-10,000 years. And I believe it applies to the post.

>> JUDGE WARDWELL: I believe that's your position. And that's the heart of your position.

>> MR. SILVERMAN: But the legal why, I'm verify it in a latter part, it's not the heart of our legal position. The legal issue is some with respect to those FEPs that have been included in the first

10,000 years, is that is the legal statement. Our answer to the question, whether we must carry those forward into post-10,000 year period is yes and we have done so. Mr. Malsch is muddling in our view the distinction between a FEP, which is a feature, event or process and methodology of projecting the effect of that feature, event and process. Remember, as he tries to question whether a FEP means something more than feature event or a process and doesn't perhaps include analytical methods for analyzing that FEP.

Well, it doesn't make sense under the regulations to read FEP that way. FEP, first of all the language is clear, climate change is a process. Secondly, one of the very first things you do in the performance assessment is you identify FEPs, features, events or processes, before you ever get to effect. So the answer is, we have carried these forward, the FEP. The climate change FEPs into the post-10,000 year period in accordance with the regulation. But our view is then, the real issue here is whether we are permitted under the regulation to use the percolation rate methodology that constant climate change methodology set forth in the remainder of 642-C. We have no question that that was what was intend.

NRC and EPA understood there was a very significant element of speculation here beyond 10,000 years and identified, if you will, a surrogate for the climate change, whatever climate change methodology DOE might have used in the first 10,000 year period. We have, you asked about the number of climate change FEPs, I'm not sure exactly what the number is. But I have effectively three here that are included.

I can give you the number, two say climate change, someone claim change, the other is climate modification, increases recharged. The other has to do with precipitation. In each one of these cases, we explain in the FEP and the TSP in the FEP analysis report that in the first 10,000 years period we used a certain methodology. We then go on and say and we include this FEP in the post-10,000 year period, but we use a different methodology. We use the methodology we may use under the regulations and I don't think there is any doubt that that was what was intended by the regulation and one of the reasons --

>> JUDGE WARDWELL: The only difference would be sutble but as I read your arguments and are you right, as far as legal issues, I understand, we

agree on a legal issue aspect, but if your argument is that the Defendant, that we differ a little bit, I think, because you use the argument that the and also applies to both pre-screen FEPs things following the and also, the 1, 2, 3, applied to both preand prescreened and not prescreened FEPs?

>> MR. SILVERMAN: I believe we could be wrong, I don't think we made that argument. Because that's not the legal issue and I would have certainly made every best effort to limit myself to included FEPs.

>> JUDGE WARDWELL: I will have to look at that, maybe it was Staff, maybe I thought it, because that's how I interpreted when I first read it.

HON. PAUL RYERSON: Actually, the legal issue in front of us, Mr. Silverman, as stated by the parties and we agreed to in our another, there isn't a dispute as to that as expressed. I do understand you?

>> MR. SILVERMAN: I completely agree with you.

HON. PAUL RYERSON: But you are not -- you don't disagree we should go beyond that issue as framed and decide the issue that appears in the briefs, that's how we do it?

>> MR. SILVERMAN: I think you should.
>> JUDGE WARDWELL: If we are going to address that, whether a 342 (c) is included. In the pre-10-K period carried into the post-10-Kperiod using the same approach as the pre10-K, we agree that's kind of a legal issue as stated.
>> MR. SILVERMAN: As the parties agreed to it.
>> JUDGE WARDWELL: Yes, if you -- if I'm correct someone has submitted that the reason you can is because everything after the "and also" applies to both prescreened and not screened FEPs in the pre-10-Kperiod, differs from mine because, not mine but another reading of this that I'm proposing where there is nothing in the regulations in A, B, and even the first part of C that dictates that Nevada -- that DOE has to use the same methodology. Under that -- we'll call it my interpretation of those regulations where there is nothing dictating how DOE advances the methodology in the post-10-Kperiod so you are free to use anything you want to. But if you did use something like the infiltration rate and Nevada --
>> MR. SILVERMAN: In which period, Your Honor?
>> JUDGE WARDWELL: Post-off 10-K, if you

switch horses in the middle of the stream pre-10, I'm doing this it way, post-10, it's logical I'm doing it this way, but Nevada's reading is correct that the "and also "and everything that follows only applies to prescreened stuff, there would still remain a factual issue of whether or not touch-tone may use the I is technically defensible if my reading of the stuff before is correct. I've confused everyone on that.

>> MR. SILVERMAN: That confused me at least, I apologize.

>> JUDGE WARDWELL: I don't know if anyone understands where I'm going with this. But if for the sake of argument, say Nevada's position is correct that everything after the "and also" only applies to those that were prescreened -- .

>> MR. SILVERMAN: Within you say prescreened, what do you mean?

>> JUDGE WARDWELL: They're not evaluated, during the 10,000.

Period they don't have any impact so we don't have to worry about them in the future.

>> MR. SILVERMAN: And I don't agree with that, but go ahead.

>> JUDGE WARDWELL: For most of the FEPs and

we have the and also, and Nevada's position is this "and also" only applies to those that were not an leads during the pre150-K-period but the and also says, oh, gee, even though you didn't, you have to look at 'em this way and do one of the options is to use the I.

>> MR. SILVERMAN: Right.

>> JUDGE WARDWELL: And if it was, if it was an FEP that was not analyzed for the 10-Kperiod because I mean they're analyzed. That's why I use the word.

>. MR. ANDERSEN: Leads. I use prescreened.

>> MR. SILVERMAN: Analyzed in detail, precluded.

>> JUDGE WARDWELL: However you want to word it, you take an FEP, you analyze it, it's not significant. Okay, it's screened, that's what I use, screened out.

>> MR. SILVERMAN: Right.

>> JUDGE WARDWELL: Nevada's position is everything after the 'and also" only applies to those that were screened out for the pre10-K-period.

>> MR. SILVERMAN: Right.

>> JUDGE WARDWELL: For sake of argument, let's assume that's correct. My reading of the

regulations then says that for even those that were screened in, I that were analyzed and showed to be significant nor the 10-K-period, there is no requirement that they be analyzed exactly the same way for the post-10-K period.

>> MR. SILVERMAN: I agree with that.

>> JUDGE WARDWELL: You can do it anyway you want.

>> MR. SILVERMAN: I agree with that.

>> JUDGE WARDWELL: But for the sake of this argument, we assume their interpretation is correct, one through, 1, 2 and 3 don't apply as a matter of law to those that have been screened in, have been -- need to be carried forward, if their argument is correct, I'm not saying it is.

>> MR. SILVERMAN: That's their argument. That's my understanding.

>> JUDGE WARDWELL: But before the "and also, "my interpretation says there is nothing there that says you have to use the same methodology.

>> MR. SILVERMAN: That's correct.

>> JUDGE WARDWELL: You are free to use anything you want to.

>> MR. SILVERMAN: There is nothing there.

>> JUDGE WARDWELL: One is that I peeked

ahead to everything after the "and also" and saw this infiltration rate and saw the understanding of, yeah, it only applies to those that have been screened out in the pre-10, still it's not a biological thing to use for those going on. So I'm going to go ahead an use it, fine, you can use it. Fine, you can use it but there is a factual issue as to whether it is sufficient or not where there wouldn't be if, in fact, the FEP was the FEP was screened out for the pre10-K-period because the "and also" for their interpretation allows you pre-emptively to use that I.

>> MR. SILVERMAN: I agree with you right up to the very end with everything.

>> JUDGE WARDWELL: Don't say agree, understand.

>> MR. SILVERMAN: Making assumptions as to what their position is. I don't see a factual issue here in the hypothetical that you put forward.

>> JUDGE WARDWELL: Because the "and also" doesn't apply to those screened in for the pre-K10-K-period under this assumption of Nevada's position. Here if I understand, this distinction, this was deemed after the prior discussion we had on the previous contention, I think we are still in

legal analysis space, we are interpreting the regulation. I'm not suggest that if there were a factual contention that raised, for example whether we have adequately applied the percolation rate or we have adequately applied the geologic record. If there is an admitted contention on that point.

I take hat back, the geologic record is a different view.

On the percolation rate, if we adequately applied it, in there is an admitted contention, if they have said you have not adequately implemented the regulation as written and used the constant in time values, improperly, that would be a legitimate factor issue. We are not there now. I think the issue to be decided is may we use that percolation rate as a permissible means for the regulation T. answer is, yes, and we think the statements of considerations support that and that is the position. Require if I understand Dr. Wardwell's point, though, he's giving you a load and taking half of it back.

>> MR. SILVERMAN: Keeping a load?

HON. PAUL RYERSON: We understand your position, we understand the DOE's position is that the second part of 342.5 applies and that may as used

in that section is a get out of jail free card . You are allowed ,your position is as a matter of law you can use it to define percolation rates in the post-10,000.

>> MR. SILVERMAN: And NRC anticipated that because of the speculative issue.

HON. PAUL RYERSON: What Dr. Wardwell I think is saying, suppose Nevada prevails on that, as he sees, as he reads the regulation, there is still no requirement anywhere that says you have to carry forward. You might have to carry forward, but you don't have to carry forward with the same methodology.

>> MR. SILVERMAN: Absolutely.

HON. PAUL RYERSON: That's what he is further saying, I think, is that on that question, on whether you can substitute a new, a different, methodology and you choose to elect the inapplicable methodology that happens to exist in the latter part of 342, then you are subject to a reasonableness test. Then there would be a fact question so many of you suggest an admissible contention on point. But at least in theory, you would be subject to a factual question on whether your choice was then reasonable. So he's saying, there is another way to get there. I

agree, but the other way requires -- .

>> MR. SILVERMAN: I agree, we are not there now. And we would need to go back to the contentions as admitted unless and until Nevada files new contentions to see if there were any that raised a question about the adequacy of the methodology used -- .

HON. PAUL RYERSON: I'm assuming.

>> MR. SILVERMAN: Assume the correctness of their legal authorities.

HON. PAUL RYERSON: I'm distinguishing between the adequacy of the compliance with the specified perk rate and the more general notion of whether it's appropriate to use that perk rate instead of carrying forward the same methodology used in the first 10,000. The year period.

>> MR. SILVERMAN: Absolutely.

>> JUDGE WARDWELL: And the ones they claim would make a difference it would be 11 and 19. Those are not --

>> MR. SILVERMAN: This really affects 20211 and 19.

>> JUDGE WARDWELL: Yes, 202. That's what they effect, because 11 and 19 still have -- it's not a pure legal contention like some of them are, where

they are designated a legal contention. These legal questions came up as regards of reading 11 and 19 and there is still a factual basis to those and now it's a question of how do you interpret all the ways and there is three ways to read these regs, and also only applies to those prescreened, and also apply to all effects going on to the post-10 or the and also doesn't apply -- only applies to the prescreened ones and screened out ones and those that you go forward with the ones that have been screened in, the methodology isn't dictated.

>> MR. SILVERMAN: You know, as we read the rulemaking record here the NRC in our view contended that beyond 10,000 years, regardless of the situation, that it was acceptable to use the percolation rate. And the EPA's view would be the same, when the EPA adopted working on influencing the NRC had to be consistent with, it dealt with this issue in the federal register noticed, this is 161 fed reg 4059. They talk about the post-10,000 year period, they say between 10,000 years and a million years. There are 45 changes between six climate states incorporated in the TSPA model, without reviewing all the testing. They go on to say, we do not believe to know with certainty when the climate

states peek precipitation occurred with modeling,et set remarks et cetera, they would say it's reasonable to conclude and believe the extent of climate change can be reasonably represented by constant conditions taking effect of 10,000 years, that the tenor of what they were saying was after 10,000 years, there is too much speculation and that it is acceptable and appropriate to use percolation rate. And there is no qualification there as to whether it was included, excluded or otherwise.

>> JUDGE WARDWELL: Here's a softball question for you to throw out. Given the ambiguity, what logically makes sense to and also and everything thereafter this applies to?

>> MR. SILVERMAN: I think ours is a logical interpretation. I won't surprise you, that is there was a recognition that it was very difficult and it would produce undue speculation to extend methodologies that might be acceptable for a 10,000 year period on climate change out beyond that time and I refer you again to those statements of consideration and that, therefore, and really I think it applies to the seismic and the igneous and the general corrosion provisions of 342 (c) .2. The regulation says we're working on a million years,

we've got to come up with something that's reasonable, that's managable.

It may not be perfect, but it provides a some certainty to the apply tonight do an analysis is reasonable, reasonably bounding for insurance of protection of public health and safety and because of the need to avoid speculation, we are going to specify you may use these methods, in lieu of any some other methods you may use during a period of time.

>> JUDGE WARDWELL: Having thrown that softball up to you when reading it under Nevada's interpretation of it, though, re-reading it, doesn't it seem like the language is more supportive of theirs, even though it doesn't seem as logical?

>> MR. SILVERMAN: I don't read it that way.

>> JUDGE WARDWELL: I am surprised.

>> JUDGE MOORE: Mr. Silverman, help me. How do you read and also to mean except as set forth in the law?

Because under your interpretation, that is --

>> MR. SILVERMAN: You mean except forth above?

>> JUDGE WARDWELL: No, below. The 1, 2,

and 3, acceptable for 1, 2, and 3.

>> MR. SILVERMAN: Let me back up, I'm getting confused. When I look at 2.34.2. (c) before we get to the 1 it says in essence in book language that if you've got a FEP included in the first 10,000 years, you need to include it beyond 10,000 years, you need to project touch-tone effects of that FEP. Okay.

>> JUDGE MOORE: Then it repeats itself.

>> MR. SILVERMAN: Where does it repeat itself?

>> JUDGE MOORE: In the last sentence, all of the features and processes. It just said that in the previous sentence.

>> MR. SILVERMAN: Yes, it does repeat itself.

>> JUDGE MOORE: Okay. Now you are to and also and I will argument makes perfect sense to me if you read and also as except as a set forth law which is talking about 1, 2 and 3.

>> MR. SILVERMAN: That is essentially, that is consistent with what we're saying.

>> JUDGE MOORE: And also just doesn't express except as set forth in the law that you're suggesting it does suggest several other

interpretations of, fact, I think the only ones, if you are going to read it, and pay attention to the regulatory language, you would have to accept the other interpretations, but if the legislative history is in the teeth of the regulatory language, which do you follow?

>> MR. SILVERMAN: If the legislative history flies in the face, if you will, of -- I don't see it that way. Obviously, you follow the language of the regulation when you interpret the language of the regulation basically mean the and also, that the first part before you get there says you have to project FEPs to be included and the -- and also is intended to mean, essentially, but if you have exclude FEP in the first 10,000 years, you still have to consider these four particular FEPs going forward. And you may use these methodologists for doing so.

>> JUDGE MOORE: Okay. Staff.

>> MR. SILVERMAN: Thank you.

>> JUDGE MOORE:

>> JUDGE WARDWELL: If are you doing all the work for Staff, why did you bring those other two people with you by the way?

>> MS. SILVIA: They have a role in the afternoon. Andrea Silvia on behalf of the NRC staff.

DOE must evaluate the effects of climate change in a post-10,000.

Year period, one way to do this is to use the specified depercolation rate in the rule. The depercolation rate in the rule was intended to account for all significant climate changes effects in the first 10,000 year analysis and therefore can strain it to limit unresolvable speculation regarding future climatic cycle.

The same consideration for the final post-10,000 year rule contains many statements that support the staff interpretation. For example, in describing the NRC's proposed rule, the Commission stated with the respect to consideration effects after 10,000 years, the NRC proposed to adopt spec constraints -- the specific constraints EPA proposed for FEPs after 10,000 years.

>> JUDGE WARDWELL: And can I interrupt you quickly. It's your position the and also refers to both FEPs that have been screened out for the 10,000.

An those that have been screened in for the 10,000 years, if both of those carried forward, can use the 1, 2, and 3 below to address being a seismic climate change in corrosion?

>> MS. SILVIA: Yes. That quotation was

from page 10 A12 of the registered notice. In describing the NRC's final rule the Commission stated EPA's rule requires DOE to affect the climate period after 10,000 years. This assessment is limited to the effect of increased water through the repository. That's at page 10 A13. In response to comments regarding the proposed statements at 53114 the competition stated the changes at 63114 insure the performance assessment method such as the support and treatment of FEPs will be at the same for the performance, will be at the same or the periods before and after 10,000 years, subject to the limits on performance assessments after 63.342. That's at page 10817.

In response to an NEI comment, the Commission stated, DOE is required to include those FEPs that are screened into the performance assessments for the first 10,000 years after the exposure and the FEPs specified, II, seismic, events and processes and corrosion. This response was specifically responding to a comment by NEI which urges the NRC to clarify that FEPs that are screened in for the first 10,000 years are the only FEPs this need to be considered for entire preclosure years and specific examples, NEI-- neither which are

identified in the specs specified not rules. The comment was emphasizing the four FEPs need to be considered regardless of whether they were included in the initial 10, 000 year performance assessments. It was not meant to the address how these four FEPs could be addressed.

The EPA proposed rule also has language that supports staff interpretations. For instance, I had 70 Fed Reg page 05491 EPA stated with regard to ingenious seismic and climate logical effects, we propose to specify certain significant aspects or characteristics of the event to which the elite may limit it's analyses. On page 49059 the EPA stated, there are too many uncertainties available in trying to project a future set of climate conditions and it is difficult to place specific times on one discreet publication should be subjected into the modeling. Instead, we believe that it is reasonable to assume an average increase if precipitation over the entire time frame from 10,000. Years through the period of geologic stability and to model those consequences. Further.

The language of the rule itself does support Staff's interpretation . Section 63.342 is entitled limit on performance assessments.

Subsection A and B state that DOE does not have to consider very unlikely or unlikely FEPs and subsection C, which we're talking about here, first does provide that general direction that DOE has to project the continued effects of FEP included in a 10,000 year performance assessment. The limits on the performance assessment entitled in the rule are pertained in the subsection, the and also language indicates there are additional sections that qualify or contain the general direction to carry forward FEPs. Subsection 1 contains rules for seismic , 1 I and I2 and IIi containing the limits for seismic and ingenious activity analyses.

Sub section 2 contains limits and subsection 3 provides methods to limit the analysis of general corrosion. The intent of the Commission that this Sprewell to provide a way for DOE to limit it's climb change announces the reflective in the statements of consideration at page 10 E13.

The commission stated the effects selected for use in the performance assessment for the first 10,000 years should also be used for projecting repository performance after 10,000.

Years. NRC adopted additional constraints in the performance assessments of a period of time

after 10,000 years.

>> JUDGE WARDWELL: If I heard you correctly on that, they didn't say anything about these FEPs that have been screened out for this, is that right?

Read that again? I missed that.

>> MS. SILVIA: It says "the effects selected for use for the first 10,000 years should also be used for projecting repositories performance for after 10,000 years. NRC adopts EPA's additional constraints for the inclusion of seismic activities igneous activity, climate change and general corrosion for the period of time after 10,000 years. In an average construction leads to a redundant analysis. 63.342 C-2 allows DOE to use depercolation rates. If DOE uses this approach and is required to perform analysis DOE is forced to carry out a redundant analysis. Because the specified depercolation rate already accounts for future processes related to climate change, such as net infiltration and anthroprogenic -- -

The number and increases, of national science change and temporal climate conditions requires DOE to consider such effects in addition to the depercolation rate is did you make -- consequently, they should not carry forward the

analyses if it uses the depercolation rate specified in the rule.

>> JUDGE MOORE: Counsel, Mr. Malsch, you wanted a brief rebuttal?

>> MR. MALSCH: Yes, thank you. I'll be brief, briefly. I just want to address the point just made about how our interpretation would lead to redundant analysis. The language here in 342-point C.2 is may represent climate change by constant times, values or conditions and it may, if it chooses to do so, shall use the depercolation rates specified in the NRC rule. The word is "may".

So presumably, if doing so would result in duplication and redundant analyses, we wouldn't choose to do so we would choose to do something else instead. There is never any requirement as we read it for redundant and consistent analysis.

>> JUDGE WARDWELL: To my one question, you seem to, when you start off with your first presentation, your first set of arguments, you recognize the ambiguity in the regulations, how difficult they are.

I don't know how to word it. I know what I'm going to get for an answer, but it seems to me, the logical reading of this would be that 1, 2and 3

3 of (c) to anything in the post-10,000 year period. Whether they have been screened out or screened in. That just makes logical sense to me. It's in la-la land. Here's a way to do it from here on in.

On the other hand, I understand your arguments, but it wasn't until you brought it up that I even thought that was a way to interpret the language. Besides your previous arguments, is there anything else you could contribute that helps overcome the very common sense reading of these, meaning that 1 through 2 and 3 should apply to any fact, whether it was screened out or screened in?

>> MR. MALSCH: Well, let me say two things in response to that. First of all, we have to be respectful of the language also language and, secondly, I think the regulations should be construed to give Nevada a chance to make arguments about how post-climate change should be considered in the post-10,000 year period. It seems to me if we make a case that it is not speculative and doesn't result in unfounded uncertainty to consider climate change processes and ways other than as specified in 342-(c) .2, we should be given a chance to do so. And if it turns out we're wrong and that's unfounded and speculative, so be it, our contention loses on the

merits, not on the basis of legal argument.

>> JUDGE WARDWELL: Did you understand the different reading that I had than I thought you had of the regulations and --

>> MR. MALSCH: Yes, I did.

>> JUDGE WARDWELL: And if you want to accept my reading of it, never mind. I strike that question before I ask it, before I get you to answer.

>> MR. MALSCH: I will say this, when one thinks a lot about this issue, the principle effect is to give ones self a very large headache. Thank you.

>> JUDGE MOORE: Thank you. Thank you. Just using Mr. Malsch's words, it's a good time to get rid of the headache. So we will break for 90 minutes for lunch. We'll re-convene at 1:30 and take up Issue 5. Thank you.

(Wherupon a lucheon recess was taken)

>> JUDGE MOORE: We will commence with Issue 5, Mr. Malsch.

>> MR. MALSCH: Thank you. Issue 5 deals with Nevada contention safety 041 which provides that land surfaces and erosion in Yucca Mountain is a ongoing process. It will continue both before and after 10,000 years and therefore will eventually be reached where the repository

drifts are actually the waste canisters will be exposed directly to the environment, surely a worst case scenario.

The legal question assumes as Nevada 041 provides erosion will continually increase and be increasingly adverse to performance both before and after 10,000 years and the question is posed whether in these circumstances Part 63 requires us to ignore the radiological consequences for erosion after 10,000 years if it turns out there is no effect on dose release before 10,000 years.

Now, the regulatory context here is important to understand because erosion is not one of the four FEPs listed so unless it is screened in for the first 10,000 year, it is out the next 990,000 years and therefore, the issue is framed in terms of the FEP screening criteria for the first 10,000 years.

That is an issue, what are the FEPs screening criteria for the first 10,000 years, specifically, must a FEP like erosion which is an ongoing process be speeded up if it does not change dose or releases in the first 10,000 years? We say no. DOE and Staff say yes.

Interpretation means a relationship between -- depend on the interpretation among 3 NRC regulations, 63.342(a) 63.102(j) and 63.11(a)5. And let me turn first to 342(a) which is DOE staff's favorite.

342(a) says that DOE needs to know -- evaluate the

impact resulting from any process if the results of performance assessment would not be changed significantly in the initial 10,000 year period after disposal.

Okay, but what does -- what is meant here by results? The results mean the ultimate results, namely, the calculated -- calculations of doses. Or the results include intermediate effects such as effect on erosion.

Right away, Staff's and DOE's interpretation runs into kind of a problem.

You can't calculate doses or releases without having at least some framework and performance assessment. But the first step in doing a performance assessment is select the effects.

So you can't have FEPs without a performance assessment but then you can't have performance assessment without FEPs. So DOE's interpretation is an immediate catch 22 problem.

Putting that aside, DOE relies here on two regulations, 63.2, and 63.113 and they relied upon the define what is meant in 342(a) by the term "results in phrase results performance assessments would not be changed significantly.

But neither of these regulations really gets it anywhere.

42.2 justify a performance assessment in a way

that several products or results are produced including not just an dose but also, effects of FEPs on system performance.

There is no definition here of what results mean and surely, no clear indication that results mean 342(a) could be only ultimately effects on dose and releases.

And the other regulations DOE refer to was 43113 hospes fights whether it ultimate result of performance assessment and does not define results or results within the meaning of 342(a).

So we don't believe that 342(a) supports DOE all that much.

The next regulation to look at a is 43.114(a) 5. This says quote, "FEPs must evaluated in detail if the magnitude and time of resulting radiological exposture to RAI or radioactive nucleoid releases environment for 10,000 years after disposal would be significantly changed by their omission.

Well, providing certain FEPs must be evaluated is not necessarily inconsistent with the idea that other FEPS must be evaluated as well but DOE's interpretation here runs into a serious safety problem. The regulation says to be screened in must effect both the timing and magnitude of exposure.

So, under Staff's and DOE's theory, a FEP would

increase releases and doses to lethal levels of RAI would be screened out of the assessment if it turned out that those releases or doses appear -- timing of their appearance did not change under the regulation, not just slow an effect on both the timing and release.

So you can't read 114(a) 5 as a basis for screening out every FEP that does not meet this particular standard.

And that leaves 63102(J) which we think clearly supported Nevada and it says the performance assessment is a systematic analysis among other things identified the processes and event that might affect performance of the repository and quote, those features and processes expected to material effect compliance with 63.113(b), the dose standard or the potentially, adverse performance included.

Now, the order here is significant. Either kind of screened -- either kind of effect the FEP and these provisions, these provisions must mean different things. That's why the Order is significant.

You can be screen in either because of the effect on dose or performance.

>> JUDGE RYERSON: Mr. Malsch, do you see any significance to the fact you're reading from a section called concept which is designed to provide a functional overview of the subpart and does that have any significance

or prescriptive value?

>> MR. MALSCH: I don't think so. I think it is on a view of the other sections in the regulation..

Certainly is an older view to interpretation let say 62242(a) but more importantly, if you look at 102, there are actual requirements in 102.

So it is not just a decrease. It actually have requirements in it.

>> JUDGE MOORE: Is the word functional before overview significant? It says provide a functional overview.

>> MR. MALSCH: Well, it does suggest in its adding information to help you understand the sections that follow. I guess in that sense, it is helpful.

But I don't think you can dismiss what it says here just because it's titled functional overview.

>> JUDGE WARDWELL: There any definition of what would be potentially adverse to performance?

>> MR. MALSCH: Not really.

There is an implication in another part of 102(j) that gives examples of adverse performance as things like potentially adverse effects of fracture --that's an example of a FEP which would be potentially adverse to performance. That sort of supports Nevada's position.

>> JUDGE WARDWELL: Doesn't the sentence that you

just read goes on to say whether events, classes, scenario classes that are very unlikely, less than one chance over 10,000 years can be excluded from the analysis in 102(j)?

>> MR. MALSCH: Yes.

>> JUDGE WARDWELL: How does that relate -- this says that in the first half of the sentence, it says oh gee, you got to include these are adverse to performance. But then goes on to say, but you can't exclude those that have less than one and ten to minus 8 chances of occurring.

Would not one say that must be the definition of when it is potentially significant or not. Correct?

>> MR. MALSCH: You have two different types of FEP screening and the consequence screening criteria and I think when this is talking about the consequence screening criteria, it says as I quoted, that was expected to affect compliance and filled with potential adverse are included. I think that is significant.

I think our interpretation is the best one and the only one that harmonize all three of the regulations 342(a), 102(j) and 114(a)5. But perhaps more importantly, if we construe the regulation as Staff and DOE would have us construe them, we would ignore a potentially very serious safety problem, erosion of repository. And this is contrary for interpretation that you must construe the regulations so as to be consistent with public, health and safety.

The Staff's interpretation reminds me of a little story about an office worker on the 50th floor of the Empire State Building, walks to the window and sees that some man has fallen off the top of the building and is falling past window.

As the man flies fast the window, the office worker asks, how is your health? And the man replies, no problem so far. That's pretty much the Staff's position. It was erosion, no problem so far is good enough. I think that interpretation is contrary to safety and should not be followed here.

>> JUDGE WARDWELL: Can I go back to the sentence on 102(j) where it allows very specifically that if any event is unlikely, it can be excluded regardless of the consequence?

>> MR. MALSCH: That is true, a separate screening criteria.

>> JUDGE WARDWELL: And has not erosion been screened by that process as best you know?

>> MR. MALSCH: I think so far if you believe DOE, it has been screened out on the basis of low consequence. I believe that's the case.

But of course, the question really is whether DOE is correct in that respect. And we say no.

If there are no questions, I would like to

reserve a few minutes for rebuttal.

>> JUDGE MOORE: Thank you.

DOE?

>> MR. KUYLER: Good afternoon Your Honors, Rick Kuyler for the Department of Energy. In addressing this legal issue, I first would like to point to the Board's attention that in other pleadings on other issues before this Board, state has effectively conceded and agreed upon legal issues in DOE's favor and I'll explain that. And then, I would like to respond to some of the quotes that Mr. Malsch says in his oral argument. First, the legal issue is whether given that a FEP is properly excluded from the performance assessment during the first 10,000 years, whether they might consider this FEP in a million year performance assessment.

And as explained to you, the plain text of 63.342(c) which is the regulation that we are seeking to interpret today includes no requirement to include erosion as a FEP in a million year assessment if it is not included in the first ten thousand years.

The State has admitted other briefs before this Board that 63.342(c) cuts against it.

This is 6302. This contention was proffered after the 2009 final rule that essentially copies the text of the Nevada Safety 41 and adds in the question 242 be waived

specifically for this erosion FEP. And in the course of asking for a waiver of the Commission's rule in this regard, the State in a number of occasions admits that the regulation cuts against it.

On page 10, of United States 203, " The implicit limitation of 63,342(c) has the effect of excluding this contention." And again, this contention is the same contention that we're talking about today effectively.

Second, on page 11, because DOE excludes land surface erosion for the 10,000 year assessment, it is not required to include it in the post 10,000 year assessment. And that is precisely the position on this -- And finally on page 14 of the State's reply on Nevada Safety 203, the state explains why it believes the Commission promulgated the rule that it did. The.

State says Nevada challenges the Commission judgment in its final rule that there would be no unreasonable risk to the public, health and safety. FEP in the 10,000 performance assessment were limited to those included in the 10,000 year assessment plus the particular FEPs identified in 342(c) of which erosion is not on that list.

Perhaps recognizing that 342(c) cuts against it, the State in its legal briefing attempts to change the subject and focus our attention on 63.102(j) but neither the

original contention, raises the question of what the effect of that regulation is. So the State is essentially asking a decision on which regulations are controlling, 102(j) or 342(c).

I think we explained that 342(c) is clearly a controlling regulation. Based on the plain text of the regulation --

>> JUDGE WARDWELL: Could you elaborate a little more on why -- certainly, you got the definition of a legal question but let's dig into addressing the legal question and then a process. Now 63.114 is brought up that if radiological -- radio nucleoid releases is the accessible, would be significantly changed by their emisson, than the FEP should be included. And I certainly believe that as a merits issue, one would want to logically determine whether or not the task would be exposed in a million year period because certainly, that would result in a release that would be significant, I think would be fairly obvious by most people. So why isn't that of importance in our assessing this legal question?

>> MR. KUYLER: That is the State's allegation, factual allegation in this contention, and in its waiver request in 203. But the Commission reached an opposite technical conclusion, not only the Commission but most of the EPA as well, reached an opposite technical conclusion

that erosion was not on the list of FEPs.

>> JUDGE WARDWELL: Point to me where the Commission said, we have looked at erosion and will exclude it?

>> MR. KUYLER: That is not stated.

>> JUDGE WARDWELL: Thank you.

>> JUDGE MOORE: Counsel, will the resolution of the waiver petition moot this issue?

>> MR. KUYLER: I think that this issue comes before the waiver petition issue. If this legal issue is found for DOE, then, the waiver petition has yet to be determined. That remains pending if the legal issue is found for Nevada and there would be no rule to waive and it -- because they would have gotten the same result as if the Commission had --

>> JUDGE RYERSON: If I recall 202 asks for a waiver in the alternative. And 203 is really not a contention as it is simply a request for a waiver, as I recall.

>> MR. KUYLER: That's correct, Your Honor and that's why we believe that 203 itself is effectively a concession of this legal issue because it was not couched in the alternative.

>> JUDGE MOORE: Go ahead.

>> MR. KUYLER: In looking at both the text and

the regulatory history of 342(c) 102(j), I think it is clear 342(c) sets limit on performance assessment which specifies how whether a FEP is to be included or not in the million year performance assessment particularly while 102(j) provides a functional overview.

In the statements of consideration for 102(j), the Commission stated that except for Section 102 of subpart E, sets forth requirements for performance objectives.

So, 102(j) does not set substantive criteria.

This date offers further explanation of why 102(j) would change the reading of 342(c).

And I think I heard the State correctly say earlier that essentially, their position is the structure of the regulation and where it appears in the history of the regulation really does not make much difference in how to interpret.

>> JUDGE RYERSON: If I understand one of Mr. Malsch's argument, it is essentially something like this; Like many of these regulations, the regulations might be read or harmonized one way or the other, a certain ambiguity.

His point was if I understand it, that well, in that situation, the NRC should be interpreting regulations on the side of safety and concern about public health and safety.

Do you have a response to that? I mean, it would seem that -- do you disagree that erosion clearly seems like a process that might not have any significant effect in the first 10,000 years and could be very, very likely to have an enormous effect in the remaining 990,000 years. That's the nature of erosion. I don't think you would be anxious to buy a house on Chesapeake on Calvert Cliffs that would set back 150 feet if you had 10 feet of erosion every year.

What's your response to his practical argument?

>> MR. KUYLER: The factual allegation to a layman may seem reasonable but I think that the Commission reached a different conclusion that there was specified FEPs that were chosen that could have a significant effect. And I think there is clear language in the regulatory history that they did not name erosion, but they looked at a number of different possibilities and concluded that the key FEPs that might have been excluded in the first 10,000 years, particularly, general corrosion was discussed would be something that would definitely have an effect. And in the interest of limiting speculation and not introducing a second or third speculative analysis, EPA and the Commission chose to exclude.

If there is a legitimate factual issue challenging the Commission's rule on this, then, the waiver of petition would be the correct one and a significant one.

As far as construing the regulations to -- in the course of public health and safety, and the brook case in that regard, but don't think that case suggests that the Board can revise a Commission's judgment regarding public health and safety and rewrite the regulation.

And again, keeping in mind that the State is effectively conceded this is the Commission's judgment regarding public heath and safety.

>> JUDGE WARDWELL: Do you have a problem if we do make a decision with regard to public safety if we find that there wasn't strong evidence that the Commission nor EPA really considered erosion or any other aspect?

Maybe they just flat overlooked it. People are human and just didn't think of it.

Now, it comes to light and oh, gee, that's an obvious one that may be should have been looked at.

>> MR. KUYLER: That was on 203. That's not the legal issue that we're discussing today. So DOE has submitted its response to that safety 203-6789 and explained why we believe that waiver should not be granted.

State raises a couple of different issues in its reply mentioned in oral argument today that I would like to address. First is the alleged catch 22 in our interpretation of the word "results". The State says results mean calculated dose, no performance assessment

capable of producing such results unless events and processes were selected. I think that really ignores the structure of what a performance assessment is. It includes the screening of FEPs and then, taking the included FEPs and running the total system for the assessment to compare the results to doses and releases.

So there is no catch 22.

The State also points to an alleged unsafe result if one follow the plain text of 114(a)5.

This provision specify FEPs must be evaluated in detail, if the magnitude and time of the resulting would be significantly changed by their omission.

State focuses on magnitude and time and says our interpretation of this regulation is incorrect.

First, we did not offer any interpretation of that regulation. We have merely quoted it in our brief.

The State quotes the very same regulation in its contention, raises no dispute of that issue.

And DOE also conducted FEPs screening analysis for the erosion FEP under a more conservative approach and specified in 114 (a)5 the analysis shows that magnitude resulting doses and releases would not be significantly changed within the first 10,000 years.

And so, we think that issue is a red herring.

So --

>> JUDGE MOORE: Wrap it up, counsel.

>> No further questions.

>> JUDGE MOORE: NRC Staff.

>> MR. GENDELMAN: Good afternoon Your Honor, Adam Gendelman for NRC staff. I would like to begin with something that the Board met with the Commission's consideration of erosion and Part 63 rulemaking.

The Commission discuss comments about geometric characteristics which include erosion and landslides in the final March, 2009 rulemaking at its 74 Federal Register, 10 equal nine to 10.820.

Centrally, Section 801 of the Energy Policy Act of 1992 requires that NRC's regulations be consistent with that of EPA and The National Academy of Sciences. In the August 2005 proposed rule, 70FR 49058, EPA discussed EPA's finding and made its own. " The EPA pointed out that the site specific studies performed by DOE indicate increasing erosion to the extent necessary to expose the repository within the period of geologic stability is extremely unlikely citing the reported page 91 and EPA speaking, "therefore, we do not believe it is important or necessary to require DOE to assess potential for erosion for climate change." And the final adoption was at 73FR 61284.

The Energy Policy Act requires the NRC promulgate regulations not consistent with those of EPA and so the

Commission did consider consistent with EPA did not give it special treatment in the post 10,000 year period.

>> JUDGE WARDWELL: Can you cite that where the Commission says that specifically with regard to accepting or evaluating EPA'S suggestion recommendations in relationship to erosion specifically.

>> MR. GENDELMAN: Beyond the discussion of geomorphic characteristics in the final rule, no.

>> JUDGE WARDWELL: Thank you.

>> >> MR. GENDELMAN: Inclusion of the post 10,000 year performance assessment would also require Commission consideration of deep perforation rate other than that specified in 73342 C 2 as Nevada has stated --

>> JUDGE WARDWELL: Could you say that again.

>> MR. GENDELMAN: I'm sorry, Your Honor. Inclusion of this fact in the post 10,000 year assessment would require use of a percolation rate that is if this FEP was carried in the post 10,000 year period. It would require use of infiltration percolation rates other than those specified in 63.342(c)2.

>> JUDGE WARDWELL: Why would that be necessary true? Mostly what I heard them say in their concern is that the cask would be exposed. They didn't relate it anywhere to infiltration. Now, certainly maybe infiltration really won't change. It's just the casks

will be exposed. I didn't have much argument.

>> MR. GENDELMAN: Your Honor, I'm beginning with the language of the legal issue itself. Discussing erosion shown in increase in infiltration.

>> JUDGE WARDWELL: But aren't they using that strictly as a demonstration that there would be some adverse performance that might be potential because it has shown some detrimental effects during a pre-10 K period that says hey, does not make sense to look at it during the post ten. And our concern is that the whole cask may eventually be exposed?

>> >> MR. GENDELMAN: Well, I think insofar as that issue suggest, manifest as an increase in seepage --

>> JUDGE WARDWELL: The constant I is a post-closure effort and this discussion, the legal question is that a pre-10-K discussion that was with regard to legal issue? So it has nothing do with the constant I.

>> MR. GENDELMAN: I want to make sure I understand the question.

>> JUDGE WARDWELL: Good, then you can explain it to me too.

>> MR. GENDELMAN: In the post 10,000 year assessment, it's the Staff's understanding that the way this would manifest as potentially detrimental for performance would be through among other things, an increase in the

de-percoration rate.

>> JUDGE WARDWELL: But not necessarily so.

It's just a pure physical removal of material regardless of the I rate, their concern is hey, you may remove all the material and expose the cask as I heard them say in the post 10,000 year period. That's their concern.

And you know, other people brought up, oh yeah, that also means the change in the I. It may or may not.

The I rate may be the same, the total volume of water or the timing of any infiltration may decrease because it's getting thinner but the I does not necessarily as a factual issue that would need to be brought up at hearing for the post 10,000 year period.

I think they are assessing and certainly could just look at the mechanical removal of the thickness of material, could they not?

>> MR. GENDELMAN: They could and I think that certainly goes more to merit which of course is not an issue here.

As to the other argument regarding the explicit provisions of Section 63.342(a), as Nevada has stated if this FEP is screened out in the first 10,000, there is no other operation included with these screened out in the post 10,000. And while possible impact performance, one of the assumptions in this legal issue is that there is no showing

of an increase in radiological exposures or releases.

And I think this gets to something that was discussed before the definition of the results for 342 and for 114.

The definition of performance assessment in section 43.2-in section 63.2 is that first, identifying the feature of event and processes and I'm paraphrasing, or sequence of FEPs that might affect the outcome of disposal system, that identification. Second, examines the effect of those FEPs and sequences of events and processes upon the performance.

And then, third, estimates the dose incurred including associated uncertainties as a result of releases caused by effects. And so, the Staff argued that the only reasonable reading of results with respect to the performance assessment is the -- that the third aspect, the dose result which is what performance is definitively measured by. The performance of repository is definitively combines with the requirements in 63.311, 321 and 331 for the different dose requirements.

And so, reading results as the dose and the definition of performance assessment, then, 114(b)5 and 342 discussing the significant change in the results of the performance assessment meaning significant change in dose which again, I think is very successful and start thinking

of what the performance assessment is accessing would lead one to conclude that the FEP in the first 10,000 years did not significantly affect that result. It would be screened out.

And in this case, the assumption is there is no showing of any change of a significant one. That Your Honors, the assumptions in this legal issue require that this FEP be screened out in the first 10,000 year period and therefore under 63.342, in the post 10,000 years.

Unless the Court has any questions, I don't have anything further.

>> JUDGE MOORE: Thank you Counsel.

Mr. Malsch, you wish brief rebuttal?

>> MR. MALSCH: Yes, thank you. Just two quick points. First of all, I don't propose to repeat it here but there has been extensive discussion whether the Commission in fact considered erosion in connection with its 2005, 2006 rulemaking and the post 10,000 year performance assessment that discussions in connection with our rule waiver petition, Nevada Safety 203 so I would refer to the Board that discussion with respect to the issue whether the Commission considered erosion actually in the post 10,000 year period.

The only other point that I wanted to address was some proposed concession. I don't understand that.

We filed a rule waiver on the premise that we could lose on this issue and that we could be in a situation where erosion could be screened out in the first 10,000 years because that's the premise for our petition because we don't know how this Board is going to come out and we don't know how the ultimate proof will come out on how fast erosion progresses.

So that is not any kind of concession, it's just setting up a factual premise for to make our rulemaking petition a meaningful one so that it actually is correctly framed. So I do not understand how you can make any concessions on this particular issue.

>> JUDGE MOORE: If as the Staff points out, EPA in its rule did consider erosion, and the NRC has to adopt consistent standards, would it not necessarily be inconsistent for the Commission to have included erosion?

>> MR. MALSCH: I don't think so.

First of all, the rule, EPA rule does not have any mention of erosion. What you find is some indication in the rulemaking history, that EPA considered erosion. But the requirement and statute is that the NRC rule must be consistent with the EPA rule. There is no mention here of the rulemaking history necessarily.

But more importantly, I think the EPA rule which is in 197 -- 19736 has introductory clause section accept

as-condition introductory clause on the nature of the statute because policy act which is the in effect, EPA rules are minimum requirements NRC is consistent with EPA rule as long as requirement are equal to EPA minimum requirements but NRC has the authority under the public health and safety to ask for more.

That simply turns us away from the rule into what the NRC rule provides and thus been arguing about so far earlier this morning.

So I don't see how the EPA rule is controlling one way or the other.

Thank you.

Thank you.

>> JUDGE MOORE: Would you like to go ahead and address Issue 6?

>> MR. MALSCH: Yes.

In Issue 6, Nevada argues that preliminary and conceptual repository design information is insufficient.

And that final design information must be provided in the license application. And by final design information, meaning that level of design information one finds in a typical final safety analysis report under Part 50 operating and a combined license application under Part 52 and DOE staff disagreed.

The resolution of issue we believe turns upon

looking carefully at licensing process in Part 53 and its history as it's solves from Part 60.

Part 63 does not use adjectives "final" or "conceptual" or "preliminary" in specifying the amount of design the required in the license application.

In two places it does ask for information from DOE that might affect or might influence the final design but that does not necessarily mean as DOE would have it the final design is yet to be developed. It could just as easily be the final design information, the final design is available and should be included in the license application but the NRC wanted a full and complete disclosure from DOE of not only factors that it knew influenced and in fact affected the final design but disclosure of facts that one time, they thought may influence or impact the final design so NRC could do in effect, a second guessing of DOE design evaluation.

So I don't think the brief references here twice to final design carries one way or the other.

Instead, what I think is more important is to look at the overall structure of Part 63.

34069 importantly, there is only a single license application under Part 63 and only one safety analysis report.

There is no separate application to operate,

merely, update of the application construct and the regulations specify the content of that update 63.24 in that regulation, there is no specifically requirement to deal with any design safety evaluation or submit any design information.

So there is only one safety analysis and only one review of design under Part 63 and that takes place at the construction authorization stage.

In NRC practice, that usually means that FSAR level is insufficient and talking here about an FSAR level design information.

The second indication and the second regulation to take a peek at 6321(c)3R.

This says there is the application and construction authorization stage must include quote, dimensions, material properties, specifications, and analytical and design methods along with any applicable codes and standards.

This language very closely resembles the language in a 52.79 (a)4 which specifies the difference in terms of design information, application for a combined license which that regulation makes clear is an FSAR level design.

The contrast with 5204(a)3 which describes what is a FSAR level of design information, a preliminary design information, that is described as consisting only of general

arrangement and approximate dimensions.

Here, we have not general arrangements and approximate dimensions but instead a requirement that there be a description of specifications, arrangements and dimensions, nothing approximate or preliminary about it at all.

The license process which led to Part 63 reinforces this concept, that it was deliberate departure from the old 2 stage licensing process in Part 50.

The most important part of that history is we submit the indicate the indication very early on at formal safety reviews would be conditioned before financial and institutional commitment could influence the review. That's the 44 fed 70410.

So the clear implication is here that all design safety reviews would be completed before the repository was constructed and there would be a related financial institutional. So in summary, we believe the regulations and history indicate that Part 62 is a deliberate departure from Part 63, intended only one design safe and that at the construction authorization stage, this review takes place before significant financial commitments.

This normally NRC practice suggests there must be an FARS design and the language intends to confirm this.

We believe the closest analogy to Part 63 is the

combined licensing process in Part 52 which under 5279 clearly requires a design information at the construction authorization stage.

The history side cited by Staff just calling a process multi-step or multi-staged does not tell us a whole lot about what kind of information must be included in a particular stage and calling Part 63 risk-informed, does not because after all, Part 52, the combined license application requirements call for a final design information which clearly that is risk-imformed so there is nothing incompatible with the idea of a regulation being risk-informed and the idea that at the construction authorization stage must include final design information.

I think the most difficult question here is whether is to be for what is wrong with looking at the application here and deciding on a structure system or component basis, SSE basis by basis, whether the information is clearly not sufficient to do the necessary safety evaluation. This would be a case-by-case approach involving difficult judgments and in each case about level -- what level of design information is sufficient.

And I would concede that in theory, that could be done and after all, that was done for all hundred reactors or so in operation today, did not necessarily produce an unsafe result, but what it did produce results in which

there was considerable instability and constant back fitting because the practice -- as practice and history developed, turned out that when the final design was developed and issues arose, with the result that an application were filed with operating license stage, there was a constant need for very expensive back fitting and regulatory changes.

I think the regulatory history shows a deliberate intent to avoid and prevent that situation from occurring and that's why case-by-case judgment would be insufficient.

>> JUDGE MOORE: But don't the analogies break down when you consider that you're talking a hundred year span of time from the greater number of construction permit to final closure? An awful lot can happen in a hundred years.

MR. MALSCH: Well, that's true but I'm really focusing on the span of time between construction authorization and authorization to construct waste.

They were talking about four or five years. It is interesting if you look at regulation that define the content of the application to amend the license for final closure, there is nothing to hear about design the assumption is it's already been settled. Nor is there any indication to -- the updated application to receive there is no indication there that is any design information to be submitted.

The clear assumption is whatever you need by way of design information, is in the application at the construction authorization stage.

And I think the history of regulatory process for complex facilities under Atomic Energy Act, that is associated with a final level of design information, not a preliminary.

>> JUDGE RYERSON: Is this to some extent, Mr. Malsch, a semantic distinction that we are perhaps drawing? I have some concern about where resolution of the issue as it has been put to us today as to where that takes us.

Now, there are two contentions, the two identical contentions I think, 146 and 201 basically say the same thing.

So those contentions would be resolved by our decision. But beyond that, don't we have an obligation in other contentions that deal with a sufficiency of the design information to basically look at each of those as a factual matter and it's not clear to me how much resolution of this issue will affect that.

Can you comment on that?

>> MR. MALSCH: I think if this issue is resolved in our favor, that should effectually moot those other contention because it will turn out that for those other contentions, needed final design information that was not

provided.

>> JUDGE RYERSON: So you would envision summary disposition on those?

>> MR. MALSCH: We would.

Just to give you an indication by way of background, typically, a preliminary safety analysis report is submitted at a stage when at least for safety structure, this is from components, the level of design is about 30 percent complete.

And FSAR level design is about 70 percent complete.

In a PSAR, the application usually contains criteria, codes and standards and then, as Part 50 suggest, approximate of dimensions in general region, not exact dimensions in contrast, at the operating license stage, you would have much more detailed design information, diagram, design procurement specifications, electrical diagram and ventilation diagrams.

You don't see any of that in typical preliminary safety analysis report and that's the distinction, level of generality in terms of how the design is described and how much detail is given to it.

>> JUDGE WARDWELL: Did you say that the FSAR in general is based on about 70 percent design completion?

>> MR. MALSCH: When the FSAR was submitted the

design was about 70 percent complete. I would not say 70 percent of the design was in the FASR, that would be an enormous calculation.

>> JUDGE WARDWELL: Well, you used that argument because the word "final" why preliminary are in here in 63 then, therefore, it must mean final. So you're satisfied with 75 percent as being final design? What's your definition of final design?

>> MR. MALSCH: Final design includes as I just suggested includes such things as actual dimensions, not approximate dimensions, actual arrangements, not general arrangements. Diagrams, design procurement specifications and the like. If any application or reference some place in the application.

>> JUDGE WARDWELL: And your position is that even if those are important to waste isolation or other safety aspects, they still should be in there or only those components that are safety related?

>> MR. MALSCH: I would say logic would only apply to structure systems and components important to safety or waste isolation.

>> JUDGE WARDWELL: But certainly, you don't envision that every final detail can possibly be nailed down at this time when or that you would ignore other information that's gained in the future during this period of time that

yes, they are going to receive and possess something within five years but they are also going to be receiving and possessing it as construction continues over 100 year period?

>> MR. MALSCH: That's true and in fact, when you look at the regulation and updating the license application, it talks about updating among other things the design information developed during construction.

So I think contemplated in that although, there should be a FSAR level in the design application, that could change as construction progresses and that would be the appropriate suggestion of an update.

>> JUDGE WARDWELL: But they never stated that a FSAR type of design information needs to be submitted with this application?

>> MR. MALSCH: It is not specific.

AS I said, it doesn't use the word "preliminary" or "conceptual" and FSAR versus PSAR. But I think the history shows that there was to be a definite departure from the approach at the construction authorization stage, all you had was a PSA honorable design permission. I think that was the Commission's clear intent.

>> JUDGE MOORE: Talk to me just general, give me some specifics as to what's missing. If you look at 63.21.3, little (i).

>> JUDGE WARDWELL: 63.21 3 (c) --

>> JUDGE MOORE: Are there specifications of the waste package missing?

>> MR. MALSCH: I think there are some elements missing. I can give you some examples of things that are missing.

>> JUDGE MOORE: Are the dimensions missing?

>> MR. MALSCH: There are some dimensions missing.

Let me give you some examples from the application.

For example, let's take the so-called tad canister. It says, this is SAR Section 1.3.1.2.4. It says "The federal capacity of tad canister as well as its capability meet radiation dose limits at the level of a cask. It says codes and standards have been evaluated and testing specifications are being developed to ensure the functions performed by the transport and replacement vehicle, the thing that she claims is the waste. It says that those are being developed. Those are just two examples.

There are probably numerous other examples in the license application there where design details are missing and left for later development and later consideration.

>> JUDGE RYERSON: Do you agree, Mr. Malsch that the fundamental or the prime requirements goes back to 63.21

(a) which says, the application must be as complete as possible in light of the information that is reasonably available at the time of docketing.

That's the general statement and as it proceeds to be more specific on other aspects of the application. But would you agree that is the prime standard that applies?

>> MR. MALSCH: No, I don't think that is the prime standard because if you take it literally and say all that is required to be submitted is whatever is reasonably available at the time, then, DOE is in total control of the license application which can't possibly be the case.

I think all that regulation means, I think the history of the regulation supports the proposition that it boils down whatever information is required to be submitted by other regulations has to be submitted. This regulation just tells you to be especially fulsome and complete in your disclosures but does not excuse you in complying with any other regulation disclosure requirement.

>> JUDGE MOORE: You mentioned this before but if you apply the language of 63.21(a) and apply any of the other provisions of 63.21, it is a determination depending on what component you're looking at any particular time whether there is enough information? And at what stage is it? Isn't that what's reasonable available at the time of docketing, all that implies?

>> MR. MALSCH: I think that begs the question what the regulation requires. The regulation about reasonable available at the time of docketing does not undercut any other Commission regulation. They have to be satisfied at first.

So putting that regulation aside, the question then is what does 5021 require in terms of the contents of the license application and we say that regulation considering the regulatory history indicates we are talking about a final level of design information.

If we're right about that, the sentence you quoted does not only undercut the right, if we're wrong about that, we're just wrong about that and that particular section is just irrelevant.

>> JUDGE WARDWELL: There is nothing in this reasonably available statement in 21(a) that exclude DOE from vigorously analyzing everything it can up to that point. It has to be a reason why it is unavailable. They can't just dictate that it is not available because we didn't get it. Isn't that a fair assessment of how that is interpreted?

>> MR. MALSCH: I think that is a fair assessment except that even if they had every good reason for not having a particular piece of information available in terms of logistics, resources, timing, personnel; still, if

another regulation requires it be submitted, that regulation does not offer them any excuse. It has to be submitted and in fact history indicates that provision indicates that other regulations have to be satisfied before that regulation even comes into play.

>> JUDGE WARDWELL: But don't 20 -- 32(b) and 24(b) go to a certain extent, defining what is not reasonably available and in there, aren't there statements with regards to what needs to be updated later which to me defines what isn't available now?

>> MR. MALSCH: I think that is a fair comment but if you look at regulations in terms of what is to be updated later, to include a safety evaluation of any design; there is no update calling for a safety evaluation of design. The only safety evaluation of design mentioned is the one that takes place at the construction authorization stage. That's it.

>> JUDGE WARDWELL: But if a design is going to change because of any update, it would require that also?

>> MR. MALSCH: That is true.

So, we would say that the regulations and the history contemplate there would be a final level of design information but that new information developed during construction would call for an update.

But that does not only undercut the initial

requirement that the initial application and the construction authorization stage be complete and have a final level of design information.

>> JUDGE MOORE: Thank you, Mr. Malsch.

>> MR. MALSCH: I would like to reserve a few minutes for rebuttal.

>> JUDGE MOORE: DOE?

>> MR. KUYLER: The legal issue before the Board is not what the right level of design detail should be in the license application or even whether the existing design prelim conceptual. Those words don't appear in the legal issue. The issue of what the right level of design whether DOE's design preliminary or construction activities cemental railroad are factual issues in this contention the issue is whether there is a regulatory requirement for final design information to be submitted for all components across the board in the repository.

Plain language of Part 63 does not include any requirement like this for final design.

The State appears to avoid the plain text issues and focuses instead on the alleged overall structure of Part 63 and the alleged single step process that is analogous to Part 52 and seeks to import standards from Part 50 and Part 52 into Part 63 where they don't appear.

As we pointed out in our brief, the Government

regulation of approximate regulation of 63.21(c)3 which does not refer to final design information. Instead as we have explained, this regulation and the other provisions in Part 63 allow DOE to submit an application that provides sufficient information to demonstrate compliance with performance objectives to enable the Commission to reach the safety conclusions and essentially a functional analysis while retaining the flexibility to further design.

State brings us to 63.21 (c) -- I think we raise this as well which talks about information probable license specifications. The regulation adds special attention in SAR which comparable license specification, special attention must be given to those items that may significantly influence the final design. That provision makes no sense.

If there already had to be a final design in SAR particularly if one considers what a license specification is which is something that a licensee must do or not do under the terms of its license after he gets it.

So why would one have a license specification addressing final design if it already had to be there.

So, although the plain text is clear, the Board may not require further and believes the regulatory history confirms our reading of the regulations.

The state relies on the two key arguments. First,

that if a design is not final, then, it necessarily must be preliminary or conceptual and therefore, must be deficient.

We disagree with that unsupported characterization of our license application, and more importantly, the questions of whether the design is preliminary and conceptual or whether such a design is sufficient if it existed are not the legal issue before the Board today.

Second, in an effort to manufacture the finality requirement, it does not appear in the text of Part 63, the state relies on an extensive discussion of regulatory history of other regulations, Part 60, the licensing support network and various other rulemakings over the years.

We think that most of that regulatory history cuts in our favor in supporting the idea of functional analysis and in any case, does not change the plain text of the regulation.

>> JUDGE WARDWELL: Is there anywhere in the regulations that provides guidance in regards to what you as the applicant might have just decided you didn't want to evaluate so you didn't collect any data so therefore, it wasn't reasonably available even though it could have been if you have conscientious in your effort to incorporate it into your design at this point in time when you submitted your application?

>> MR. KUYLER: I'm not sure I entirely understand

your question Your Honor but --

>> JUDGE WARDWELL: The argument comes up, Nevada brought it up today and certainly logical that if final design isn't required or if you go to 21 and whatever is reasonably available, one could interpret that to mean, oh well, DOE just won't bother getting some information, therefore, it won't be available when they submit their application, therefore, it does not need to be part of the application. But it was because -- it wasn't because the information couldn't have been gotten, or collected to provide the design but that the applicant didn't bother doing it because of personnel expense, whatever, they just decided we are not going to do it.

21(a) still allows me just to submit an application with whatever I got available at that time.

>> MR. KUYLER: I don't agree with that, Your Honor.

I think the reasonable available language does not swallow up all the other substantive requirement of Part 63.

The Department must submit a license application that has sufficient detail to enable the Staff to review and to reach conclusions, final conclusions as appropriate for the construction authorization stage for public safety --

>> JUDGE WARDWELL: Does it allow you to update your design in the future between the construction

authorization and up to the receive and possess?

>> MR. KUYLER: Yes, r Honor, we believe it does, 6324 talks about updating the application and the design information that's in 63.24(b)1.

>> JUDGE WARDWELL: What does it say there with regard to the types of things that could be considered either there or 32(b) or both?

What are the types of things that they are thinking about that might be included in those updates?

>> MR. KUYLER: I think they are talking about items that might have been identified during construction or deficiencies that have been reviewed through construction.

>> JUDGE WARDWELL: Something you came upon while you're constructing that you would update?

>> MR. KUYLER: That appears to be what's contemplated in those regulations.

>> JUDGE WARDWELL: And it says something about long term testing. Certainly if you had such an application like 63 for the High Level Waste, there may be some very long term testing stuff that goes on, that will not be complete for decades.

That I can understand but baring that, isn't that pretty much what they are talking about as far as updating? They are not talking about, oh, here's some other stuff.

You should have a pretty well defined set of

design completed at the construction authorization stage exclusive of what you might see different during construction or long term testing assessments --

>> MR. KUYLER: I would agree with that and that is generally what the Department has done.

There is an updated safety analysis that must before submitted with the receive and possess license, 6341. There is provision for more general reviews, 6341(b), that activities to be conducted at the Geological Repository. The application as amended, provision in the Atomic Energy Act, and the rules and regulations of the Commission.

So, again, I don't see any requirement that the design be final at the construction authorization stage nor is it clear what it means in Part 63.

>> JUDGE MOORE: Is there to be any significance to the fact that within 63.21(c)2, the Commission uses the words "approximate dimensions" when speaking of the GROA and less than 50 words later in speaking of not only the GROA but the engineering barrier system, it speaks in terms of dimension and specification without the word "approximate". Does that not clearly imply that they are different? And there is a different level of detail?

>> MR. KUYLER: It may or may not. I'm not sure that it clearly implies that. The State talks in its legal brief about dimensions and specification.

We think that and there is a great deal of detail in the design that exist in the application and more importantly, though, by its own terms, this contention raises a pure legal issue, does not allege any lack dimensions and specification. By its own terms offers no factual support and DRS and other confessions that it has raised and have been admitted and alleged design.

We believe she should be evaluated on functional analysis that exist in Part 63. And --

>> JUDGE WARDWELL: Let's make sure this round is going to go to the next question, that even if we resolve this legal issue that there is nothing specific in 63 that dictates final design be submitted, that does not necessarily preempt any factual issue associated with sufficiency of the design that may be brought up in some of the contentions. Is that a fair assessment?

>> MR. KUYLER: Not in an admitted contention, your Honor.

>> JUDGE WARDWELL: Thank you.

>> JUDGE MOORE: Thank you Counsel. NRC staff.

>> MS. BUPP: Good afternoon Your Honor, my name is Magaret Bupp. I represent the NRC staff. NRC staff's position with respect to Legal Issue 6 is that this regulation does not require final design information to be included for all topic and license application.

Rather, the finality and level of the detail for information provided will vary for each license application according to their risk significance of the topics. Therefore, any contention concerning sufficiency of design information, in the license application must be resolved in on the technical merits.

First, the regulation do not explicitly require final detailed design to be submitted across the Board for each topic in the license application.

The safety finding that the NRC must make at the construction authorization stage is whether there is reasonable assurance that the types of radioactive material described in the application can in a geological repository operations area of the design proposed without unreasonable risks to the health and safety to the public and whether there is a reasonable expectation that the materials can be disposed of without unreasonableness to the health and safety of the public. At the construction authorization stage, the only information that is required to be submitted is information that is needed to support the Commission's finding.

As I think as has already been discussed extensively in the other two prior arguments, 63.21 (c) 3 describes the requirement for description and discussion of design various components of the Geologic Repository and

Engineering Barrier System, does outline what type of information, DOE must submit but even here, does not state whether this information must be final.

In addition, the regulatory history of both parts 60 and Part 63 support the staff's reading of the regulation.

As the Commission was considering Part 60 final rulemaking, the Commission stated, "if the issue being address in the license application is one that is important at construction authorization stage, reasonable available standard is intended DOE to develop and provide information in detail. This shows that even prior to the implementation of Part 63, the Commission understood that not every topic in the license application would require the same level of detail.

Part 63 itself is designed to provide necessary flexibility for making licensing decisions consistent with the amount and level of detailed information, appropriate at licensing station. That means the level of detail for information provided at each little stage may vary.

For example, knowledge available the time of construction authorization will by be less, August annealing on the part of the Commission that information could change over time, that DOE could provide additional information over time and that was built into the

requirements in Part 63 for a license application followed by an update in the license application and two, reviews by the NRC, a separate construction authorization review.

>> JUDGE WARDWELL: Do you know of any other update criteria besides listed in 24 and 32(b) specifically focusing on just that information that's observed during construction or discovered during construction or long term testing. I'm paraphrasing there may be a couple of others in there?

>> MS. BUPP: There is the only requirement for the license application update, however, during the construction hearing if there were to be changes made to safety significant portion of SAR during the period of construction, DOE would have to follow the 63.44 change policy and potentially come in for an amended construction authorization.

So there is that requirement as well. If the changes were so significant they net criteria for filing -- for.

>> JUDGE WARDWELL: But you don't envisions anything more than those items that would be updated at the receipt of the update, is that correct? The design would be SUFFICIENT enough the construction authorization stage such that it only need to be updated with those types of information..

>> MS. BUPP: Yes, but at the construction, the application must include all of the information 6321 to a sufficient level of detail for NRC the make a finding.

You can't put it off. Finally, in addition to plain language of the regulations and the regulatory history of Part 63, the fact that Part 63 is a risk-informed performance based regulation provides additional support from the NRC staff's position.

The --- in the final rule for Part 63 at page -- Federal Register I think 74, page 74 Federal Register, 55732, the Commission discussed about Part 63 is a risk-informed, performance-based regulation. They defined risk-informed performance based regulation as approach to focus attention on the most important opportunities to establish objective criteria based upon risk for evaluating performance and develop measurable or calculable parameters and to focus on the results as the primary basis for regulatory decisionmaking.

>> JUDGE MOORE: You said that was the final rule?

>> MS. BUPP: Yes, for Part 63.

>> JUDGE MOORE: --Your cite --

>> MS. BUPP: I may have mis-spoken.

>> JUDGE MOORE: I believe your page number was --

>> MS. BUPP: Was incorrect? It is 66 Federal Register.

>> JUDGE MOORE: So that would have been?

>> MS. BUPP: In 2001 and it is page 557.2 of 66 Federal Register. I apologize for mis-speaking. I confused 2000 and 2001.

And in the preamble background section of the rulemaking the Commission defines Part 63 as risk-informed requirement-based regulation and defines performance-based regulation as one where you focus on the most risk significant activity.

This goes to the idea that different activities that are contemplated under the license application will require different levels of detail with regard to the design because we want the most information and the Staff want to focus its review on the most risk significant activities.

So since the level of information required is different activities under the license application will vary, then you can't have this sort of blanket idea that Nevada is proposing where all the information must be final and if it's not final detailed information, it is no good.

From the Staff's perspective, you have to look issue by issue and look at each specific component of the design and decide whether the Commission provides support for that one specific topic is sufficient.

And it will require hearing if there is an admitted contention on sufficiency design detail. It will

require hearings rather than being able to file a motion for summary judgment based on a legal issue but I think the appropriate thing is for there to be a specific hearing on each of the admitted contentions.

Unless the Board has further questions, that summarizes the Staff position.

>> JUDGE MOORE: Mr. Malsch, do you want a few moments of rebuttal?

>> MR. MALSCH: Yes, thank you, just a very brief comment.

If the Board wants to rule in our favor on these two contentions, result would be that a FSAR level detain information is required.

As I understand from the DOE, they believe that in all or at least, many respects, their application currently meets that requirement. If that is their belief and the Board decides to issue in our favor, there remains a factual issue as to whether in fact, various components, a final level design information is or is not provided.

So there is the possibility of a hearing but that does not preclude to resolve this legal issue on legal grounds.

>> JUDGE MOORE: You have specific contentions where you claim the information is inadequate?

>> MR. MALSCH: That is correct. So if we were

not to prevail on the these particular contention, those contentions would remain as issues for hearing controversy.

>> JUDGE WARDWELL: Could you reiterate what your definition of final design is?

>> MR. MALSCH: The level of design information typically found in a final safety analysis report at the operating license stage under Part 50 or combined license application under Part 52.

>> JUDGE WARDWELL: But you admit it was a 70 percent design?

>> MR. MALSCH: We are talking about in general terms a level design detail associated with 70 percent inclusion design.

>> So why does that not get us back because that is kind of a type of thing. What is 70 percent? Does that mean the whole design, or and the fact there is a phrase, final or preliminary is not used in 73, where is this all getting us.

I'm back to Judge Ryerson's comment earlier about it.

Why don't we just jump to the issue of importance and that's the individuals that you feel is a sufficiency of design and be done with this.

>> MR. MALSCH: We address that one. First of all, you're right, we can't look at the application as a

whole and resolve this question as a factual matter depending upon whether it's 70 percent or 30 percent.

You have to look at the particular descriptions of each structure and component, and I would submit that there is a fairly well understood collection of knowledge and criteria that would enable one to decide whether a description one sees for a particular structure component is preliminary or final.

And I can offer you some examples of what an application looked like as it progresses from the preliminary design stage to the final design stage.

People recognize how these things develop.

>> JUDGE WARDWELL: Just using your definition of 70 percent there could be some components, at 20 % and a whole plethora of others that averages out to 70 percent final design, does not mean every component has to be as 70 percent and the fact that you agree that there's no words in here that say specifically final design must be submitted in Part 63.

>> MR. MALSCH: I agree, it does not say final design but the structure of the license process and history suggest that what they had in mind was the final level of design information.

But I do agree that whether or not a particular level of information is final or preliminary, can't be

decided on some overall 70 percent 30 percent basis.

You have to look at each structure system component and see whether it looks like what one sighs in a FSAR.

>> JUDGE WARDWELL: And aren't we doing that to those we have submit-to us and on a factual basis.

>> MR. MALSCH: You could do that.

>> JUDGE WARDWELL: We admitted contentions what you deem is appropriate for pursuing further on the basis.

>> MR. MALSCH: My only point would be that this is a general contention. Those are specific contentions. If one were to resolve this contention in our favor, we would like at those other contentions already knowing that the general contemplation of regulation was that a final level of design information should be provided that would very much help the litigation although it would not eliminate them completely.

>> JUDGE MOORE: Thank you Mr. Malsch.

Would you like to address Issue 7.?

>> MR. MALSCH: Issue 7 addresses -- relates to Nevada's Safety 149 which addresses the possibility that the circumstances of the as-built repository waste might deviate from what was authorized because of human error.

We argued in our opening brief that such errors enough be screened in or screened out using the same

frequency and consequence screening criteria.

>> JUDGE WARDWELL: Sorry to interrupt you and I don't want to look up my notes. I have a legal question in my notes as being DOE rely on QA program procedures to exclude consideration of the TSPA.

>> MR. MALSCH: Yes, that's what comes up. That is what the legal question is.

We argue that they should be screened out applying the same consequence or frequency criteria applied to other FEPs. We believe that DOE has screened these FEPs out based upon regulation or based upon the legal interpretation.

As things now stand, I don't believe either staff or DOE take issue with Nevada's legal argument these things can hot be screened out purely on legal ground and we agree with staff and DOE that a QA program may be a factor one may take into account as long as one uses takes into account in applying the usual screening criteria applied to other FEPs.

Now, DOE now says that oh no, we did screen these FEPs out on the basis of regulation or legal grounds but basis of low consequence.

DOE came to this conclusion and did you go out their millions of LSN documents, a correction to the FEPs screening criteria document that was referenced in the licensing application.

This correction didn't change the analysis

underlining the FEP evaluation at all, simply changed the ultimate conclusion from screened out on the basis of regulation to screen out on the basis of consequence.

>> JUDGE RYERSON: The correction was made before you filed your contention.

>> MR. MALSCH: Just before we filed our contention, when DOE pointed that out to us in their Answer to our petition, we said in our reply that we could not forgive them for missing that because it was a very obscure document but if what DOE Intend to do is screen this out on the basis of low consequence, applying the issue FEPs criteria, then, we said and preserve the issue by saying their evaluation is inadequate.

I would like to call your attention to exactly what is their screening justification. It is actually in a analysis at page 6-39 to 4-40 of LSN document, DEN 001, 584 824. But all that document says is basically what DOE quoted in its brief. There is nothing more than document than what DOE quoted in its brief. What the brief said we screened it out because we have a compliant QA program and program will lead to proposition that these areas are not expected end of discussion.

There is no mention of the criteria in 102(j) or 342(a).

>> JUDGE RYERSON: This is a part of legal

question isn't it? This seems to me, we are bordering on whether sufficiency of how they are screened or not.

MR. MALSCH: It could be but let me make the point as they said, if it walks like a duck, quacks like a duck, flies like a duck, it's a duck. Their particular argument sounds like a legal argument and sounds or crashes like a legal argument, really does look like a legal argument. But at DOE's insistence that it was not authority that we think that by claiming that is insufficient in our reply to DOE's answer, we have preserved the issue.

>> JUDGE MOORE: In response to Judge Ryerson's question, you said the correction appeared just before you filed your contention.your contentions were filed in late December.

I believe that document showed up in the LSN in June.

Does that not draw in the question the factual premise of the contention and whether or not it's properly preserved?

>> MR. MALSCH: I don't think so. The difficulty is this, that the application says that the document was screened out on the basis of low consequence.

You could refer to the document to which the application refers, it says screened out on the basis of regulation which is a legal basis.

There are several discussions here sounded like it's being screened out on a legal basis, don't believe the application references the SEARA Report, among the million of LSN documents, there is no reasonable grounds to believe that we should have -- we should be assumed to have adequate notice of that particular document since it was not particularly referenced.

>> JUDGE RYERSON: If we were to find that the issue before us today as a legal issue is moot, but that there is a viable factual issue, the contention would be interpreted as a factual one. Is that a problem from your standpoint?

MR. MALSCH: That is really not a problem from our standpoint.

>> JUDGE MOORE: Thank you Mr. Malsch.

DOE?

>> MR. SILVERMAN: Thank you, Your Honor. Don Silverman for DOE. If I may take one moment to review the citations earlier to give you a citation for earlier that may or may not be helpful to you on the NEI contention. I mentioned there was a SAR section that simply stated additional reactivity controls.

>> JUDGE MOORE: This was issue one.

>> MR. SILVERMAN: Issue 1 and I want to cite you to the SAR page 1.2-2, 1, 1.2.1-17, 1.5.1-4, and 2.2-42.

Those sections identify the need for additional reactivity controls in general for a small percentage of the few and an example that is used to achieve that objectivity so you have those cites to look at your leisure.

With respect to this particular issue, the issue is the legal issue is it may rely on the quality assurance program as a basis for excluding from a detailed consideration in the TSPA, potential deviations from the design or errors and waste replacement.

Nevada's position is that such errors must be screened out only on the basis of frequency or consequence criteria that apply under FEPs.

We agree with that.

We -- Nevada however, characterizes our argument as a argument based purely on regulation, that we simply took the assumption that we have a QA program, therefore we can rely on it and screen out the FEP. That is not what we did.

We used the QA program along with design considerations and other factors and analysis we performed to -- in application determining probability of consequence in this and others, and then, made the screening decision.

And Mr. Malsch points out that there is really no discussion about how we apply those criteria, the QA Program, that we just jump to a conclusion that we have one,

therefore, we are entitled to exclude these sorts of things. And that it really is dangerous for sheep's clothing but in fact, as you pointed out, that I did not have the exact internal documentation so probably I did appear in the LSN some time in near 09 -- but I point out that the NRC staff in addition to the FEP addresses this issue, specifically errors and waste replacement which was the one that was corrected to say from regulation to consequences. In addition to that, the NRC staff asked a specific RAI and they were questioning our analysis here. And it is already RAI number 117 and I can give you the LSN number, DEN, 001, 611, 309.

And the question that we are asked is, provide a technical basis for exclusion of this particular FEP that's consistent with the screening decision of low consequence.

This information is needed to verify compliance with 63.114 (e) and (f) and they go on 1, 2, 3, 4, 5, 6 pages to discuss our rationale. If it was merely the fact that we were saying we had a QA program, we can exclude. I don't think we would have 6 pages. I'm not going to read that to you, I think it is worth reading.

And I think we would suggest that you do that.

We apply the consequence criteria and we are entitled to apply those criteria just like we are making screening decisions, just like we are entitled to apply

other elements and design, quality assurance program. The function of quality assurance programs is to have systematic actions to provide adequate confidence that the repository will perform as anticipated.

That's cited -- definition in 63.141 and the NRC has historically relied on allowing their quality assurance programs. We did not exclude this on fairly legal grounds.

>> JUDGE WARDWELL: I take it DOE considers the issue framed to us to be moot, is that correct? You see the legal issue as moot because it doesn't comport with the facts as you understand them?

>> MR. SILVERMAN: Yes, Your Honor.

>> JUDGE WARDWELL: Now, what is DOE's position on whether there is a remaining fact question arising from this contention or some related contention? Is this a fact question or do you feel -- or is it your position that since the legal issue is moot, the matter is over?

>>MR. SILVERMAN: I would have to recheck the contention and I apologize, I don't have it in this package here but if you conclude that the Quality Assurance Program is an appropriate element in the consideration of including the FEPs and we would look -- you would need to look at the contention to see if it alleges in any way that we would improperly apply the Quality Assurance Program. If that is such an element, that would be fact question remaining for

litigation.

>> JUDGE RYERSON: I think the contention is 149 if I recall it, because of the misunderstanding of -- perhaps the misunderstanding of the factual situation, it may be a legal argument. It is not sufficient in itself that you have a quality assurance program.

>> MR. SILVERMAN: That's correct, 149 is designated by Nevada as a legal issue and in that regard, I would have to read again the language is a legal issue and it basically states the actual issue that we may not rely on QA program, it would be moot, it would be no factual issue remaining for litigation.

>> JUDGE MOORE: Is it not DOE's position that in screening out a FEP, that DOE may rely exclusively on its QA program?

>> MR. SILVERMAN: I would say that there is -- one could conceive of a situation where we perhaps could rely exclusively on our QA program.

If in fact, -- if in fact one could explain the controls that are provided by that program and those controls such as procedures, configuration management, inspections, and other verifications, procurement controls and all those sorts of things that make up quality assurance programs, if one were to do an analysis and conclude that reduces the probability below the appropriate probability

performance criteria or reduces the consequence, then, that would be appropriate.

In this case, I think we did more than that.

>> JUDGE WARDWELL: That sounds to me what you just described as a factual evaluation of that. Seems like we are talking the same thing.

>> MR. SILVERMAN: That would be a factual evaluation but the legal issue is here, may we rely actually on the QA program as an A basis, not B basis.

Mr. Malsch went on the to say that our evaluation is manifesting inadequate. That goes the quality of the analysis. And so, that's really all I have unless you have questions.

>> JUDGE MOORE: Thank you.

NRC staff?

>> MR. GENDELMAN: Adam Gendelman for the NRC staff. I don't think there is too much disagreement on this issue. But, I think just to sort of clarify the direction I think we're going, the Staff's position is that DOE may rely upon its QA program procedures as a basis for its FEPs screening decision because the Commission has not placed restrictions on the kind of information that DOE play submit in support of a FEP's screening position.

I think it is important to make a clear distinction between what I will call the justification or

reason for FEP's screening which is very much prescribed by Commission regulations.

In 63,114(a)5 and 63.322(a) concerning probability of low consequence and excluded by regulation. And the one is also helpful here at 2.2-9 acceptance criteria juxtaposed with the technical basis providing in support of that screening decision which is not so restricted.

And that is what -- it is the Staff's and DOE's I think understanding of what the QA program is being relied upon for as a technical basis under 114(a)5 in support of its low consequence under 114(a)5, discussing the language we discussed, changing the outcome of the assessment, hence, justification with reason for which there is a technical basis.

In its briefs though, I think this is clarifying Nevada discusses the actual probability of errors and wafted in placement goes to merits of whether DOE's analysis is adequate which is not an issue in this contention. The Staff is considering justification and technical basis provided by Department and we will make a safety finding based upon whether it finds that information adequate.

Thus, while the Staff has no position on the adequacy of the technical basis that DOE provided in support the FEPs Quality Assurance Program as a technical basis as the program is the sort of thing on which the Department may

rely to possibly satisfy 114(a)5 requirement. And unless Board has any questions, I have nothing further.

>> JUDGE MOORE: Thank you. Mr. Malsch, do you have any brief rebuttal?

>> MR. MALSCH: Yes, thank you.

>> JUDGE MOORE: Thank you Judge Moore. Just a brief comment and that is to refer to the language in our reply to DOE's answer to our petition.

This is in our reply, page 654 where we specifically challenge the adequacy of DOE's screening out discussion assuming as DOE said, it was screened out on the basis of consequence, not on the basis of regulation.

We said quote, "nothing in that" -- referring to the underlying FEPs being done even as it was modified on this errors reports -- "nothing in that qualitative discussion about how great things can be implemented and supports the proposition that errors and repository design and errors in recent places will occur at a frequency of less than one in 10,000 in 10,000 years."

And this is the screening criteria. So I think we have clearly preserved this issue as a factual controversy even though there is no longer any dispute regarding the legal criteria.

>> JUDGE RYERSON: That applies to Safety 149?

>> MR. MALSCH: Correct.

>> JUDGE WARDWELL: Is there any other contention you would suggest comes to mind?

>> MR. MALSCH: This is the only one that comes to mind, yes.

>> JUDGE MOORE: Thank you Mr. Malsch. It's now probably a good time to take a brief ten minute recess.

We will reconvene at 3:25.

(Whereupon, a short break was taken)

>> JUDGE MOORE: Please be seated.

Mr. Malsch, we will proceed with Issue Number 8.

>> MR. MALSCH: Thank you. Issue 8 requires that we define the issue carefully. We believe this issue is all about defense indepth.

There is no issue here about whether DOE will renege on its promise to dip shields and no issue about whether the absolutely sets of dip shields is the result of a FEP.

Instead, the fundamental issues here are whether there is any requirement in Part 63 that the design of repository reflect the Tennessee in depth principle, what fence indepth means and in looking beat at DOE's completed design in its license application, how it should be determined.

More specifically, with reference to the drip shield, should DOE be required to postulate the absence of

failure of all dip shields and assess the results to ascertain their contribution to overall performance and there by, determine whether the exhibits, offense in depth, we think such an evaluation is required and the staff argued that no such evaluation is required.

Before though I get to Part 63, I should address the arguments of Staff and DOE about the relevance of the DC Circuit decision and in that case, the state of Nevada argued that the multiple barrier requirement in the statute required that Part 63 look like Part 660 in that it was required under the statute for NRC to describe in Part 63, in advance of their filing a license application, minimum performance requirement for individual barriers. The Court concluded that the NRC had discretion to interpret the statute differently. We also argue that it was arbitrary and capricious for the Petitioner to abandon in Part 60 when it promulgated Part 63 and the Court agreed with the NRC that it's departure from Part 62 -- departure from Part 60 and promulgated Part 63 was neither arbitrary or capricious.

But there was no issue in that case addressed as to whether any particular DOE design and actual license application complied with the multiple barrier requirement.

Or how defense indepth completed design concept should be evaluated and those are the issues here. So we

don't see this case as relevant at all for this discussion.

Instead, we see this discussion is controlled by a careful analysis in Part 63 and doing so, we take Part 63 as the Commission promulgated it, not as the Commission would have wished it to be when it argued the dba case.

We will take Part 63 as given and look at it based upon its rule language and its regulatory history.

The most important discussion of multiple barriers in 63.102(h). In fact the title of this particular subsection is multiple barriers and that's what this subsection is all about.

It's a rather long and wordy subsection but does contain a number of important interpretative nuggets, explain that is multiple barriers work in combination with each other to enhance resilience of repository design. And it also further explains why the resilience in the design is important.

102(h) says it is to compensate for uncertainty in inherit to the performance of natural and engineered barriers, especially engineer barriers.

The Physicist Boris once said that predictions are always difficult especially when they are about the future. This is an about especially difficult one about the future up to a million years and so many uncertainties are rampant.

So under 63.102(h), multiple barriers is

designed -- the local barrier concept is intended to enhance resilience and the reason why it enhance s resiliency, it is important is because it compensates for up uncertainty. And you then know more about the multiple barrier requirement from the regulatory history of Part 63 and here, the most important parts in 63 Federal Register, 55758 and 5759. In response to a specific question by a commentator, how the Multiple Barrier Provision in Part 63 reflects the philosophy of defense indepth at the repository system should reflect the philosophy of defense indepth.

That is not surprising and NRC practice, multiple barriers and defense indepth are often used as interchangeable terms. The Commission further said that it's local barrier requirement could result in repository that is quote, more talented or unanticipated failures. So resilience, the term 102(h)in Part 63 and defense indepth, the term discussed particularly in regulatory history must be interchangeable terms.

They both reflect the NRC implementation of the multiple barrier and information and the ability to compensate for uncertainties not anticipated and therefore not evaluated.

So the question then is what is defense in depth? The Commission said its regulations included its philosophy of defense in depth? What does it mean? We know it was

designed to make repositories more tolerant of unanticipated failures.

But we also learned from the regulatory history and this is at 66 Federal Register, 55758 that in accordance with defense indepth, a design must not be wholly dependent on a single barrier.

ACNW, the Commission's advisory committee working on high level waste matters when Part 63 was in development also understood from its reading of the regulations and its discussion of NRC staff that the result of the regulation and the application of the defense in concept. The defense indepth concert would be that the posture of rock depends on single barrier.

So from these we conclude one, multiple barriers means resilience in design, resilience in design to compensate for unanticipated failures and uncertainties.

Resilience is the same as defense indepth and defense indepth means the repository was not beholden upon a single barrier. So the key question then is, well, how is defense indepth supposed to be evaluated.

We know from that same regulatory experience, this is again, 66 Federal Register, 557589, that defense in depth, that is to say, whether there is undue or whole dependence on a single barrier. The thought on that was it is to be demonstrated quantitatively. The Commission said

specifically that the rule requires DOE to quote, the describe quantitatively. The ability to commute information bill tee to contribute to waste isolation in a way that lack of resilience under the unanticipated failures or external challenges. So the demonstrate must before quantitatively. In fact, it said it twice at the same point in the federal register. The Commission explains that in additional quantitative discussion and description of barriers, capability is not required because quantitative evidence of capability of individual barrier does contribute to waste isolation is an integral part of performance assessment.

Therefore, I think there is no doubt that defense indepth is a requirement under Part 62. Defense indepth means there should not be whole or undue reliance upon any single barrier, whether there is such undue reliance on a single barrier and evaluates quantitatively, not just qualitatively.

So the question is: Does that mean we should postulate the total absence of dip shields.

Well, DOE certainly thought that was true when it first determined its concept plan for finalizing this application. DOE's staff at one point thought that this was true. They were talking about something very close to this, postulating the what if analysis.

So what happened to defense indepth? I would

submit,- that defense indepth is the preverbal elephant in the room and Staff's and DOE's message is basically, ignore that elephant.

But you can't ignore the elephant. It is in Part 63, reinforced by B. We also say that the analysis is not required by the regulation but neither tell us how they propose otherwise to evaluate the defense indepth inherit in Part 63. So if a neutralization analysis is not required, well, then, what, Staff and DOE are completely silent on this subject.

So, we say that in sum, defense indepth is part of part of 63 design must reflect the defense indepth concept, the concept was designed to compensate for uncertainties and defense indepth means there can not be unduly lines in single barrier. And whether or not there is undue reliance, should be demonstrated quantitatively, as the total system assessment.

We have postulated here this should be done by neutralization analysis. DOE once thought that was the way to negotiation. Staff thought something similar would be done before you today and they are silent.

So as I say, defense indepth is the elephant in the room and the message for Staff and DOE is ignore that elephant. But you can't.

>> JUDGE WARDWELL: When you say that DOE was

initially considered these neturalization analysis, was that in reference to your statement that on Page 27 where you actually cite a document they submitted, that does what? Does it allege that it has something that was not included in the application? What is that?

>> MR. MALSCH: I think what that is is a planning document to plan the contents of the license application which DOE expert opined this is what Part 63 intended and this is defense indepth should be evaluated.

I don't contend there is a legal requirement but I do contend that it shows what we have in mind is something that DOE also had in mind at least at one time, something that should be done.

>> JUDGE WARDWELL: But you state on 27 DOE has already performed one or more drip shield neutralization analysis.

MR. MALSCH; Oh, I'm sorry, have performed one more more analysis. That is true from documents that are on the LSN. They just were not included in the license application, DOE concede they do that but says they did not find their way into a license application, and they don't explain why.

>> JUDGE MOORE: What do those analysis show?

>> MR. MALSCH: We believe it shows without the drip shield, NRC performance objectives.

Now, there could be some dispute over that and that would be a factual matter.

>> JUDGE WARDWELL: And you don't know whether the

neutralization of other barriers will achieve the same thing? This does not give you a relative feeling on whether the system is dependent on drip shields or not?

>> MR. MALSCH: I don't know the answer to that question.

>> JUDGE WARDWELL: What is the difference between what you describe as neutralization analysis and those failure analysis or FEPs screening analysis that DOE claims as proof that they have actually done something similar?

>> MR. MALSCH: That is a good question. The purpose of defense indepth is to compensate for unanticipated failures and challenges.

By definition, you could anticipate there is a challenge. They should have been considered in FEPs screening analysis and either screened out or screened in depending on consequences and probabilities.

By definition, defense indepth is designed to compensate for FEPs that you never imagined and therefore, never evaluated.

>> JUDGE MOORE: So Nevada's position is that 10 CFR 342 -- 63.342 is not an answer to the multiple barrier requirements that is specifically set forth in the regulation?

>> MR. MALSCH: Absolutely not. It is a way to

evaluate failures and challenges even anticipated but the very purpose of the multiple barrier requirement is to address and compensate for failures and challenges that you could not anticipate.

There is a good analogy here. The screening and definition of FEPs, promulgation of FEPs in performance assessment and the open growth calculations are somewhat like the probablistic risk assessment for a facility like a reactor.

I believe there was a risk assessment done before the Challenger accident. There was a risk assessment done before the Apollo accident. I think there was also a risk assessment done before the T0I 2 accident.

The problem was and it also came to us that what happened was simply not anticipated and therefore, not evaluated.

So the purpose of defense indepth is to handle challenges and failures you could not anticipate and therefore you could not even imagine including your FEPs screening analysis.

>> JUDGE RYERSON: Mr. Malsch, assuming an analysis showed that the requirements could not be satisfied without drip shield, I mean, what would that show? The drip shield is one of what, a handful of barriers?

How many barriers are on there?

>> MR. MALSCH: Depends on how you define. DOE sees many barriers.

>> JUDGE RYERSON: How many do you see?

>> MR. MALSCH: There is the unsaturated zone above the repository; the satuated zone below the repository; the waste package and the drip shield. Those are the basic areas.

>> JUDGE MOORE: When you speak of a barrier in the context of drip shields, you're talking about the entire one thousand --

>> MR. MALSCH: The entire system of drip shields.

>> JUDGE MOORE: Not the individual shield in an individual cask?

>> MR. MALSCH: Correct.

And I think right, if you did -- to answer Judge Ryerson's question -- you did an evaluation of any barrier, whether it's natural or engineer, and the result was non-compliance with performance objectives without the barrier?

What that tells you is that you better be very, very sure the barriers are going to perform as expected. It is a little bit like my analogy would be a pressure vessel and reactor. It's a barrier.

It so happens that for most accident analysis, if the barriers fail catastrophically, there is no balance

system. So there is an example where the barrier does not exist you flunk Part 50 of the safety regulation.

What does that tell you about the pressure vessel? What that tells you, you ought to be really, really sure the pressure vessel will work.

>> JUDGE WARDWELL: But in our case here where we have so many -- you broke it into three categories, two natural barriers and one engineered barrier if I might just simply say it that way, and their components within each of those. So it depends on how you count it. But, isn't it just as important to know what the relative contribution is of each barrier because you may be able to take out any one of those barriers and not necessarily meet compliance. But if each one is the same, well, fine, they are still working in concert together to create what you want to create. That is, meeting the performance of a system.

And isn't it more important to see whether or not one dominants? Isn't that what we are really trying to do with this is to make sure that -- if you're not relying on one for the entire protection of the standard that we are trying to achieve?

>> MR. MALSCH: Well, I think that will be an important part of the evaluation.

Each of the barriers as I define them in general

and I would say that if the result of that analysis is that in a particular number of cases, the system does not comply without the barrier, I think that tells you a lot about that barrier.

It tells you that you better be really, really sure that you're right about the assessment of that barrier and in particular, you should look to see whether there are redundancies in the system because we are talking about unanticipated failures and challenges, not failures and challenges that you can anticipate in advance through the selection of FEPs.

>> JUDGE WARDWELL: And if that happened with every barrier, then you just need to be, about the whole system. That's all it is.

MR. MALSCH: I think that is a fair statement.

DOE and I think staff and may be misquoting does bring up the statement that Commission has emphasized that there is no need to have a performance -- design specification for any one barrier because they are not you don't want to focus on any one of them being removed or anything like that, something to those effects. Would you like to comment on what is the difference between what you're suggesting in that particular statement or those particular statements by the Commission that says we are not going to provide design

specification characteristics of the individual barriers because we are counting on them acting together?

>> MR. MALSCH: I think the history of that particular provision is important.

Part 60 had in its's provisions, particular as I recall it , what particular requirements on particular individual barriers had to be met?

Regardless of how DOE otherwise decide to design the repository --

>> JUDGE WARDWELL: That's what I call the design spec approach as opposed to performance spec. That's a little heavier.

MR. MALSCH: What I have here in the report criticized that on the basis that could be a suboptimize design. And the NRC in Part 63 also pointed out this would inhibit DOE's design flexibility. But these are not an issue here.

We now have a design DOE presumably has optimized that design. And the question is whether given that design that he has chosen and optimized publicly reflect the defense indepth concept.

So the question -- defense indepth concept and possible due to a less than optimal design, verses an optimal design take advantage of design flexibility.

The question is, looking back, is there a defense indepth and if it turns out there is not, the applicant has the flexibility to go back and revise the design.

>> JUDGE WARDWELL: The mere fact that design specification for each individual barrier does not preempt the need to in your opinion, address what -- low the system would behave if any one barrier didn't function as anticipated?

>> MR. MALSCH: That's correct because the Commission after abandoning the Part 60 approach still said it would be part of the repository design. So it's still there.

>> JUDGE MOORE: Mr. Malsch, you pointed to the 2001 rule statement of consideration.

You were focusing on Section 3.8 entitled multiple barriers and defense in depth.

And as part of 3.8 before you get to 3.9, it poses a second question.

All of the things you pointed out in the handful of others where the use of quantitatively analysis.

Is quantitative or qualitative assessment and then, they go on and point out the join -- point out that there is no requirement for quantitative merely a qualitative assessment will be sufficient.

How do you reconcile what appears to me to be quite contradictory in the legislative history with regard to multiple barriers defense indepth?

>> MR. MALSCH: Well, the Commission said here that

if you read it carefully, I would submit it said it sought a need for additional quantative evaluation. It says a qualitative evaluation might do it and gave a number of reasons and the evaluation had only been done as a part of the total system control assessment.

So the apparent view of the Commission is that the evaluation of the defense indepth was part of the total system performance assessment and beside, it has to be so this would be evaluated cooperatively. I don't see how you could evaluate it quantitatively because you are looking at overall system performance and the ultimate result is a release of dose calculated.

Judge Moore I believe you just cleared up one thing I may have missed which was the waste water packaging waste paling package and separate are the drip shields.

>> MR. MALSCH: That's correct.

Waste package is one of the this hints, the drip sealed are this elaborate accumulation of I think 11,000 of them placed over the waste package to protect the waste packages from dripping and rock falling.

>> JUDGE WARDWELL: And as you say, there is more no, that there is a foundation and several little components of the engineering barriers.

MR. MALSCH: Correct, and you can get into difficult questions about how finally you define

barriers for this purpose. But I would suggest we just use a common sense approach here and see what comes out of the evaluation.

I think what's missing here as I said is the standpoint of DOE and Staff defense indepth is the elephant in the room. They have not proposed to you how they propose to actually deal with the subject and in fact, DOE says there is no defense in depth requirement and deny any obligation to do any kind of quantitative evaluation on this issue whatsoever.

>> JUDGE MOORE: They say 342 is the only requirement.

>> MR. MALSCH: That is clearly incorrect.

>> JUDGE RYERSON: Do you know of any way to show whether or not that is taken playing beside something like neutralization?

>> MR. MALSCH: I don't know and I would say frankly if the Board decides that we are correct about defense indepth, that it means it should not be undue reliance in any single barrier and that the presence over absence must be demonstrated quantitatively.

If in response to that, the DOE were to amend its application and propose some other method beside neutralization, we would leave a technical dispute but they have not done that.

Their application is silent on that subject.

Thank you.

Ohio, I would like to reserve a few minute for rebuts tall.

>> JUDGE MOORE: DOE?

>> MR. SILVERMAN: Don Silverman for -- Don Silverman for the Department of Energy. The state of Nevada's basic position is that the Department is required to perform what they refer to as neutralization analysis, essentially taking away all of the drip shields.

>> JUDGE WARDWELL: Is it a failure or is it just what you said initially, it is a taking away of those to determine the relative impact?

>> MR. SILVERMAN: The legal issue evalauation is to evaluate the drip shields first which I interpret it to mean, we make the conscious decision not to put them in or we cannot out them but Nevada has made clear that they are not alleging that any further.

>> JUDGE WARDWELL: How would you demonstrate compliance with 113(a) through (c)that the engineering barrier be working in combination with natural barriers if you don't do something like that?

How have done that in your license application?

>> MR. SILVERMAN: We have done that in our license

application through a discussion of all the barriers and their capabilities and providng a description of their capability and then, taking together all the barriers together performing analysis to determine whether the dose performance objectives there were met, et cetera, never's position is a neutralization analysis, the only basis for that would be they are looking to see if there is basically, they are suggesting there must be quantitative requirement for each individual barrier with respect to the dose standard.

Take it away and see how that affects the ultimate dose.

>> JUDGE WARDWELL: How would you require -- not require but the basis for the regulation in the statement consideration in the 2009 revision when the Commission affirmed that the emphasis should not be isolated performance of individual barriers but rather ensuring that repository system is now wholly dependent upon a single barrier.

How are you going to show any indication of whether or not the barrier system is dependent upon one single barrier without taking it away and seeing what the reaction is? Not that that's going to occur but that's how -- that's one way to assess the it.

Give me confidence that you have done a similar

thing in your answer.

>> MR. SILVERMAN: It may be one way to assess it and I would want to talk to her and see about the technical answer. But the legal answer is there is nothing in these regulations or in the statements of considerations that requires this type of a specific analysis taking away a particular -- in this case, it is a portion of a barrier.

We think upper natural barrier, the engineered barrier system which include the drip shields, the waste package and other elements and then a lower natural barrier.

There is nothing in the regulations. And you will find that in the generalization analysis and you will find that in the general concepts of defense indepth that requires that sort of thing.

If the Commission had wanted that kind of analysis done, I think they would have specified it.

>> JUDGE WARDWELL: Why haven't they, in what they require? Where have you demonstrated that you have a defense indepth?

>> MR. SILVERMAN: We have demonstrated defense indepth by describing the capability of the individual barriers, and then, describing the barriers and their function, describing their capability, describing how

they contribute to waste isolation.

Let me speak to that if I can. And then ultimately, doing a dose analysis to see how far below we are the performance objectives.

Nevada -- and I think Judge Moore have probably pointed two pages of the Federal Register notice that I admit are a little bit complex to read but important. They are the ones you cited before, 66 Federal Register, 55758.

>> JUDGE WARDWELL: Could you bear with me while you get there then? Is there a page number.

>> MR. SILVERMAN: Yes. 66 Fed Reg, 557 a 58, 55759. In Nevada's brief in continuing, they focus on one sentence one phrase at the bottom of 5575 A.

If you look at the very bottom, right handle corner, says the proposed rule would have required describe a description quantitatively -- describe quantitatively each barriers' ability to contribute to waste isolation.

Let me explain what we think that means or and what we have done. That does not mean that and it cannot not mean if you read many, many quotes of these two pages as I'm prepared to read to you if you want but you should read them. That does not mean that you have to quantitatively, determine whether for example, the

removal of the drip shields would produce a dose in excess of the performance requirement. What it does mean is you need a quantitative discussion of that particular barrier or component of the barrier and to give you an example, we do that throughout the application.

I would like to use the upper natural barrier as an example and what we do in the application, quantitatively is provide the -- quantify the fraction of water that enters the system, as precipitation and eventually makes its way through the repository.

So we provide a fraction of the water that enters into the system, a quantitative analysis of intermediate measure if you will. We do that with other barriers as well.

So we provide quantitatively analysis of barriers of I think even components of barriers but what Nevada is arguing for is not that.

What Nevada is arguing for is take these away and see what the impact is on the ultimate dose.

And that is essentially imposing a quantitative requirement on individual barriers to demonstrate their contribution to the ultimate dose standard.

If you read these two pages.

>> JUDGE WARDWELL: Why would you not want that

that? That's what the Commission was asking for. We want to make sure it is not dependent upon one barrier.

>> JUDGE WARDWELL: Let me finish my question.

Wouldn't you and DOE want to know whether or not the drip shields are contributing 99 percent of the protection of that and all the other is just miscellaneous noise that yeah, we got an upper natural barrier and yeah, they see the relative amount of water that comes through but in fact if that barrier does not work, it does not matter because we got the drip shields. If the drip shields don't work and we lose 99 percent of the protection, isn't that what the Commission wants the applicant to assess so that consideration can be given for giving redundancies or higher QA standards for getting that in place, all the other actions that you want. That's common engineering practice.

>> MR. SILVERMAN: My understanding is that is not what the Commission want. And based upon --

>> JUDGE WARDWELL: Where the barrier is not wholly dependent on a single barrier.

>> MR. SILVERMAN: For meeting the performance objectives to the best of my knowledge and again, I will find out make a correction if I'm wrong, we have not done that but we have relied on the system of multiple

barriers to demonstrate compliance with the performance objectives. And if you look at these two pages carefully, we got that one sentence, in the context of multiple places, where the Commission says, and they are; should NRC set a quantitative limit that is a subsystem requirement for specific barriers that make up the repository system? And they go on to say the final rule adopts a single quantitative performance goals for individual protection and separate limits to groundwater protection, final rule does not place quantitatively limits on individual barriers.

They go on and on.

>> JUDGE WARDWELL: Isn't that merely a statement that we got performance specs here and not design specs with regard to barriers? It has nothing do with neutralization.

>> MR. SILVERMAN: It is a statement for the overall system, not for individual barriers but that is a separate issue from whether or not you need to evalaute what is the relative importance of each barrier so we can adjust our whole design and construction program to address any sensitivity associated with the magnitude of the protection provided by any one barrier.

>> MR. SILVERMAN: Again, I strongly suspect that there was sensitivity analysis done on the TSPA and on

the analysis to various parameters and assumptions to test those sorts of things. I don't know the details of that.

>> JUDGE MOORE: But isn't the sensitivity analysis installation essentially a neutralization analysis if you're applying it to the drip shields?

>> MR. SILVERMAN: No, does not apply that at all. Destruction, voiding eliminating.

That is the drip shield and that is what they are asking to take away.

>> JUDGE MOORE: Let's back up so I'm clear 63.113 requires multiple barriers.

>> MR. SILVERMAN: Yes.

>> JUDGE MOORE: And it's clear from the mystery of this regulation as well as the philosophy of Commission over time that defense in depth and multiple barriers are hand mates.

That being the case, why is 63.342 the only test of the multiple barrier system?

>> MR. SILVERMAN: Well, in the case of this legal issue, the question was raised about whether we must consider the failure of all the drip shields.

In my view --

>> JUDGE WARDWELL: The absence of all failures of Well, because that implies and I believe that's the

word.

>> MR. SILVERMAN: No, it's both.

>> JUDGE WARDWELL: because one implies that things are actually failing.
They are not postulating that all these drip shields are failing, are they?

>> MR. SILVERMAN: Yes, I think they are.

>> JUDGE MOORE: Before we pass on to another matter, you in your briefs note that DOE did do an analysis under 342 with respect to a certain --

>> JUDGE RYERSON: There was a second one.

>> MR. SILVERMAN: Yes. It was I believe there were actually three. We postulated the failure of all of the drip shields in at least three situations certain seismic --

>> JUDGE MOORE: And you used that word in your brief but then when I tried to parce it, it appears to me that not only 11,000 of the drip shields were removed in any of those were calculated as failing in any one of those analysis; is that not correct?

>> MR. SILVERMAN: My understanding was that there were certain scenarios where we failed all of the drip shields, certain seismic scenarios, certainly new and proven scenarios.

>> JUDGE RYERSON: What did those analysis show?

>> MR. SILVERMAN: I would have to ask my technical

people that but that goes back to the 63.342 question and that is that we did that because we applied the probabilty consequence critera of a seismic event or igneous event with general corrosion and we concluded that those scenarios met the criteria for -- it was possible, probable, or the consequence limits and therefore, included those as FEPs and analyzed those situations. And our view is that's our obligation was to do it as a FEP if consequence probabilty criteria drive you there.

>> JUDGE MOORE: The igneous event, did that not deal with a small percentage because of the footprint of the repository and --

>> JUDGE WARDWELL: Did it not only evaluate that zone and that drip area where you anticipate volcanism activity?

>> MR. SILVERMAN: With a 30 sound pause, I can ask. I don't know the answer to the question.

>> JUDGE MOORE: I believe we will come back to it. I think I interrupted you.

>> MR. SILVERMAN: I'm not sure that you did. I've been given a signal like this, (indicating) it was all and if that's wrong, I will correct that on the break.

>> JUDGE RYERSON: But I'm a little confused. Would the total failure of the drip shields be different from the absence of drip shields for the purposes of

analysis, or is it the same thing?

>> MR. SILVERMAN: I imagine it's the same thing.

>> JUDGE WARDWELL: Except in a philosophical discussion of whether or not Nevada is hypothosizing whether or not that all the drip shields will fail.

I think what they are trying do is say let's evaluate the relative potential and influence of each barrier. Is that a fair assessment, Mr. Silverman?

>> MR. SILVERMAN: On the ultimate dose, I think that's what they are trying to say, yes.

>> JUDGE WARDWELL: Why does a FEP screening analysis or how does a FEP screening analysis to choose the evaluation of whether or not you are achieving defense indepth. It seems to me that provides a pretty good argument--

>> MR. SILVERMAN: They would include FEPs for the seismec and general corrosion so therefore, an analysis was done.

>> JUDGE WARDWELL: My question is why does that analysis which is an anticipated failure based on a specific type of activity have anything to do with evaluating defense indepth which is according to Nevada, in a protection mechanism against unanticipated failure? It seems like they were pretty persuasive that there were two separates analysis and that reactor where we

get back to Judge Ryerson's comment about the difference between the absence --

>> MR. SILVERMAN: I guess we fully recognize the importance of the concept, the centrality in many forms. We have applied the defense indepth concepts. Nevada's position nearly takes the general principle of defense indepth and draws -- that is something that's a requirement. We need to go into the design and extend that without any reference to the regulatory language and inconsistent with these two pages that are critical of the statements of consideration to say that we have a legal obligation to assume away those drip shields. And I don't believe that will follow from the regulation. They have not pointed to anything specific in the regulation that supports that position and the statements of consideration do not support that consideration.

>> JUDGE RYERSON: Not to belabor my point, if you will help me to understand Mr. Silverman. In some scenarios as required by 342, you have postulated the total failure of the drip shields. And I take it in those scenarios, the dose limits are still achieved?

>> MR. SILVERMAN: Yes.

>> JUDGE RYERSON: Then I'm somewhat confused. If you can postulate the total failure of all drip shields

under any scenario, then, and still achieve dose limits. Then why -- I'm not sure what the difference is in postulating the absence of drip shields under some -- -

MR. SILVERMAN: It may end up all being more of an academic exercise but our position was that if the FEPs screening criteria drove you to a conclusion that you could have a failure of all the drip shields, we had a legal obligation to analyze that and look at the ultimate effect on dose. But in the absence of that, there is no requirement based upon multiple barriers and defense indepth to do any further analysis.

Gerald but if you've already done it three imes, it is an academic question.

>> MR. SILVERMAN: At least to that extent, yes, sir.

>> JUDGE MOORE: To go to Judge Ryerson's question, it's seismic, igneous, or corrosion, or that matter, Tinker Bell.

>> MR. SILVERMAN: For that matter, your point is well taken. If they are gone, they are gone.

>> JUDGE WARDWELL: Let me rain on some parades here: if in fact one barrier accounted for 99 percent of all the protection, would you as DOE not want to know that?

>>MR. SILVERMAN: I imagine that we would.

>> JUDGE WARDWELL: How have you done that?

>> MR. SILVERMAN: Well, I have to talk to our technical people about how we did the PSA.

>> JUDGE MOORE: And while you're shoring that, add this to the list; you said there were three barriers, two natural, and one engineered barrier system. And barrier system, I then take it incorporates both the waste package and accouments as well as the drip shield. Those are not separate entities.

>> MR. SILVERMAN: They are separate but not.

>> JUDGE MOORE: Single system or multiple system.

>> MR. SILVERMAN: My understanding is and DOE's interpretation is that we are -- they are in terminology of rule, there are three barriers and multiple components to them, the upper natural barrier, engineered barrier system which has multiple components and the lower natural barrier.

>> JUDGE MOORE: So one engineered and two natural barriers?

>> JUDGE WARDWELL: Systems correct, there are three systems.

>> MR. SILVERMAN: Yes.

>> JUDGE WARDWELL: To refine my question again, would not DOE be interested if one other components of one of those system provide the vast majority of the

protection would it be of engineering interest to you as applicant?

>> MR. SILVERMAN: We will answer you question by before -- I guess I would like to add one other thing and that is that Mr. Malsch indicated if I could draw a distinction with respect to the NEI case and we think the NEI case is dispositive on this as well. We disagree with this interpretation. The NEI case involved a question about whether the NRC regulations as written violated the Nuclear Waste Policy Act and the particular question was whether there had to be specific limits for specific barriers. And the Court ruled that if the NRC regulations satisfied the statute. And now, he is saying well, the regulations require something different.

And they require a quantitative analysis. As regulations is written, of the individual barriers or some subcomponents against the dose standards, the crew ruled against that and it is the same issue.

We don't see the distinction that it draws.

Whether or not performance specifications are adequate as opposed to design specification though?

>> MR. SILVERMAN: There is a section of the case that deals specifically with multiple barrier claims.

>> JUDGE WARDWELL: In regards to whether or not a

performance specification for them was sufficient or whether or not there was a need for them to come up with a specific design specification.

>>MR. SILVERMAN: Well, the argument is stated as follows: This is the Court speaking. Nevada's next argus that NRC violated the WPA requirement that a repository incorporate multiple barriers. By failing to include "any specific requirement for any barriers to provide any degree of protection that substantially independent of the others."

They were not providing safety redundancy, a term Mr. Malsch used today by specifying minimum performance standards for each of the multiple barriers Nevada maintains, NRC declines the multiple barriers requirement with any vitality. We disagree. And they go on to explain the rationale.

>> JUDGE MOORE: Thank you, Mr. Silverman. NRC staff.

>> MS. BUPP: Magaret Bupp from the NRC staff.

>> JUDGE MOORE: How many barriers are there Ms. Mr. Bupp? How many combined license opponents?

>> MS. BUPP: As DOE screens in the application, there are three barriers, upper, lower and the one engineered barrier system, it actually consist of several components, including the drips themselves and

as they are carved out of the rock, is my understanding the drip shields which are at issue here, the waste package, the waste and a couple of other components that are not considered important to waste isolation. I believe it is sort of the -- I'm not a technical expert but they are the supports for the waste packages, and a couple of the other components inside that are used to hold in all the other components.

Any other questions?

>> JUDGE MOORE: You done good.

>> MS. BUPP: I think the issue here is whether -- it is not whether or not DOE would ever have to consider the failure of all the drip shields. It's whether the regulations require DOE to do so outside of the performance assessment.

I think what we have to do first is to look at the language of 10 CFR 64.115 which sets the requirement for multiple barriers and specifically look at Part C of that regulation which requires the technical basis for the description of capability of the multiple barriers to be consistent with performance assessment.

The question there is what is consistent performance assessments mean. It means that DOE is required to accurately reflect what could happen based on reasonable probability. Clearly the reasonable

probability as set by regulation is a chance of 10 to minus 8, 1 in 1 to 100 million changes.

So the question is not -- so DOE must consider all challenges to the barrier system whether it's the natural barrier system, engineered barrier system and how they work together and even how it works together that are within this probability.

Anything outside of that probability does not need to be considered and nothing in the regulation that requires things outside of this probability to be considered.

>> JUDGE MOORE: It is your position that 63.342 constrains 63.113 local barrier requirement?

>> MS. BUPP: Yes, Your Honor.

>> JUDGE WARDWELL: Under 115(c) as you said, the technical basis for each barrier capability shall be based on and consistent with the technical basis for performance assessment. You fail to mention that. It goes on to say that used to demonstrate compliance with 113(b)and (c). And 113 (b) at least say that the engineered barrier system must be designed so that working in combination with a natural barrier's radiological exposures to a reasonable remedy are within the limits.

How does the applicant show that the engineered

barriers are working in combination with those without seeing what the relative impact of those are? Would you describe -- another way to ask the same question is, if one of the barriers provided 99 percent of protection and the other two only one percent, would you consider that to be be working in unison with them, or in fact, dominating them, just the opposite. The others are not needed.

>> MS. BUPP: I think what they have to show, they have to show all of the reasonable stresses that the barrier system could be subject to and how the barrier system will respond to those stresses.

If there is a reasonable stress whereby one portion of the barrier system would fail, and then, it would not be able to provide a assurance for the rest of the barrier system, then, yes, you're right. If one is providing 99 percent of protection for one stress situation, then, that is something you would want to know but you still have to look at it in terms of what are reasonable stresses that could face -- that the repository could face.

And the failure of all the drip shields absent something like the igneous event or seismic events, or any other events which is within the 63.342 probability is not something required by the regulation. And the

Commission specifically considered whether or not they should require an individual barrier by barrier assessment and they did not. They had two opportunities to do so both 2001 and again --

>> JUDGE WARDWELL: Back in regards to evaluating whether to require design specifications in the regulations or whether to require performance specifications? Wasn't that in the context that they were doing that?

>> MS. BUPP: It was related to the decision as to whether or not they should require more specific prescriptive Part 60 on design specifications or whether they would move to the more performance-based Part 63 requirement which is what they did.

But I think it is also important to look again in the context of when they were making the move from Part 60 to Part 63, the consideration was that if you look in 64 Federal Register on page 8649 --

>> JUDGE MOORE: Bear with us while we get that. That will give you some time too.

>> MS. BUPP: And I'm looking specifically at the bottom of the middle column on 8649 of 64 Federal Register.

>> JUDGE MOORE: Go on. I won't be able to get that far.

>> MS. BUPP: I'm paraphrasing a little bit for time but geologic disposal of high level waste was predicated on the expertise that a portion of the geologic setting applied to a barrier both to water reaching the waste and to dissolve radionuclide migrating away from the repository and thus, distribute to waste isolation.

However, and so this sort of points to the Commission considering that being made a barrier is the geologic setting.

There is a reason why the waste is being buried under a mountain. However, there are uncertainties with regard to geologic record and performance of the geologic record. Those concerns can be addressed by use of a multiple barrier system which consist of both the natural setting and an additional engineered barrier system.

The Commission wanted to have redundancies to protect against the uncertainties that are implicit in using the geologic setting as the main barrier. And so the engineering barrier system is there to work with the geologic barriers to provide extra confidence and to protect against some uncertainty.

It was never designed that -- never considered that either geologic barrier or the engineering barrier

working on our own would provide 100 percent confidence. The idea is that they work together and that if one particular that challenges engineer barrier, you have the geologic barrier system there to provide some extra protection.

And if there is an event that challenges the geologic barrier system more, then you would have engineered barriers to provide a system of checks and balances. One is designed to be two redundant systems.

>> JUDGE WARDWELL: Let me chunk this down a bit. Maybe this will help. It seems to me your discussion of 342 went back to again a failure analysis in regard to anticipated failures and FEPs that might be screened out from that.

If in fact, one of the components of just the engineered barrier system provided 99 percent of the protection -- that the engineered barrier system provided on its own, wouldn't you as a reviewer want to know that so that you could then -- that would influence your evaluation of a number of things including QA programs, everything else associated with that design just by the mere fact that one component of that engineered barrier system provides the bulk of the process? And in fact, that's what the Commission wanted in their statement of considerations of 2009, to assure

it was not wholly dependent upon a single barrier.

>> MS. BUPP: While that information would not necessarily be dispositive, I think you're right it would be useful information for a technical reviewer -- statement.

>> JUDGE WARDWELL: And doesn't the statement of consideration ask you to look at that by saying you want to judge whether or not it's wholly dependent and that reflectively I think in the wording of 113 A through C by saying they have to assure that working in combination with each other?

>> MS. BUPP: Yes, again, in combination.

>> JUDGE RYERSON: But don't you have sufficient information from the scenarios that were undertaken on the 342, igneous, total failure of the drip shields; don't you know at least from that that the drip shields are not 99 percent of the protection? If you can still meet the dose standard with a total failure of the drip shield, it seems to me that chronological, that it's not the whole thing.

Obviously, it's not even apparently necessary although that is not a requirement.

>> MS. BUPP: The staff has not completed its technical review of what DOE has submitted and I'm not the technical expert who will be completing the review.

But I think you're right from a logical standpoint, if in fact DOE has provided sufficient information with regard to scenario under 342 that has analyzed, that does give the technical reviewer the information it needs to know that there is not any one component of the barrier system that is 99 percent or 98 percent.

>> JUDGE RYERSON: I take it if there were three barriers, you would be very unhappy or concerned if the top barrier, the geologic barrier existed. The middle engineered barrier was made of cardboard and the bottom barrier was geologic and somehow, the TSBA showed that in combination, those barriers met the dose standard. That still would not be I take it an acceptable approach.

MS. BUPP: The idea of the multiple barrier system is to have robust barriers but the idea is not that each individual barrier should be sufficient robust barriers but the idea is not that each individual barrier should be sufficient to provide all of the protection.

>> JUDGE RYERSON: I guess my suggestion -- maybe the question should go to Nevada more than you but my suggestion is, don't you have enough information to show that that engineered barrier is not anything like --

MS. BUPP: I think --

JUDGE RYERSON: Isn't that enough?

MS.BUPP: Honestly I can't say whether the staff agrees with that statement or not but you can rooming DOE to confirm this but from reading the Department of Energy briefing and DOE at least from saying they have provided enough information to show that.

>> JUDGE MOORE: Thank you Ms. Bupp.

Mr. Malsch, up wanted a brief rebuttal.

I would like to ask Mr. Silverman one question in between if I may.

When I asked about the analysis that DOE had done, one of which was the igneous event and it ended up in the removal of all of the drip shields, I take it you were peeking if I understood you correctly and remember my question correctly, we were talking about a component of the engineered barrier system not the entire engineered barrier system failure.

Would your answer remain the same?

>> MR. SILVERMAN: Yes.

>> JUDGE MOORE: Mr. Malsch. I just want to clarify one important point: As DOE informed you, in various maybe 2, maybe one FEPs analysis, we don't end up with all the drip shields failing .

They only illustrate something that DOE failed to tell you and take this as an example, corrosion as a process. In DOE's corrosions analysis FEPS analysis, it

turns out that in fact, drip shields fail from a combination of corrosion and rock fall after many tens of thousands of year, maybe 200,000.

So while it is true that they did FEPs evaluation that resulted in the eventual absence of drip shields, they did not evaluate the failure of behavior of repository without the drip shields from the very beginning. So to take my example, their corrosion FEP analysis said nothing about the -- protecting the public health and safety in the first hundred thousand years so it is just not the case that DOE's FEPs evaluation is the same thing as neutralization analysis which we are asking to be done.

They are entirely different. And that is even apart from the fact that by its very nature, the FEPs evaluation evaluates events and processes that are anticipated whereas the purposes of defense indepth -- the purpose of he defense-in-depth is to deal with issues and processes and events that could not be anticipated and therefore, were not included in the FEPs evaluation.

>> JUDGE RYERSON: Do you agree with Ms. Bupp's statement that it is not necessary that 2 out of the 3 barriers be sufficient to meet dose limits? Obviously, they are all three in concert must meet dose limits.

Each of them must be to some degree robust and significant but do you agree with Ms. Bupp that you don't have to have for example, achieve ability with 2 of the 3 barriers?

>> MR. MALSCH: As I said, I don't want it is that specific, if you do a document neutralization analysis, the importance of the barrier so you can be really really sure that they were functioning as proposed, and they were not be vulnerable to unanticipated failures.

That does not mean any one or combination of barriers must function or comply with the standard but I do think that the defense-in-depth evaluation give you insights that you really need to know before you license the repository.

JUDGE MOORE: Thank you Mr. Malsch. Let's move on to Issue 9.

>> MR. MALSCH: Issue 9 deals with plans for retrieval of ultimate storage of radioactive waste.

The Commission's regulations in Part 63 at of 3.21 (c)7 requires that the application require a description of many plans for retrieval and ultimate storage of radioactive waste.

We are brief in our reply brief, this regulation must be read to require the retrieval plans exist and both DOE and staff disagree.

First of all, the most natural reading of the regulation is that the plans must already exist because we can't be describe plans that don't exist.

>> JUDGE MOORE: Mr. Malsch, you can't describe something anticipated as to why you have to retrieve the waste. Would not the plan depend on what the challenge is?

>> MR. MALSCH: It could depend on the challenges but going pretty far in advance of describing the plan in terms of expected challenges and do the best you can. But we have here an application not even remotely resembling a plan.

>> JUDGE WARDWELL: And I guess I don't fully understand why you feel there is a plan needed before you describe it.

>> MR. MALSCH: One technique is to develop a plan is first to scope out the types of things that you're going to put into it and then get into the details of writing it. That's one way to do it, a storybook if you will and that's a perfectly acceptable method of doing such a thing. And one could argue that there is no need to spend the time to get into the nitty-gritty detail, just crossing Ts and dotting the I's. I think one could make that argument but is not an argument that the

Commission promulgated in Part 63.

>> JUDGE WARDWELL: And will you tell us why.

MR. MALSCH: The Commission says in the rulemaking in the notice of final rulemaking at page 55743, the Commission says specifically that the retrieval operation would be an unusual event and involved in extensive operation and then as such, DOE can't expect that the plans and procedures in this area will receive extensive detail by the NRC staff as a part of the construction authorization review.

So I think the Commission could not have been clearer. The plans and procedures themselves are not merely description of them reviewed at the construction authorization stage.

Obviously, they must exist at least in some fairly complete fashion for them to review in the first place so I don't disagree, Dr. Wardwell that the regulation could have been worded differently and for the description at that stage so that is apparently not what the Commission contemplated.

What is interesting here is that in 6321, there is reference made to some 14 different kinds of plans and programs.

In 7 of these, the regulation provides for the application containing description, and another 7, the

regulations are clear that the pleadings and procedures themselves are available.

I can't clearly detect any rhyme or reason behind why in some cases, a description would be sufficient and places a plan itself would be necessary.

A good example of the Commission's I would say unfortunate use of the word description did not mean that is continue quality assurance area.

The application says specifically that the application shall include a description of the quality assurance program.

But clearly, the Commission is going to be reviewing the quality assurance program itself because it's applying during construction so this is an example where you have a plan that must be reviewed to issuance of construction authorization if the application requirements speak in terms of a description.

So I think it is difficult look at the language of the regulation. You need to go regulatory history indicates clearly the Commission anticipated staff review plans for themselves not just descriptions of plans.

>> JUDGE MOORE: Mr. Malsch, do you have procedures before you have plans? Because the legislative regulatory history that you just quoted say that is the

Commission DOE can exact expect that its plans and procedure will be reviewed at the construction authorization stage.

>> MR. MALSCH: I'm not sure the Commission intended this to be any fancy distinction there between plans and procedures and I would say the plans would be clear procedures.

>> JUDGE WARDWELL: But with that statement then an applicant could submit procedures for retrieval and -- retrieve value and meet what is intend on the state of consideration could it not?

>> MR. MALSCH: It says plans and procedures it need to say both to the extent there is any distinction between the two.

I'm not sure there is but that particular excerpt talks about the Commission plans and procedures.

>> JUDGE WARDWELL: But does it say for every item the plan and the procedure needs to be submitted.

It means total that some may have plan and others may just have procedures and that is another way of interpreting that sentence?

>> MR. MALSCH: I'm not sure about that. I would say that both must be evaluated before the construction authorization was issued.

>> JUDGE WARDWELL: That sounds pretty redundant if

that applied to every submittal need -- that it uses but that implies to me that some issues will have plans submitted and other issues will have procedure only the procedures of the plan submitted. And that yes, for the total application, you must review all the plans that are submitted for those that need it and all the procedures for those that don't require the full that is not consistent with what 21 seems to go back and for the between description and plans.

>> MR. MALSCH: It does jump back and forth but I would that plan and procedures must be evaluated in tandem, in concert with each.

>> JUDGE WARDWELL: Just kind of a coloileal phrase.

>> JUDGE MOORE: Regardless Mr. Malsch of which interpretation, one were to accept DOE's and the staff's or your, there is no way to reconcile the regulatory language of description of plans and the statement considerations regulatory history that you cite.

They are that polar extreme.

Description is regulatory language, regulatory history is essentially say as we do not have the plans not description of plans.

You can't reconcile both under either interpretation.

>> MR. MALSCH: I think you can reconcile them by

saying that the plans must exist but the application need only construction activities than destruction of the plan so as to avoid a need to amend the application when there was a minor plan themselves.

>> JUDGE WARDWELL: Does that resolve the legal question?

>> MR. MALSCH: We do not intend that application must include or include by reference plans for retrieval but what we do say is they must be available for review as part of the review of the description.

>> JUDGE MOORE: Thank you, Mr. Malsch.

DOE?

>> MR. SILVERMAN: Thank you. Don Silverman for DOE, Your Honor. Just a couple of points and any question you have, one of the first things that Mr. Malsch said was and I'm basically quoting him, "you cannot describe the plans that don't exist as patently incorrect" and excellent -- two excellent examples. And the first one is decommissioning plans for reactors for other facilities. What happens with almost every application that I have seen, whether it's reactor or fuel cycle facility is when they file the license application, either for possession of use license, or combined plans. If it's here in the Richmond facility, there is a requirement to provide a general description

of the decommissioning plans and there is a general description of the basic concepts of how they can envision doing the decommissioning at the point in time that in the years in future when it is required.

It is not and there is no requirement and it is clear in the regulation and because it is explicit in the regulation to submit or even have an actual decommissioning plan until the time that you're getting close to license termination, you know what your contamination is, you know where it is, what it is, what your facility configuration is and the rules are explicit that when you develop your actual plan.

Seems to me that retrieval plan in this context is very, very similar to that, you don't know what going to happen or even if you are going need to retrieve that waste until many, many years down the line. So the notion that you can't describe the general concept of the plans without the plans being in place themselves is really long. In that context, another context is the notion of procedures.

Most applications say we will have the following kinds of procedures, type office procedures but until the application is granted in the -- before the licensee starts operating at least with respect to operating procedures most of those procedures often are not even

written.

So I have disagree with that.

>> JUDGE WARDWELL: Doesn't receive and possession license have to occur fairly shortly after construction begins, if I remember correctly. But correct me if I'm wrong, but isn't there a stage sequence of building needs and then, starting to fill some of the tunnels with the rest of it being constructed. So in fact, shortly after -- by shortly, less than 100 years, say it takes 100 years to build all those drips, well before those 100 year, you would in tens of years if not less than ten of years waste will be started to be placed in there, correct?

>> MR. SILVERMAN: It will.

>> JUDGE WARDWELL: And at that point before that happens, one will have to have a retrieval plan in place to know how to pull it out or immediately after.

>> MR. SILVERMAN: Our position Your Honor is the regulations State our obligation is to design the repository and this is a quote, "preserve the option of retrieval. It is not to have the plan specifically and we have done that -- the plans specifically for exactly how it will be done. And we have designed the facility to preserve the option of retrieval, both.

>> JUDGE WARDWELL: When do you think the retrieval

plan needs to be in place?

>> MR. SILVERMAN: The retrieval plan needs to be developed at the time that it is determined -- if it is determined that retrieval is necessary, and that's not necessarily the case that it will even be necessary and then, a specific plan would be prepared on how that would be done.

That doesn't mean once again we haven't designed the facility to preserve that option. That's subject to NRC staff review. And we have done. We have done that.

>> JUDGE WARDWELL: So is it needed at the receive and possession stage?

>> MR. SILVERMAN: No.

>> JUDGE WARDWELL: If it isn't in there, how does one evaluate that you have preserved the ability to retrieve without that plan, without the detailed plan?

>> MR. SILVERMAN: Through the review of the design of the repository. For example, the repository has been designed -- the transportation replacement vehicle, the vehicle that brings the waste into drips to able to move backwards along the rails. The rails have been designed to allow movement both ways.

The drips walls themselves have metal lining that runs I think somewhere 278-degrees from the top down the

side of the wall to protect the packages from rock fall which could impede the ability to retrieve that waste.

There are probably many, many other design features. Those are just a couple I know of.

So we have done that design. Staff is reviewing that design and that is what the regulations require.

And also, I would like to point out that the regulations typically specify the contents of the license application. They typically do not specify what needs to be behind that supporting that license application.

Remember, the issue here that Nevada is now arguing is that these plans should be available for review.

The NRC -- we were really wandering in a area, that has some NRC staff discretion here, we need to review the license application.

If there is additional information not in the license application that they need to satisfy themselves that preserve the option of retrieval, they can ask request for information which they have done. They can do site visits. They can have licensing meetings. And this is really what I think the forum in which these type of issues get resolved.

>> JUDGE WARDWELL: I got another quick question.

What is your interpretation of what this legal

question is that you're trying to address? What is the problem we're trying to solve?

>> MR. SILVERMAN: What is the problem? Either way Nevada says we have a legal obligation to have sitting on the shelf at the Department of Energy offices, a plan, a specific plan for the retrieval of the waste, as opposed to designing to ensure to provide some minimal expectation of assurance that we can retrieve.

We do not have the plan. We have a lot more than design. We have a lot of background documents we would not call those a plan themselves. So the legal issue is whether we have to have that particular document, a retrieval plan like an emergency plan or a decommissioning commissioning plan on the shelf available for staff review. And I can't think off the top of my head of a regulation that specifies that sort of thing.

Outside the scope of -- I could be wrong, I can't think of any at the moment but outside the scope of what needs to be in the L.A. Again, if it's not enough information in the LA, staff will ask for it.

If there is not enough information in the LA, the Intervenors can file a contention alleging that our description is inadequate. But those are the forums at which that gets addressed.

>> JUDGE WARDWELL: I could not pull out an Order or what the parties submitted as their suggested legal issue.

But I am reading one here that's highlighted and it sounds similar. I just want to make sure that does jog your memory to make sure I'm clear of what we are addressing here and this says the legal issue whether 6321 (c) 7 and 6331 allow DOE to submit in the license application, a description of its retrieval plans without having a full retrieval plan available for review.

Does that sound sufficient?

>> MR. SILVERMAN: That's exactly right.

>> JUDGE WARDWELL: So in fact it doesn't reference all the regulations, it references just two.

>> MR. SILVERMAN: That's correct. And we agreed with the State of the Nevada that while parties were free to argue any regulation in which the argument support of their position, the issue is those two regulations right there.

>> JUDGE MOORE: Thank you. Staff?

>> MS. BUPP: Magaret Bupp for the NRC staff. It's NRC's position that the legal issue is whether 10 CFR and 31 allow to submit description of retrieval plan without having a full plan available to review. The

staff position is that yes, DOE may submit a description of plan in the license application. That is what is required.

>> JUDGE MOORE: What does the Staff review plan say with regard to the plan?

>> MS. BUPP: The Yucca Mountain replay advantages first of whether the plans for retrieval packages are based on -- they are to whether the plans for the retrieval of is based on reasonable schedule provided in and can be implemented if necessary whether the proposed retrieval operations comply with requirement of performance objectives, whether the proposed alternative storage and retrieval of radioactive waste is reasonable and whether a reasonable schedule for fuel block arrangement is the big idea, the Yucca Mountain Review Plan and staff's review is whether DOE's retrieval plan ascribed is both feasible and reasonable.

>> JUDGE MOORE: How does the staff intend to comply with the Commission's direction and statement consideration that you will give extensive and detailed review construction authorization stage DOE's plans and procedures for recruitment?

>> MS. BUPP: I think first of all, we have to look at some -- what trouble some language of the words plans and procedures for retrieval without the qualifier

description of plans.

The Staff's view is that the actual language in the regulation controls and therefore, DOE is required to submit only a description of the plans. However, Staff must provide a full and complete review of that description, they must look at the description, and determine whether or not the description shows that DOE will be able to carry out these plans as they are described and whether and -- and also, you have to look at the staff is looking at in concert with the requirement many 63111E where DOE is required to design the GROA could we retrieve under reasonable schedule/so we looked at the DOE's design elsewhere and in the license application to make sure nothing than design conflicts with the feasibility and the reasonableness of DOE's description of the plans.

>> JUDGE MOORE: When does staff believe it will be necessary for DOE to actually for DOE to create the retrieval plan, at this point in time, staff not having to finish its review of the description of plans. I can't give a firm answer to that but it is possible that DOE could delay developing full plans and until the time that such retrieval becomes necessary, however, staff does have the ability of both the construction authorization stage and license receive and month site

specific ERMs stage to put conditions on both the construction or license easy and possess that would either require death to submit such plans and such at a certain point in time or would block any certain portions that must be included in the final to make sure the final plans will meet some primary level ascribed in the license application.

>> JUDGE WARDWELL: Could you describe your philosophy in license conditions? Specifically, do you believe license condition can be applied in make up for any insufficient application requirement?

>> MS. BUPP: No, it cannot. However, I think it can in a situation like we have at present, that may or may not happen for long time in the future. That will be the result of a very unusual condition. Repository is designed to hold waste. That is its purpose, retrieval of the waste would likely be due to some very unusual event and so it is difficult to put the retrieval plans firmly in place right now when retrieval could take place a hundred years from now and counsel for DOE's comparison for retrieva plans is an act of comparrison. They are both actions that could take place a long time from now and where there could be many intervening effects that could affect what is required.

So I think in this case, it would not by acceptable

to review nothing with regard to retrieval plans and put in the license condition that says please submit your plan at a later date but where we have a description of retrieval plan, where in concert with the description of the design of the repository, gives us reasonable assurance that such retrieval plan is reasonable and could be carried out in the future. I think it would be appropriate for staff to if necessary, put in some license conditions or some construction authorization condition that is would lock insert portion of the is description for retree value plan.

>> JUDGE WARDWELL: I assume license condition should by granted to meet any reasonable assurance standard required for the project to proceed safely?

>> JUDGE WARDWELL: You could not put a license condition -- cannot generate a license condition or an order for the application and the applicant to meet the reasonable assurance that public safety is being protected?

>> MS. BUPP: I think what you're asking, if you can put a license condition in place in lieu of the applicant making a showing that there is reasonable -- no, that is not.

>> JUDGE WARDWELL: That's just what I said, what you said but don't this fly a little bit in at least in

regard to notes I have and correct me if I'm wrong but I got here somewhere I throughout the 2001 Commission stages and promulgated rule stated that the retrieval plans would receive since staff's review as part of any construction authorization? Did I copy that wrong?

>> MS. BUPP: That is correct. And the staff is in the midst of reviewing the retrieval plan. As counsel for DOE noted, we have request for additional information.

>> JUDGE WARDWELL: So you have a plan?

>> MS. BUPP: We are in the midst of reviewing and where we felt there was more information that was needed, we have asked for request of additional information.

I would note, however, that the staff's review in this area is intended to be included in Volume II of the Safety Evaluation Report and so it is still -- we're still in the early stages of our review with regard to this issue.

>> JUDGE MOORE: Ms. Bupp, assume 55 years from now, DOE creates a retrieval plan in response to a challenge, Physical challenge. Would that plan require some kind of a license amendment when they actually produce it? And if not, how -- because it's going to be dependent on the hearing rights of those challenging an

application dovetail or not dovetail with that problem?

>> MS. BUPP: I think whether or not we -- the plan would require a license amendment sort of depends on what the plan actually says. If anything, the plan conflict with what's in the construction authorization for the licensee to point section then they will potentially come in for a planned amendment. However, there is nothing in the regulations akin to requirement they come in for plan amendment. For example, when they close the repository.

>> JUDGE MOORE: A description of plan is often required of a plan, to prepare a plan.

MS. BUPP: that is not entirely accurate here.

It is my understanding of what DOE has submitted, that it does include certain characteristics that the plan will have to meet.

It includes more of a parameter for the plan rather than a plan to do a plan at a later date. It is enough information that there are certain things that are included in the Safety Analysis Report.

There is information in the Safety Analysis Report that DOE has submitted as parts of its application so that is the type of information that's in the SAR that has the same status as it's not just a plan for a plan.

>> JUDGE MOORE: Thank you. Mr. Marlsch. Did you

want any rebuttal?

>> MR. MALSCH: Thank you. Just one point one brief comment. I think the question arises that whether if actual retreival plans are not to be reviewed at the construction authorization, then, when will it be reviewed? And I would just submit to you that there is three stages specified in Part 63 licensing regulation, construction authorization stage, and amendment to the license to effect the permanent closure of the repository.

The line reference made anywhere to re-evaluate the plan is in connection with the license application and construction authorization stage. No mention whatsoever in there about receipt or before the repository is permanently closed.

So it is a very good yes. If not now, when? Will there be plans to review the construction authorization stage because there was no specific provision made for reviewing them at any other stage.

>> JUDGE WARDWELL: Could one also interpret the lack of any definitive time that it be reviewed meaning that it would -- it could be reviewed at any time that it became apparently retrieval was actually needed and that the license would then have to be amended based on the review of that plan at that time?

>> MR. MALSCH: I don't think so because the Commission went to some effort to specify what particular things would be reviewed at particular stages and nowhere in Part 63 is there an indication that retrieval plans would be revealed at the time it becomes necessary.

>> JUDGE WARDWELL: But there should not be a place to that because it would not necessarily be a retrieval at the end construction authorization or at the end of construction for that matter and certainly not after closure.

>> MR. MALSCH: The real danger here is without having actual retrieval plans, you will not ever know for sure whether retrieval is actually feasiable.

The best way to evaluate whether the option of retrieval is preserved and feasiable, is to have plans and then compare the plans in the retrieval posture design.

>> JUDGE WARDWELL: But there is nothing in the regulation and those two specific areas, section quoted in the legal issue that says the plan has to be submitted, a description is sufficient at this stage.

Now, you can argue that the description is insufficient and then, you can get into the effectual component of this if you wish, but --

>> MR. MALSCH: I take the Commission at its word that would review the plan in detail before issuing a construction authorization. So we took that to mean that while the application need only contain a description, the plans themselves would believe need be there for review.

>> MR. SILVERMAN: Would you mind if I add one comment? I'd call your attention to 6345, amendment of license, says application amendment of a license et cetera and B, determines whether amendment will be approved. The Commission will be guided by the considerations that govern the issuance of initial license to the extent practicable.

Amendment provide there and remember some of the conditions that involved in the initial license of whether restream ability option is preserved.

And if there is a need for amendment to this, would have to consider that and furthermore, 6346, it specifically says particular activities require the license amendment unless specific authorized in the license, the license amendment is required for the following activities in any action that would make a place high level waste or the substantial increase the difficulty of retrieving waste, call those to your attention and like to briefly say with respect to

hearing rights, go back to to decommissioning plan analogy when a particular applicant files a license application. They do not file a decommissioning plan, as that time, there is no hearing right with respect to decommisioning plan itself, at the point in time when they are getting ready to terminate their license or and prepea the plan, they may or may not need a license amendment. Some licensees does and some don't.

If they do, there would be strict appropriate hearing rights and if they don't, there would not be those hearing rights.

JUDGE MOORE: Thank you Mr. Silverman. Instead of pushing on, I think we will adjourn for the day. Tomorrow morning, we will reconvene case management conference at 9:00 a.m. Push forward and upon completion of risk-informed assume the oral argument on Issue 10 and Issue 11.

Do any of the parties have anything further today for us before we adjourn? Then, we will adjourn and see you all at 9 o'clock in the morning.

Thank you.

(Whereupon the proceedings were adjourned)

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(JANUARY 27, 2010, ORAL ARGUMENTS CONTINUE)

P R O C E E D I N G S

Please be seated. We will resume with the oral arguments and we're on Issue No. 10. Mr. Malsch.

>> MR. MALSCH: Thank you very much, Judge Moore. Marty Malsch for the State of Nevada. Before I begin on Issue 10, I wonder if I could beg the Board's indulgence to call their attention to a technical fact bearing on issue 8. That's the defense's FEPs issue, which was called to my attention after the argument yesterday, so if I could only take a few seconds.

>> JUDGE MOORE: Go ahead.

>> MR. MALSCH: There was a discussion with regard to issue 8 regarding the possible equivalency between a neutralization analysis and a FEPs analysis. The additional fact was called to my attention is this and that is that in a neutralization analysis, you were doing a basically a conditional analysis in which the drip shield effect of it is felt in an unmitigated fashion on the

ultimate dose calculation. In a FEPs calculation, though, if you were examining a FEP, which leads to, let's say, the total failure of all drip shields, the effect of that failure, the ultimate calculation is mitigated by the probable FEP in the first place.

So, for example, imagine an igneious scenario which leads to the total failure of all waste packages, that would be felt in the ultimate calculation, but it would be discount by something on the order of a tenth of a minus 8 because you take into account the probability of the FEP in the first place. That was called to my attention after the argument, I thought it was important to tell the Board about this.

>> JUDGE MOORE: Thank you. Proceed.

>> MR. MALSCH: Issue 10 deals with DOE's drip shield installation schedule and what we believe is a -- a very visual and unique issue which it poses. DOE will not install its drip shields until the end of the 100 year --

>> JUDGE WALDWELL: Can I interrupt you right off the bat?

I remember when I was in graduate school,. Campadre in my room had a sign above his desk "this is a problem I'm solving, a simple

equasion." It always got him focused again. For 10, I am not sure of the problem we are trying to solve. What is your opinion of what is the legal question before us with this?

And can you enlighten me on how it became designated as a legal question?

Because I'm confused on how it did also.

I don't see it in your previous contentions, itself, when we're dealing with 162 nor can I really ascertain where it came from.

I've read where it's alluded to the Board that, omitted the contention, but I couldn't find that either. And I just need to be steered if you can help me with that before we get into any of your other details, if we could.

>> MR. MALSCH: Sure, I'd be happy to do that.

Our condition 10, if I recall, said because of DOE's delay of installation of a drip shield until the end of the 100-year period, post -- predisclosure period. After all, the 11,000 or so waste packages containing the wastes that have been in place, that that could not possibly be justified as safe. I think that's the essence of our contention.

The legal issue here today is -- is -- what I would call a subset of that, and that is that it cannot be legally justified as safe because by virtue of the schedule, a safety finding, which the regulations require be made before a license is issued to receive and in place wastes cannot possibly be made. I think that dovetails in with the -- with the contention as written.

>> JUDGE RYERSON: Was 161, Nevada Safety 162 admitted as a legal issue contention?

>> MR. MALSCH: No, it was not contention admitted legally as --

>> JUDGE WALDWELL: Nor did you have questions associated with it?

>> MR. MALSCH: That is true. That is true.

>> JUDGE WARDWELL: And when did this come up as a subset, this schedule? I see now what you are driving at with regards to the scheduled portion of it.

Can you enlighten us on when and who and how this rose up to the level it has?

>> MR. MALSCH: I'm trying to remember when we very first raised the issue. We certainly raised it in connection with the negotiation and discussion

of the legal issues; but we had raised it earlier -- and I'm trying to recall and I don't know whether we raised it in our reply or not. I'm sorry, I don't recall.

>> JUDGE WARDWELL: And to the best of your knowledge, the Board that admitted this -- the Board that was dealing with this, there was nothing in our Board Order that admitted it as a legal contention when we admitted contentions?

>> MR. MALSCH: You didn't designate it as a legal contention, really, one way or the other, that is correct.

>> JUDGE WARDWELL: I'm encouraged, I'm not completely --

>> MR. MALSCH: You are not.

>> JUDGE WARDWELL: I am partially eluded, but not completely.

>> MR. MALSCH: In any event, the premise for the legal question is precisely this, if DOE will not install its drip shields until after all 11,000 waste packages containing 70,000 metric tons of waste have been in place; and, thus, systems and structures necessary for disposal safety of the drip shields have been in place will not be installed until many years after the radiological hazards with which they

were designed to address have already been introduced.

As I said, this is a very unusual -- very unusual proposal. Commission policy and practice has always been that a safety finding must be made before any actual radiological hazards are introduced, not afterwards. That's why case-specific licenses are required in the first place. And that where complex facilities are involved -- and certainly this is a complex facility -- that safety finding required before the hazards are introduced always includes a finding that all of the systems and components necessary for safety have been properly fabricated and installed.

For example, you see that for faux power reactor licenses in 50, in 57 (a) (1) you see that for low power instances under Part 50, that's in 50.57 (c) and for some materials licenses, for example, plutonium processing facilities under 70.23 (a)(a).

So the issue here is whether Part 63 incorporates that same policy. If so, exactly how does it incorporate that policy; and if it does, are we required to do anything about it at all at this particular stage in the licensing proceeding?

>> JUDGE WARDWELL: The policy you are referring to in regards to the other licenses, is that -- is that merely a policy or is it truly a regulation that says, that thou shall not -- that there shall be a safety finding prior to any radiological impact means installed?

>> MR. MALSCH: Yes, in the three regulations that I cited, no license can be issued until that finding is made -- and that even applies to a low power license, for example.

The regulations I cited, we believe that Part 63 is consistent with this longstanding policy and practice. 63.41 (a) (2) requires that before wastes may be received or replaced in a repository, the NRC must find, quote, "That the construction of any underground storage place required for initial operation is substantially complete in conformity with the act and the application in the regulations." The wording is a bit awkward, but it must mean that satisfactory completion of any underground storage space required for an initial operation must mean satisfactory completion of whatever safety features are necessary for adequate isolation of the wastes that will be in placed as a part of the initial operation. And in our case,

that finding cannot be made, because all of the wastes will be in place before a single drip shield is installed.

>> JUDGE WARDWELL: When will -- when will the receive and possession license be needed in order to start receiving the wastes?

>> MR. MALSCH: It would be needed before any wastes could be received on the site.

>> JUDGE WARDWELL: What I mean is regards to construction starts, constructional license granted, construction starts -- it takes 100 years to complete all the -- all the tunnel drifts, as I understand it, or approximately; but at that same time, wastes -- there is a plan to -- at the -- as a companion activity start putting wastes in some of those drips already completed; is that not correct?

>> MR. MALSCH: That -- that is correct.

>> JUDGE WARDWELL: And receive and possession license would be needed for that activity; would it not?

>> MR. MALSCH: That is correct.

>> JUDGE WARDWELL: And approximately about how -- do you remember how much lag time there is? How many drips have to be constructed before they're going to start the companion, the dual duplicative --

not duplicative but the parallel -- duplicative or parallel activities at the site?

>> MR. MALSCH: I don't know. I mean, I'm not sure. it's a fairly long period. I don't know exactly how long it is. All right. Now, DOE -- .

>> JUDGE MOORE: The waste will arrive on the GROA years in advance to be in place underground.

>> MR. MALSCH: Well, some years in advance. I presume they could commence construction of the underground facility as soon as they receive the construction authorization and, in theory, they would be poised to begin in placing wastes very shortly after the above-ground infrastructure was available to allow that to be done. That would be in the very beginning, but I don't know how long the actual replacement operations would last.

Now, DOE's staff tell us that there's no problem here, because, first of all, they say, all that is required by way of a finding is a finding that -- that the construction of underground storage space has been completed. And I would submit, that's -- that's a silly meaning of the regulations. Obviously, what the Commission had in mind is not only adequate completion of the space, but also adequate completion of whatever facilities in the

space are necessary for safety.

For example, this would now include not only disposal safety but in placement safety. For example, this staff would be very interested, the Comission would be very interested in the safety of tunnel support or rails for in placing wastes or waste monitoring equipment, that would all be a part of this finding. So satisfactory completion of the space must be also satisfactory completion of necessary structured systems and components in this space.

Well, then the next response is, well, but, no, the only finding is that structured systems components necessary for initial operation are completed and we need not concern ourselves with the drip shields because they will not be in stored as a part of the initial operation. And that is true in any temporal sense; but in a more meaningful sense, I think the regulation has to be read to say that as the -- as the wastes are in place in the tunnels, one should be sure that there is completed construction of whatever safety features are necessary to assure that those wastes that are being in placed, in the initial operations will be in place with adequate disposal safety. And, in fact,

the regulatory history suggests of this initial operations, suggests it was added not to avoid having to address some safety question, but purely to allow DOE to begin disposal operations without excavating the entire repository drifts. So they can begin with just one tunnel. They wouldn't have to construct all the tunnels; but that doesn't necessarily excuse them from having necessary structure systems and components for disposal safety in place.

>> JUDGE RYERSON: But if 162 was admitted as a fact, as a factual contention and I guess I'm not quite clear how the legal issue, particularly as it's been framed here, how that necessarily advances or doesn't advance the ball. I -- this is the issue as it was agreed upon by the parties, I take it, and if we had an opportunity in our Order to modify it and we didn't avail ourselves of that opportunity; but as I look at it, I find it a little confusing. I think the issue we are arguing, and tell me if this is correct, is basically whether as a matter of law it's impossible for the Commission to make the required findings to issue a construction authorization in light of the drip shield installation plan? I mean, is that essentially the

issue?

>> MR. MALSCH: That's a fair statement of the issue.

>> JUDGE RYERSON: Why is that an issue of law as opposed to an issue of fact to be adjudicated?

>> MR. MALSCH: Well, I think -- I think if you read the regulations the way we read them.

The impossibility arises as a matter of law not as a matter of fact, once you accept the factual premise, that there will be no drip shields in place until after all the wastes are in placed in the tunnels. I think that's the factual premise. I believe that's what the application provides. I think once that's the premise, I think our argument flows from that.

>> JUDGE RYERSON: But the substantial completion section is not -- is only indirectly relevant, I take it, at the constructional authorization phase? I mean, we can't have substantial completion before a construction authorization?

So it's -- it's simply in anticipation of whether that would be possible, which strikes me as more of a fact question.

>> MR. MALSCH: Well, I don't think it's a

fact question, if what you are talking about is a legal certainty that a safety finding cannot be made at the operating license stage. I mean, I agree with you, in ordinary circumstances, one would not be concerned about that as the construction at the construction authorization stage. There is no construction to address; but if you know now at the construction authorization stage, that because of the schedule, a finding required for operation cannot possibly be made, then we would say it would be irrational not to take it into account now before DOE gets its license. Because otherwise the results would be DOE could commence construction of the repository only to be told by the NRC five years later, sorry, we can't give you a license and ha-ha, we knew that all along. I mean, that's irrational.

If this is the problem we think it is, it has to be addressed now and it can't be postponed until later. But it did occur to me, there is a factual issue that is associated with this issue and that is NEI contends that the drip shields are not necessary. So if NEI were to prevail on that contention then, then we don't need the drip shields. We wouldn't need to make any finding amount about satisfaction of the completion of the

drip shields. And the issue I guess is effectively removed. So that issue would remain, no matter what one, what the Board did with this particular issue; although, if the Board decided this issue in our favor, then NEI's contention would be a very important contention.

>> JUDGE RYERSON: Yeah. Well, I guess that's my concern. You're asking us to decide, as a matter of law, what might be the fact question five years down the road. If NEI were to prevail, for example, then, as a matter of law, the finding could be made, could it not, of substantial completion if the drip shields were turned out not to be necessary, hypothetically?

>> MR. MALSCH: Well, I agree with that, except we are dealing with the application as filed. And we filed contentions, if the application is filed. I think giums need to be made based upon the application as filed; and the application as filed has drip shields.

Now, if in response to some reconsideration, the DOE may want to undertake either after consideration of the NEI contention or otherwise, they want to either amend the drip shield installation schedule so drip shields are installed

as the wastes are in placed or they want to do away with it altogether, well, then they'd have to file an application, an amendment to the license application and we would deal with it then; but for now, we're -- we're dealing with the application as it stands.

>> JUDGE MOORE: Mr. Malsch, if -- as DOE states -- the drip shield is a component part of the waste package engineered barrier, then it can't possibly be installed until the other components of the waste package engineer barrier are installed, but if it is looked at, as DOE proposes, that it is one engineered barrier, one system with subcomponents, then that initial waste package has to be in place before you could put the drip shields in. Aren't you looking, especially with regard to your argument about what the word "space" in 63 -- I believe it's -- 41 means? It's a physical impossibility under their definitions to put the drip shield in before you put the waste in place?

>> MR. MALSCH: Well, I think the time difference is in that respect almost trivial. I mean, you -- you would be installing the waste package and the drip shield almost simultaneously. I don't see why things can't be engineered in that

manner. And if that's the way it's done, then the finding would be made, there wouldn't be any problem.

>> JUDGE MOORE: Why isn't it being done that way?

>> MR. MALSCH: Because DOE is proposing to install all of the waste packages before installing any single one of the drip shields.

>> JUDGE WARDWELL: And -- and the reason for that, is it not, is to maintain ability for retrieval, exactly, if I recall?

>> MR. MALSCH: I don't know what the reason is.

>> JUDGE WARDWELL: Right now, the drip shields will not be installed. They'll be installed all at once after all the waste packages are installed, even though waste packages will be installed sequentially while other drifts are being excavated.

>> MR. MALSCH: Right. Right.

>> JUDGE WARDWELL: Something you said may have confused me a little. Is it your position now, there are no factual issues left in 162?

>> MR. MALSCH: Not if the Commission decides this issue in our favor. I think if they decide this issue against us, I'm not sure if it

would remain a factual issue other than NEI contention. But I think it would be an important policy question for the Commission to address as to whether they would want to NEI to contemplate this highly unusual situation. I mean, for example, if the Board should decide that, yes, we agree that it would be an impossibility of making this operating license finding but because of the two-stage licensing process, it isn't necessary to look at that now. I think the Commission might want to look at that even as a policy matter and decide whether that makes any sense. I mean, among other things we have discussed in our Briefs, DOE's suggestion that this matter could be handled by a license condition; that is to say, you don't have a license to receive and possess would be issued on condition that all of the 11,000 drip shields would be installed 100 years from now. And we raised I think what is the very important question of exactly what would be the effect of such a license condition?

I mean, if the -- if the great, great, great grandson of the current NRC inspector of Yucca Mountain were to inspect the site prior to site closure and happen to notice there were no drip shields and ask the DOE official on site, you know,

"What's going on here?" And was told, "We're really, really, really sorry, we had every intention of installing them. It turned out we just couldn't." What would the NRC be in a position to do now with all the waste packages in place?

I mean, in theory, we -- obviously, a civil penalty would do no good. It would simply pass treasury monies from the treasury to DOE to NRC back to the treasury. It wouldn't address a safety problem. NRC's ability to enforce license conditions is rooted upon its fundamental authority to revoke licenses and to order divestiture of the materials. In this case, that would mean orderly retrieval. But as we pointed out in our Briefs, that would be a very difficult order to issue because it would entail a balancing of the risks to workers and maybe others associated with the retrieval operations associated with the risks to the citizens of Nevada with a repository with no drip shields and possibly in violation of the EPA standards. I don't know what the outcome would be of that; but it could be that Nevada is stuck with a repository that's in violation of the EPA -- EPA rules. So I don't think the license condition which -- which DOE has proposed is by any means a

satisfactory answer to this problem. I think this is a real serious problem with DOE's proposal. I think it should be addressed now, because, otherwise, what is the purpose of a construction authorization proceeding if not to examine the possibility of real serious problems with preventing an operating license from being issued in the first place. So it is no answer to say, oh, this is just a two-stage licensing process.

>> JUDGE MOORE: What happens to NEI's contention if your position were accepted?

>> MR. MALSCH: Well, if our position were accepted, that would be the law of the case. Then we could -- if NEI presumably wishes to go forward -- litigate that issue. In which case I suppose it would be moot. If DOE then also filed an amendment to its license application which, if given, no indication it would do so. So I think we have to deal with the application as it is currently filed and that is with the drip shield installation schedule as is currently filed. Even if DOE should prevail in its -- in its contention, that doesn't require the DOE to amend its license application. It could still go forward on the drip shields. If it amended the license application to eliminate the drip

shields or to install them as the wastes were in place, then that would effectively moot this issue; but it hasn't done so or given any indication that it would.

>> JUDGE WARDWELL: It's my understanding DOE doesn't exactly agree with your legal interpret -- your definition of the legal issue in this contention; is that correct?

>> MR. MALSCH: I think we have a disagreement as to whether it's in the scope of the contention.

>> JUDGE MOORE: Okay. Well, we'll ask them as they come up for their opinions. Thank you, Mr. Malsch.

>> MR. MALSCH: Thank you.

>> MR. SILVERMAN: It's still morning. good morning, Your Honor.

Don Silverman with the Department of Energy. Before we get into our Petition and my responses to Mr. Malsch, I want to go to the specific question that Judge Wardwell asked at the beginning and I think Judge Ryerson followed up on with, which is: What is the legal question?

What's the problem?

And where did this all come from?

And in particular, I think you were a little befuddled -- correct me if I'm wrong -- with respect to the fact that you didn't see a clear relationship to the legal issue in the contention and I would just like to make clear, we did not agree to this language in this contention. We worked very closely with Nevada and agreed on almost every single contention; but in this particular one, when we filed our joint stipulation with the Board, we specifically said Nevada and DOE disagreed with respect to the nature of this legal issue, raised in this contention and we'll file separate views. We filed separate views.

The essence of those separate views were, Nevada is arguing that the pre-operational findings that are required by 63.41 (a) need to be addressed now. And our objection was that 63.41 (a) -- and that requirement didn't appear in the contention at all. And the Boards, for whatever reason, made the judgment to admit this legal issue as a legal issue -- admit might be -- to have us argue this legal issue as it is written today, which was the way it was proposed by the State of Nevada. So I just want to clarify, we did not believe this was an appropriate interpretation, that this did not flow

logically from the contention, and particularly because this -- the very regulation that's at the essence of their argument wasn't even mentioned in the contention. I did want to point that out.

Our main response to Mr. Malsch is -- is really three-phased. The first is, we have plain language in these regulations -- our basic position is, we are not required to make this pre-operational finding that construction of the underground storage space is -- that the 63.41 (a) finding, the construction underground facility has substantially been completed at this time. These regulations, the structure and language is clear. There are -- there is a regulation which specifies findings to be made at the construction authorization stage. That is in 63.31 (a)(2). Those are the ones that we have to be focusing on.

There is a separate regulation that specifies findings to be made at the possession and use stage. That is 63.41 (a), not mentioned in the contention, but very clear in the regulations. There are two different regulations, they're established for two different stages of the license proceeding; and if NRC had wanted us to import into this current proceeding the criteria for issuance of

a license to possess and use, we believe they would have done that. So as a matter of plain language of the regulations and the structure of the regulations, we don't think that's appropriate and consistent with the regulations.

Furthermore, with respect -- secondly, with respect to the language of the regulations, if you do look at 63.41 (a), which is the pre-operational findings, it defines what that finding is. That the facility has been substantially completed in accordance with the application. And it does that -- defines, it says absolutely modifies that, defines it, says the construction is considered to be quote "substantially complete if the underground storage space required for an initial operation is substantially complete."

Our position is the space, it is -- it should be defined in an ordinary definition. The Commission could have said, construction is considered to be substantially complete if the underground storage facility was substantially completed, if the underground facility and equipment was substantially completed, if the underground facility and engineer barriers were substantially

completed. But they didn't do that; they said "space". And, furthermore, they modified the phrase further with the phrase required for initial operation; and if you look at the regulations, the conceptual regulation, 63.102 (c), it defines three periods of operation and there is an initial period of operation, which is the period of in placement. That's one of the three defined phases. The drip shields are not required for that phase, for that phase of the process. The drip shields are a protection measure. They are a part of the post-closure safety case.

So, for that reason as well, we think the plain language does not support Nevada's position.

Mr. Malsch suggests there is a safety issue here. And he suggests -- doesn't suggest -- states that there is a definitive safety finding to be made at this particular time, and I want to respond to those points.

First of all, with respect to the -- whether there is is a safety issue, we don't believe there is one for several reasons.

First of all, the application makes clear that there will be some drip shields, a small number, installed early in the "in placement"

process for purposes of the performance confirmation program. So there will be analyses done and scientific studies -- analyses done and scientific studies done to see how well these drip shields perform.

Secondly, the NRC still has to determine based upon the license application that the drip shields can be installed in accordance with our commitments and can confirm adequate installation before closure, before the time when these drip shields are needed to perform their function, and that would be as part of a closure amendment. There is a specific proceeding for an amendment application to close the facility. That's in Section 63.51.

Third, we have the requirement to preserve the ability to retrieve the wastes through the repository design prior to permanent closure. If we meet that obligation to the satisfaction of the agency, in my view, that obviates the safety issue and, in fact, Nevada essentially acknowledges that last point on safety, on Page 862 of its actual contention.

With respect to the notion and Mr. Malsch did not address there today, a definitive disposal

finding to be made today or in connection with this construction application, it's a misreading of the regulations. There are multiple important safety findings to be made; and they are made at different stages of the process. There is the 63.21 finding to be made with respect to the construction authorization. There is the 63 -- I'm sorry, the 63.31, reasonable expectation finding. There is a finding before possession and use. It's in section 63.41. And it requires the NRC to find that our activities will be in conformance with the LA, the Atomic Energy Act, the regulations; and there will be -- there will not constitute an unreasonable risk to public health and safety, more than broad enough language to encompass the findings that need to be made at that point.

More on point is the provisions governing the permanent closure amendment, because that is when the drip shields come into play. And the regulations that govern the findings to be made there at that point in time are in Section 63.45 and Section 63.51; and the regulations say that the Commission will make the same determinations that quote "govern the issuance of the initial license and any other information bearing on permanent

closure, i.e., such as, the adequacy of the drip shields to perform their function that was not available at the time the license was issued."

We need that fits perfectly, those are all in the regulatory scheme. And as I said earlier, I think the waste retrieval provisions and the obligation to preserve the option of retrieval, largely dispose of any significant safety issue.

Just bear with me a minute. Those are my major comments, but I would like to look over the points that Mr. Malsch made. He did say this was a very unusual proposal, the notion of installing the drip shields not until after all the waste is installed and after the adequate safety finding, it would be too late to make that finding.

As I pointed out, there is a permanent closure amendment findings to be made and I think that demonstrates that that's a faulty assumption. And again, I want to remind the Board, it's not an unusual proposal. Because the drip shields are intended -- they're a part of the post-closure case. They're a part of the post-closure safety and amendment findings.

>> JUDGE WARDWELL: Can we address that for a minute?

>> MR. SILVERMAN: Sure.

>> JUDGE WARDWELL: Mr. Malsch pointed out that -- are you aware, let me strike that --

Let me ask this: Are you aware of any other license that the NRC grants where it's permissible to put in radioactive materials before any of the containment or controls or needs to protect and provide for the health and safety of the public are installed?

>> MR. SILVERMAN: Let me -- I think the premise of your question, with all due respect, is: It was not correct, for any other facility.

>> JUDGE WARDWELL: It had no premise.

>> MR. SILVERMAN: Well, the premise is -- the premise is that that you are putting waste in before you have certain controls or protections in place to insure the safety of it.

>> JUDGE WALDWELL: To meet the safety of the people. The drip shields are relied upon in order to meet safety findings; is that correct?

>> MR. SILVERMAN: Yes.

>> JUDGE WARDWELL: Are there any other licenses, that you are aware of, where a system structure component that is relied upon for safety is allowed to be installed after the radioactivity has

been entered into that?

>> MR. SILVERMAN: I'm not. But there is -- this is my point. There is a fundamental difference between this repository and any other licensed facility.

>> JUDGE WARDWELL: But that's my second question. Is there anything different that allows you to?

THE WITNESS: Yeah, there sure is. This is a permanent repository and the safety findings that have to be made are that this waste can be disposed of safely and held in the repository for a million years. In -- and so the drip shields are a component of the safety case to be made, to demonstrate that this stuff can stay there forever.

All right. That is very, very different from any other proceeding I can think of where there is, I'm -- any other facility I'm aware of where at least the initial intent is not to leave the waste in place. It's to have the waste -- it's to have the radioactive material come on the site, operate with it, and then the envisioned -- envisioned intent would be to remove it pursuant to a decommissioning plan or possibly to leave it in place pursuant to a decommissioning plan; but you

wouldn't know that until much later. It's very different.

>> JUDGE WARDWELL: But the main purpose of this is for permanent disposal? There is only an option for retrieval that must be maintained?

>> MR. SILVERMAN: That's correct.

>> JUDGE WARDWELL: Is there an operational license granted for this facility?

>> MR. SILVERMAN: Essentially, yes, sure. It's the recevie and possess license.

>> JUDGE WARDWELL: Why isn't it called an operational license?

>> MR. SILVERMAN: It's not called an operational -- operating license, because that term is only used in Part 50 and perhaps Part 52 because of -- under the Atomic Energy Act -- and it's I think it's more form over substance really, but what you have is the licensing of a facility for when you are dealing with a reactor, and you're licensing of the construction of the facility, then you get an operating license to operate the facility. There is not much difference really practically between that and almost every other licensed facility where you have -- rather than a license to operate -- a license to receive and possess. It's effectively the same

thing.

>> JUDGE WARDWELL: Well, couldn't one not argue that the post-closure period is really the operational period of this facility, because this is what the facility is designated for?

It's not a -- it's not a -- a -- a decommission unit and reclamation process, but this facility is designed for long-term storage of this?

That is the operations of it; could one not argue that?

>> MR. SILVERMAN: No, I think one could argue that's part of the operations.

>> JUDGE WARDWELL: Sure.

>> MR. SILVERMAN: And there are findings to be made before the possession and receipt and above-ground operations, "in placement" period, and all that period up to permanent closure, there is a regulation that governs that. That's a part of the operations period. And then we have the other part of the operations period which is post -- which is closure and post-closure, and there are findings to be made there.

>> JUDGE WARDWELL: So, if, in fact, it could be a part of the operations, then the statement at 41 (a)(2), that talks about initial operations,

one could have designated these drip shields as part of the engineered barrier system that we're going to put in place prior to putting in place any waste material underground as a logical way to do it?

If there was not -- unless there is some other reason not to -- why aren't the drip shields placed right after the waste is put in place?

>> MR. SILVERMAN: My understanding -- and there may be other reasons, and I'll get corrected if I'm wrong -- but I think it was alluded to earlier, is at least one reason is that it will aid in the ability to retrieve the waste prior to permanent closure by not having the drip shields installed, and I need to find out if that's completely accurate.

>> JUDGE WARDWELL: It was a blank stare. That's my impression also. But could not the drip shields be redesigned so that you could still achieve retrieval without that, i.e., the drips made bigger, the drip shield's clearance is less?

>> MR. SILVERMAN: That depends. It's possible.

>> JUDGE WARDWELL: Is there any reason to believe you couldn't? Correct?

>> MR. SILVERMAN: There may be -- there may be not. There may be significant impediments to

doing it, but the Department's obligation so, to propose a design that meets the regulations -- and there is a specific recognition by the Commission that the NRC is not to evaluate alternative designs other than those proffered by the Department. If it fails the appropriate regulatory criteria, it fails and the license is an issue or there is conditions or whatever, but --there is one design to be evaluated.

>> JUDGE WARDWELL: Let me finish up with one -- the key question that I've got here or the scenario that I'm developing in my mind is that is -- it seems logical to me that you would want to have all your systems in place prior to introducing radioactivity. It just seems logical.

Would not -- even if this fails as a legal issue, some of the things we've just talked about are really factual types of discussions, not legal discussions at all.

>> MR. SILVERMAN: Mm-hmm.

>> JUDGE WARDWELL: And there's valid points that you've raised in regards to the questions I have; but they're really to the merits issues, as I see them. Do you see any reason why 162 doesn't survive as a factual contention regardless of the outcome of the legal aspects associated with this

contention?

>> MR. SILVERMAN: I think it does potentially survive in a somewhat constrained way. I think if you find in our favor that the pre-operational findings are not required at this stage and obviously that particular regulation -- which isn't mentioned in the contention at all -- can't be a basis for the factual arguments that are made by the State of Nevada.

However, the contention, as written, did identify a number of other regulations and argues that our plan violates those regulations; and I think that would be a potential factual issue that would survive.

>> JUDGE WARDWELL: Thank you.

>> JUDGE MOORE: Thank you, Mr. Silverman.

>> MR. SILVERMAN: Thank you.

>> JUDGE MOORE: NRC staff.

>> MR. GENDELMAN: Good morning, Your Honor, Adam Gendelman for the NRC staff. The Board should not impute Section 63.41 --

>> JUDGE WARDWELL: May I interrupt? I already have.

>> MR. GENDELMAN: You may.

>> JUDGE WARDWELL: So I want to get my

focus on here. Would you mind if I need your interpretation of what the legal question we had before us is?

>> MR. GENDELMAN: Yes, Your Honor. The staff understanding is that because Nevada believes that the license application as submitted cannot satisfy Section 63.41, the license receive and possess requirement, that it, therefore, would not be logical to issue a construction authorization even if an application was otherwise reg -- satisfactory sort of by bringing 63.41 before the Board now through Section 63.31 (a)(2), requiring a finding of reasonable expectation that the wastes can be disposed of without unreasonable risk to public health and safety. And that the staff understanding --

>> JUDGE WARDWELL: Isn't Nevada's position stronger that, as a matter of law, that those findings can't be made?

>> MR. GENDELMAN: Right. In publication of the 2001 final rule, the competition described the purpose of 63.31 quote "This section states the basis on which the Commission may authorize construction of a geologic repository operations area at the Yucca Mountain site" at 66.CFR.6781.

The Commission described Section 23.41. This section states the basis on which the Commission may issue a license to receive and posess special nuclear or biproduct material at a geologic repository area at the Yucca Mountain site. There is no discussion there or elsewhere about imputing Section 63.41 into this construction authorization proceeding.

The Commission recently held that quote, "Courts construe regulations in the same manner they do statutes, by ascertaining the regulation, a basic tenet applicable to regulatory construction is that a statute should be construed so that effect it is given to all of its prediction, it's hydroresources 63.NRC.483, 491 in 2006. Nevada's reading does not give effect to the plain meaning of 63.41 (a)(2); and, further, it would render that section meaningless with respect to license and receive and possess proceeding as they would already be findings as to that requirement.

The staff now is making safety findings about -- in it's evaluation, it is evaluating the drip shields for compliance with several safety requirements, including 63.21, .31, 112, and 113. That is, the staff is evaluating the Department's

drip shield and installation plan to determine whether there is a reasonable expectation that the wastes can be disposed of without unreasonable risk to health and safety. These aren't being delayed. These aren't delayed findings. But the imputation of the Section 63.41 requirement is beyond the scope of this proceeding and just to follow on what was discussed before, the staff followed a comment on the proposed language of this con -- this legal issue -- and felt that it was beyond the scope of the contention.

>> JUDGE RYERSON: Do you agree that, as written, Nevada Safety 162 continues to pose a fact question report?

>> MR. GENDELMAN: I think that's right. The staff's comment was whether or not the claim that 63.41 requirements should be imputed was out of the scope of the contention, but as to whether or not the contention makes a factual claim, I -- I think that's fairly clear from the language of the contention.

Thus, the Commission makes findings pursuant to 63.31 now concerning, among many other things, the DOE's drip shield, fabrication and installation plants.

To that end, in fact, the staff issued a request for additional information about those fabrication and installation plans -- and I can give you a citation and, I believe, the ML number and the LSN number in a moment. It's ML09-182-0629, Chapter 2.1.1.2 cet 1, where the staff in its review now during the construction authorization proceeding asked questions about the drip shield fabrication and installation. So, in summary, the staff is making safety findings as to the drip shields now, but the imputation is inappropriate under our rules; and unless the Board has anything further --

>> JUDGE MOORE: Thank you.

>> JUDGE WARDWELL: I have one question on Page Page 46 of your Brief where you talk about -- the Brief for the legal issue, the top of the paragraph, this is in your discussion of 63.41. You mentioned something that you've alluded to in your oral presentation here today that where a law includes particular language in one section but omits it in another, it is presumed the exclusion was intentional and purposeful.

Doesn't that contradict with your position in issue 2 that you -- when you said there was no significant change intended by the removal of

language in that issue?

>> MR. GENDELMAN: Well, in this case, I think that language is being used to note that this fairly novel construction by Nevada reading one requirement for a clearly segmented consideration license to receive and possess requirements into the construction authorization requirements, it is not supported by a -- by a position like that.

I think with respect to that change, as I believe was noted before, and I can get you a cite for this again, if you like -- that the purpose with that change was to comply with the EPA's stated standard and that it was not an intentional substantive change, but certainly I would speak with my co-counsel and give you more on that, if you like.

>> JUDGE MOORE: No need.

>> JUDGE MOORE: Thank you, counsel.

MR. GENDELMAN: Thank you.

>> JUDGE MOORE: We'll now address issue 11.

Mr. Malsch.

>> JUDGE WARDWELL: Do have you time for rebuttal?

>> JUDGE MOORE: Oh, did you want any

rebuttal on that, on issue 10?

>> MR. MALSCH: If I may, for a few minutes, then I will go into issue 11. I don't think it's any secret to anybody that Nevada thinks that DOE's plan to assure safety of the repository by installing 11,000 drip shields 100 years from now is unbelievable and fantastic that when Dr. Wardwell asked DOE the question whether there was any precedent when the NRC has ever allowed materials to be possessed on site without a finding that necessary safety equipment was in place, I think he really had no answer. I mean, other than to say, oh, but this is different; but why is this different?

I mean, obviously, the Commission would not have allowed operation of a reactor without necessary safety equipment in place and it would have made no difference whether the reactor was going to operate for a 40 years or a hundred years or a million years. The principle is still there. And the principle is still the problem there. The fact is there would be wastes received on site and in wastes in tunnel drifts, all 700 metric tons without metric systems in place. I submit, that is absolutely unprecedented in all the decades of NRC regulation.

Secondly, I agree, you could read the regulations to say that at the construction authorization stage, one need not address this issue; but I would submit that the finding required at the construction authorization stage that there was reasonable assurance of safety disposal would embrace this finding if it made sense to do so. And I think it clearly made sense to do so.

If we are right about this issue, it would be utterly irrational for the NRC to authorize construction of the repository, knowing that it can possibly operate. That is contrary to the whole idea of there being a construction authorization stage in the first place.

Finally, as to the scope question with which is raised. Whether this is in the scope of our contention, I would just mention that, in fact, we did raise this issue in our reply to DOE's Answer to that contention. That's on Page 693 to 699.

We did not actually characterise it precisely as a legal issue; but it is there. And whether -- and whether that is within the scope of the contention was addressed in the papers and arguments we've submitted in connection with the framing of this legal issue in the first place.

Thank you.

Let me address now issue 11. We've agreed --

>> MR. GENDELMAN: I'm sorry, Your Honor, I apologize, in speaking with co-counsel, I wanted to slightly correct -- in response to your question about issue 2, I just wanted to note that in issue 2, the language change was from a proposed rule to the final rule, where the statement I believe you cited in our discussion concerned construing a regulation as a whole and didn't discuss proposed language versus final language.

>> JUDGE MOORE: Thank you.

Proceed, Mr. Malsch.

>> MR. MALSCH: Yes. This is issue 11 which deals with DOE's PMA or Performance Margins Analysis, we have agreed to share time 50-50 with staff on this issue and we have agreed that we would go first, and I would like to reserve a few minutes for rebuttal.

In its opening Brief, Nevada argued that DOE's Performance Margins Analysis is of indeterminate quality and cannot be used to validate or provide confidence in the TSPA because it has not complied fully with Quality Assurance requirements

in subpart (g) of Part 63. DOE appears to insist to the contrary.

First of all, it's important to recognize exactly what the Performance Margins Analysis PMA actually is -- and that's explained quite carefully in the Safety Analysis Report at Section 2.4 at Page 245 through 24 -- 246 analysis. It explains there, that the PMA is a separate set of TSPA calculations from which some conservatisms -- some supposed conservatisms have been removed.

So, clearly, the PMA is is a kind of a Performance Assessment much like the TSPA except that certain conservatisms have been removed. It clearly fits the definition of a Performance Assessment in 63.2 and 102 (j).

Most importantly, though, DOE concedes in its Brief here that the PMA uses unqualified software and data. Now, QA requirements are found in subpart 63 and the PMA is subject to these requirements if three conditions are met -- and I would submit that all three conditions are clearly met.

The first condition is in 63.142 (a), which sets forth the terms of the applicability of subpart (g). The relevant provision here says that

QA requirements apply to analyses of samples of data and scientific studies; and, clearly, the selection of data to support the Performance Margins Analysis in a conduct of the PMA, itself, including the developing and selection of models for the PMA constitute both an analysis of samples and data and a collection of scientific studies. No language suggests otherwise; and DOE points to none.

In fact, their Briefs completely ignore this particular aspect of subpart (g). In fact, if the PMA doesn't constitute a analysis of samples and data or the collection of scientific studies, nor does the total Performance Assessment or DOE, even that is exempt from requirements in subpart (g). So this particular condition is clearly met.

Second, under 63.142 (a), subpart (g) applies to activities that are related to design of barriers that are more than to the waste isolation. Well, clearly, the PMA is so related. It applies to the same repository system as a TSPA, and it assesses the performance of the same natural barriers used in a TSPA to establish a disposal safety. So, clearly, the PMA is related to the design of barriers that are important to waste isolation. This condition is clearly met.

Third, there at 63.141, which defines the scope of subpart (g) and provides, in effect, that QA requirements in the subpart apply to all activities quote, "Necessary to provide adequate confidence that the repository would perform satisfactorily," which we take to mean will perform safely.

So from that, we see that the PMA is subject to subpart (g) and is Quality Assurance requirements if it is necessary to provide adequate confidence in safe disposal. So, if DOE is offering the PMA in evidence because it believes it is necessary to establish the adequacy of the total system performance assessment, it's subject to QA but cannot be used for this purpose because it uses unqualified data and software.

If DOE doesn't believe the PMA is necessary to show adequacy of the Total System Performance Assessment, then TSPA is able to stand on its own without the Performance Margins Analysis and should stand on its own.

We consider the effect, the muddying effect there would be if the Board and Commission were to access the accuracy of the TSPA based on a combination of qualified and unqualified data and

models. If we're going to do this, why bother to have Quality Assurance requirements in law?

>> JUDGE MOORE: Mr. Malsch, in your reply, you state that the PMA must be struck from the application. If it can't be relied upon, it can't be relied upon. Why must it be struck?

>> MR. MALSCH: I think we should not take that literally. I think I mean by that, it would not be admissible in evidence to establish post-disposal safety with the peak Performance Margins Analysis in it.

Now, DOE says that in their Briefs and in their Safety Analysis Report that the PMA was intended as a validation tool providing confidence and they also said importantly is offered to show no risk of delusion, which I -- which means that it is offered to show that factors or models in the TSPA believe to be conservative are, in fact, conservative in terms of the ultimate dose and release calculation. These things sure sound to us like things that are necessary to establish the adequacy and safety of the Total System Performance Assessment; and, therefore, that is what DOE is offering them for.

I think it should be subject to QA and

they -- as DOE has admitted -- are not fully compliant with QA requirements.

On the other hand, if DOE is only offering the PMA as corroborative evidence to show extra assurance, and it's not clear at all that's all that they are offering it for -- because as I indicated, the SCR talks about dissolution, adequate validation and the like, but if that is what they are offering it for, I suppose in theory it's not subject to QA because it is not necessary to establish the adequacy of the Total System Performance Assessment; but I do think that would lead to a highly prejudicial situation for the other parties who are opposing the license application.

By analogy, would we admit the results of a illegal search and seizure in a criminal case not to provide evidence of proof beyond a reasonable doubt, but evidence of proof way beyond a reasonable doubt?

Once the evidence is received, it's impossible to make distinctions of these sorts. So if DOE is offering it as corroborative evidence, that's all very interesting; but to admit it as such would hopelessly muddle up the safety case and would greatly prejudice the other parties.

So, in conclusion, either the term PMA is necessary to show the adequacy of the TSPA; in which case, it can't be allowed to do so, because it relates DOE requirements or it's not necessary in which case it's both irrelevant and its admission as a part of DOE safety case would be highly prejudicial.

>> JUDGE MOORE: Thank you, Mr. Malsch.

Staff.

>> MS. SILVIA: Andrea Silvia on behalf of the NRC staff.

If the PMA is being relied upon to meet the regulatory standard of adequate confidence, then it must meet the Part 63, subpart (g) Quality Assurance requirements. Section 63.142 (a) requires a Quality Assurance Program to be applied to all structured systems and components important to safety to design and characterization of barriers important to the lake isolation and to related activities. The related activities includes analyses of data and scientific studies. The PMA, a set of calculations that analyzes post-closure performance over a set of modeling cases falls into the category of related activities under 63.142; therefore, if the PMA is needed to provide adequate

confidence under 63.141, that the repository will perform satisfactorily, it must be subject to a Quality Assurance Program.

However, nothing prevents DOE from providing additional information in its license application to offer additional confidence in the performance assessment. Information that is not needed to demonstrate adequate confidence does not need to be qualified under DOE's Quality Assurance Program.

>> JUDGE MOORE: Counsel, I'm just curious, how do you respond to Mr. Malsch's comment that it can't be relied upon, but here it is and the -- here it is, is only for the staff to rely upon.

>> MS. SILVIA: Not -- the staff does not need to rely upon everything included in the license application to make its safety findings. There is nothing in the regulations that prevents DOE from providing additional information.

>> JUDGE MOORE: You said that if it is used to -- for add-in confidence, why would the staff ever accept something as added confidence that was not QA-qualified, almost definitionally is it something that's not QA-qualified, something in which one cannot establish a confidence level?

>> MS. SILVIA: Well, the staff will not rely on anything for its safety findings that is not credible, but as of now, the staff has not completed its safety findings, so it's -- unclear how the staff will or will not use the PMA; but if it is necessary to the staff safety findings, the staff will insure that it is subject to the subpart (g) Quality Assurance Requirement.

>> JUDGE MOORE: Thank you, counsel.

DOE.

>> MR. SILVERMAN: Thank you, Your Honor.

Don Silverman for DOE.

I think there's two ways that the Board can deal with this particular legal issue and there is a very simple way. I'm going to address that first; and if we want to get into the details of perhaps the more complicated way of dealing with them, we can do that.

A significant part of Mr. Malsch's argument, was -- he's stated three reasons for why the PMA is the kind of analysis that should be governed and conducted pursuant to a -- the department's Quality Assurance Program. We agree with that.

And that takes me back to the actual

statement of a legal issue. And if we read that statement as precisely as written, it says, "Whether under certain regulations" -- which are basically among others, the QA regulations -- "the PMA can be used to validate or provide confidence in the TSPA, if its data and models are not qualified under DOE's Quality Issuance Program, the Department's position is if those data and models are not qualified under a QA program, then the answer is, no, we can't rely on them. That would resolve the legal issue. We're in agreement with the part with both the staff and Nevada on that.

Where we depart -- and that could resolve the matter as a legal matter. Where we depart is whether, in fact, that PMA has been conducted in accordance with DOE's Quality Assurance Program and our position is that it has been. There was some language in the SAR and in some of the supporting documents that refer to the use of unqualified data. And that's where I think we got a little confused that perhaps DOE's language could have been written a little more clearly. But the operative phrase that I think the State of Nevada is relying on is a statement in a document that supports DOE. It's the TSPA model analysis report. And they're referring

to an Appendix to the TSPA model analysis report. The basic TSPA model analysis report sets forth the basic findings, how we went about the TSPA, and the conclusions to the TSPA. This Appendix that we're referring to deals with the PMA as a tool to test the conservatisms in, as an ancillary analysis, if you will, to test the TSPA. And in that section of the Appendix, which deals with PMA, we say that PMA contains both qualified and unqualified data.

What we meant by that was in context, when we refer to unqualified data, was that the data was not qualified for direct use in the TSPA. That is not an after the fact rationalization, if you read the sentences around that particular sentence, I think it is reasonable to draw that conclusion -- and I have consulted with our people and they assure me this is what they intended. They merely meant to say that this data was not suitable for use -- direct use -- in the TSPA; but they did not mean to imply it was conducted or evaluated in accordance with a QA program or that it was unsuitable for use in a cooperative analysis.

This particular section of this attachment, Appendix to the TSPA model report says -- and I'm just citing this operative

sentences. The PMA utilizes the TSPA-LA model with changes to certain inputs in models. I'll give -- this is Page C-8 of the Appendix to the TSPA model report.

This PMA utilizes the TSPA-LA model with changes to certain inputs in models. This section presents those inputs that have been changed from those used in the TSPA-LA model and additional inputs necessary to support the PMA. Table C-4-1 lists the input parameters to the TSPA-LA model that have been changed or deleted for the PMA; and then it says, the PMA contains both qualified and unqualified data, what we really meant there, in this context was -- we couldn't use some of this data for the TSPA, but we did not suggest it wasn't perfectly suitable for a corroborative analysis.

>> JUDGE WARDWELL: So, all of this discussion is really -- as you, the latter discussion is really a factual issue, not a legal issue, isn't that correct, on whether or not your PMA actually does meet the QA is a factual discussion?

>> MR. SILVERMAN: I agree with that, if the Board simply agrees that we cannot use data in the PMA that isn't appropriately qualified under our Quality Assurance Program, assuming that Quality

Assurance Program complies with the regulations, then there would be a factual issue as to whether it does or not.

>> JUDGE WARDWELL: So the way the legal issue was framed from the suggestions of the parties was whether or not under a 10.CFR.63, 113, 114, Part 63, subpart (g), the PMA can be used to validate or provide confidence in the TSPA if its datas and models are not qualified under DOE's Quality Assurance Program, you agree that on that legal issue is correct?

>> MR. SILVERMAN: The answer is no -- and our further position is, however, it was the -- data was -- the data was qualified in accordance -- for the purpose it was used.

>> JUDGE WARDWELL: Right, and that gets back to Nevada Safety 171 where it basically -- it -- Nevada designated it as a legal issue. They've provided in their first sentence, the first half of a sentence pretty much the same thing as you agreed upon wording here for the legal issue of 11, but then it goes on to say, but it cannot lawfully be used for these purposes because it relies on datas and models that are not qualified pursuant to DOE's Quality Assurance Program. That is a factual issue, is it

not, similar to what you just tried to provide some defense why you felt it was qualified?

>> MR. SILVERMAN: I agree it is; and, in fact, that statement of the legal issue and statement contention is identical to the legal issue, yes, I agree.

>> JUDGE WARDWELL: The first half is identical, after the "but" isn't.

>> MR. SILVERMAN: You are right.

>> JUDGE WARDWELL: Because nothing in your wording of 11 says whether or not your data and models are or are not qualified. This is more specific -- and it seems to me, part of 171 even though it's designated as a legal issue might survive as a factual issue. Would you have any objections to that?

If we can recast 171, the residual last half of it as a remaining factual issue to be --

>> MR. SILVERMAN: Right, as to whether the data and models are qualified pursuant to the QA program, I would have no objection to that whatsoever; and I think unless you have further questions, that was all we have for us.

>> JUDGE MOORE: Thank you, Mr. Silverman.

Mr. Malsch, do you wish brief rebuttal?

There seems to be complete agreement that the answer to the legal question that as posed in issue 11 is no; and do you agree that the remaining part of your contention 171 is a factual matter?

>> MR. MALSCH: I think the remaining part of the contention could be a factual matter, but I still think the contention can be resolved as a pure legal matter for the following reasons...what you have here is a concession by DOE that its PMA used models and software that were not qualified as direct inputs to the TSPA and that was explained to me that it could not be used to support the TSPA directly but could only be used to provide corroborative evidence of the adequacy to TSPA. And we've agreed here that if that is the only purpose for which the TSPA is being offered -- that is to say to provide corroborative evidence -- then it need not be subject to subpart (g), even though it may be subject to other DOE Quality Assurance requirements.

The problem I have is -- is a problem that I raise in connection with the illusion of a criminal case. I think it would be highly prejudicial and contrary to the overall intent to subpart (g) to admit into evidence unqualified information and models and data to provide added

confidence on top of adequate confidence. I think that muddies the issue up completely and is highly prejudicial.

>> JUDGE MOORE: But your premise is that DOE's statement from Appendix C noted in footnote 12 of DOE's Brief and then again in their reply Brief of -- I guess it's the TSPA, Appendix C, is black and white to be read literally that they used unqualified data to support the PMA.

I believe -- and I'm sure Mr. Silverman will correct me if I am wrong -- that he just explained to us that that, although poorly worded, is not meant -- was not meant literally, and that there were elements of the Sandia (phonetic) work that were unqualified or would be unqualified under DOE's QA program. I do not believe Mr. Silverman said that that statement was to be read literally and meant that they did, in fact, use that material and that would still remain as a factual question.

>> MR. MALSCH: I -- I think the -- this is the TSPA model report is actually quite clear about this, and let me read exactly what DOE said in its model report. It said, "Table C-4-2 lists input parameters that have been added to the TSPA-LA model for the PMA, Performance Margins Analysis. The PMA

contains both qualified and unqualified data."

Then it goes on to say, "The data traceability described in Section C-4-1 and C-4-2 providing mapping from the PA-parameters to the data source." So --

>> JUDGE WARDWELL: Well, regardless -- are you still quoting, I'm sorry?

>> MR. MALSCH: Yes. This goes on in the final section, Section C-5, I'll read that to you also. "It is important to reiterate that while these additional submodels and data" -- the ones we're talking about here -- "were developed in accordance with apple Quality Assurance Requirements. Now, these must be other than DOE's Quality Assurance Plan for direct inputs in the TSPA. In some cases, they represent models with limited technical foundation, verification and validation consistent with the requirements of SY-PRO-066 (phonetic) models." This is the program relied upon for developing the data. "PA models, submodels may use software that is controlled but not qualified."

So what the DOE is telling you is that they, the PMA was not qualified as a direct input to the TSPA and what they mean by that, clearly is, it is only qualified and it was only intended to be

used for a corroborative evidence purposes.

>> JUDGE WARDWELL: Whether or not DOE's data models are qualified under DOE's QA program is a factual discussion, not a legal one; isn't it?

I mean, all you're saying is, yeah, you've got a position and they've got a position and let's sort it out whether or not their data or models do match and are in compliance with their QA program?

>> MR. MALSCH: Well, but there is only one Quality Assurance Program. That's the one that's associated with the license application. I believe the DOE is telling us that the PMA uses data and models, it does not qualify in accordance with that program. Perhaps --

>> JUDGE WARDWELL: That isn't what I just heard him say; but, regardless, that debate is a factual issue.

>> MR. MALSCH: If there is a debate about that, I would agree, it's a factual issue, that is correct.

>> JUDGE WARDWELL: Okay. Whether or not the PMA can be used to validate or provide confidence in the TSPA, if it's -- if it's data or models are not qualified under DOE's Quality Assurance Program is the legal question. And both parties agree that,

yes, it can't be, if it doesn't meet it.

>> MR. MALSCH: That is correct.

>> JUDGE WARDWELL: So it seems to me the legal issue is resolved. What's remaining is the last half of what you said under 171, your position is it cannot lawfully be used for these purposes because it relies on datas and models -- data and models that are not qualified under the QA program. That's a factual discussion.

>> MR. MALSCH: I think it is, but there is another piece of the legal question that would need to be addressed. And that is -- let's assume for purposes of argument the resolution of the factual question is that the PMA relies upon data and models that are not, in fact, qualified under subpart (g). The question then remains whether it may be offered as corroborative evidence.

>> JUDGE WARDWELL: Where is that stated in legal issue 11?

>> MR. MALSCH: The issue is in terms of whether the team may be offered to provide -- to validate or provide confidence, provide confidence can mean both adequate confidence and extra confidence. I think it's within the scope of the legal question. And it's important to know that

because then we would know what uses could be made of the PMA in the event it does turn out to be factually correct. That it does use data and software that are not qualified under subpart (g).

>> JUDGE MOORE: But if it can't be relied upon for the TSPA, then we're all in agreement that unqualified data cannot be. It's a factual matter pure and simple, whether or not DOE crossed the line or didn't cross the line and if in its review the staff errs because the SCR will be out by the time -- will be out by the time there is discovery and go to hearing, that will all be known whether or not the staff has complied with the regulations -- in enforcing the regulations.

>> MR. MALSCH: Let me put it this way...if the PMA, if it is agreed, that the PMA cannot be offered to either provide adequate confidence or any confidence at all in the TSPA, without it being fully compliant and I agree, there is no other issue remaining except a factual issue whether or not it is fully compliant.

>> JUDGE MOORE: But I ask you what initially that in the context of your supply Brief, you said it should be struck from the application, why it needed to be struck and I believe your answer

was that that was for perhaps an overstatement or something in that regard, and you then explained that it, in effect, that it did not have to be physically removed. Doesn't that not contradict what are you now telling me?

>> MR. MALSCH: No, I'm saying that in terms of the ultimate DOE safety case, post-disposal safety case, when it comes to establishing the post-disposal safety case, if it is -- if it is agreed that a PMA which uses unqualified software and models, cannot be offered as any evidence of confidence or any support at all for the TSPA, I agree, the only issue is whether, in fact, the TSPA is compliant or not compliant with subpart (g).

My only issue is, this whole question about corroborative evidence. And I think it should be made clear that we believe that the use of the PMA to provide corroborative evidence, you know, added confidence, extra confidence, would be highly prejudicial and contrary to subpart (g).

>> JUDGE RYERSON: Okay. But one interpretation of the question, the legal question that imposed was would cover that, I mean, it says, it can, you know, cannot be used to validate or provide confidence in the TSPA. And your concern is

that providing confidence should be interpreted as also extending to some other type of corroboration?

>> MR. MALSCH: Well, yeah, we were construing confidence in a broad sense as support for any support to the TSPA.

>> JUDGE RYERSON: That's a rational reading of this -- of this issue, and there seems to be no disagreement on the issue as a legal issue.

>> MR. MALSCH: Thank you.

>> JUDGE MOORE: Thank you.

>> MR. SILVERMAN: May I add a brief word, Your Honor?

>> JUDGE MOORE: Whoa.

>> JUDGE MOORE: Perhaps not.

>> MR. SILVERMAN: I don't know my own strength.

One very quick comment, Mr. Malsch is, has repeatedly said it was entirely prejudicial to admit its evidence into this case. Data or information that's not qualified pursuant to a QA program. I don't believe that's the evidentiary standard at all. If it was the evidentiary standard, I don't believe the state of Nevada could beat it, because I don't believe -- I suspect much of the information they will submit in this case is not prepared

pursuant to the a qualified -- pursuant to a QA program, that meets the requirements, I think that's completely wrong.

>> MR. MALSCH: Your Honor, in fact, we do have a compliant program data gathering analysis supplied with this.

>> JUDGE MOORE: I think we've heard all we want to hear on issue 11. I would like to thank all counsel, parties for your Briefing and presentations.

Mr. Silverman, do you wish to be acknowledged?

>> MR. SILVERMAN: I do.

>> JUDGE MOORE: If it's for the last word, the answer is no; if it's for another purpose --

>> MR. SILVERMAN: It's for another purpose, it's to respond to something yesterday and to come back to you and also to make one clarification on something I made yesterday.

>> JUDGE MOORE: Go ahead.

>> MR. SILVERMAN: I would never seek to try to get the last word in.

Two points I wanted to bring up, one was a clarification and I -- frankly, I have not gone back to look at the transcript to see exactly what I said, but it's been called to my attention that in

connection with the Nevada 161, which is the absence or failure of the drip shields, that the record might not have been clear as it could have been on one matter. And in the context of that discussion yesterday, I wanted to point out that there was some discussion of the igneious scenarios. And the record might not have been clear with respect to that discussion.

What I would like to make clear to DOE -- I'm sorry, what I'd like to make clear to the Board is that in DOE's analysis of the igneious scenarios, we not only -- what I'll say took out or pursued away, assumed the failure of the drip shields, all of the drip shields, in the event of an igneious intrusion, but we also simultaneously assumed away the waste packages. In other words, assumed failure of all the waste packages. And the results of that were included in our ultimate dose estimate and they were documented in the TSPA analysis report. I have to go back and find exactly the place in the transcript where that subject came. I must admit to you I don't remember exactly what I said. Hopefully, that will clarify matter if and when you go back and look at that part of the transcript.

>> JUDGE RYERSON: Mr. Silverman, just to

clarify, those phenomenon are discounted in the TSPA by vvirtue of the probability that they will occur; is that correct?

>> MR. SILVERMAN: That is effectually -- discounted, I'm not sure I used that word. I understand what you are saying. >> JUDGE RYERSON in other words, the effect of the overall calculation is diminished by the likelihood that it will, in fact, occur?

>> MR. SILVERMAN: Absolutely. Because the legal standard is a mean dose based upon many many scenarios, weighted by the probability of occurrence of those scenarios. And that's set forth in the regulations, so you are correct.

>> JUDGE RYERSON: So it's very different from simply saying there are no drip shields there, there are no drip shields modified by the likelihood there will be an effect?

>> MR. SILVERMAN: I believe that's correct.

Then I would like to respond, do the best I can to respond to Judge Wardwell's question, bear in mind, you are talking to a political science major here, so I can only go so far. But your question to us on the same contention was: Why

would DOE not want to know if 99% of the protection of the REMI (phonetic) is provided by one component or one barrier. And I'd like to take a shot at that and basically would like to point out to you that we think we have quantitatively demonstrated the relative importance of the individual barriers and we did that in almost 200 pages of the SAR in Section 2.1.

The function of a barrier is to isolate waste. That is, to reduce or prevent the movement of water into the repository, into the waste, or the movement of radionucleides to the system. Those the the processes, excuse me, those are the purposes of the barrier.

>> JUDGE WARDWELL: What barrier ever prevents the movement of water?

>> MR. SILVERMAN: Completely prevents the movement of water?

I suspect the technical people would tell me that no barrier completely prevents it.

>> JUDGE WARDWELL: So really, those two words should be just reduced rather than reduce or prevent? You were reading off a phrase that said, we had multi-- we got barriers and they reduce or prevent, but, in fact, none of them prevent; is that

correct?

>> MR. SILVERMAN: I suspect that's correct, so I think it would be fair to say reduce.

>> JUDGE WARDWELL: Thank you.

>> MR. SILVERMAN: The movement again of water or radionucleides. To remove the water and radionucleides. So our barrier is confirmed -- it's in those terms not in those of the contribution to the actual ultimate dose. The analysis was to the intended nor is it required to quuantify the performance of each of the individual barriers in terms of the fraction of dose to the REMI (phonetic) that that barrier contributes.

So we demonstrate the performance of each individual barrier again in terms of its contribution of the isolation of waste. Our view is that's all that's required and that's sufficient to provide a sound basis for assessing barrier capability and the basis for that, the legal basis for that is reflected in the regulations in Section 63.115 (c), which I will very briefly read from and, again, those two pages of Federal Registry Notice that I continue to refer back to that we spentt so much time on yesterday, but I'll refresh your memory 66 Federal Reg 55758 and 59. I'm not going to

re-read from that. But I will read to you in 63.115 (c), 63.115 is requirements for multiple barriers.

"Demonstration of compliance with 63.113 (a)," which is the multiple barrier requirement, "must (c) provide, the technical basis for the description of the capability of barriers identified as important to waste isolation to isolate waste. The technical basis" -- this is the key phrase.

"The technical basis for each barrier's capability shall be based on and consistent with the technical basis to the performance assessments used to demonstrate compliance with 63.113 (b) and (c)," which are the performance standards and the overall barrier system.

In other words, what it's done to meet the multiple barrier standard should be the same performance assessment used to determine compliance with the ultimate dose standards. I hope that that is clear and helps.

>> JUDGE MOORE: Thank you.

>> MR. SILVERMAN: Thank you.

>> JUDGE MOORE: All right. Once again -- oh, staff.

>> MS. SILVIA: The staff has a brief housekeeping question. With depositions starting in

a few weeks, we were just wanted to check and make sure that the comments from the parties regarding DOE's statements for its LSN collection, if you had any idea of when those would be due from the other parties?

>> JUDGE MOORE: At this point I can't give you a date, but if the material that Mr. Shebelskie is going to provide the Board next Thursday, I would imagine and it will have to be determined and we will issue an Order the 1st of next week, that it will be a reasonably short time for comment on anything that DOE tells us.

>> MS. SILVIA: Thank you, Your Honor.

>> JUDGE MOORE: Mr. Malsch.

>> MR. MALSCH: I would just like to briefly observe what you just heard from Mr. Silverman is a re-argument of issue No. 8, dealing with defense in depth. I don't think I need to respond in detail to what he said other than to observe that we think the record is clear from the argument yesterday.

>> JUDGE MOORE: I -- I believe it can be characterized, as can all oral arguments, there are three: The one you prepare to give, the one you give, and the one you wish you gave; and I put this

into category 3.

>> MR. MALSCH: Thank you.

>> JUDGE MOORE: Again, I would like to thank counsel and we will stand adjourned. The Board will now wrestle with issues 1 through 11.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD HEARING

In the Matter of

U.S. Department of Energy

High-Level Waste Repository

Docket No. 63-001-HLW

ASLBP No. 09-892-HLW-CAB04

January 27, 2010

9:00 a.m. PST

TRANSCRIPT OF PROCEEDINGS

Pre-Hearing Conference

Before the Administrative Judges

CAB04

Judge Thomas Moore, Chairman

Judge Paul S. Ryerson

Judge Richard E. Wardwel

APPEARANCES

For the Nuclear Regulatory Commission Staff:

Margaret Bupp, Esq.
Adam Gendelman, Esq.
Andrea Silvia, Esq.

For the Nuclear Energy Institute:

David Repka, Esq.
Rodney J. McCullum, Esq.

For the Department of Energy:

Michael Shebelskie, Esq.

For the State of Nevada:

Martin Malsch, Esq.
John W. Lawrence, Esq.
Charles Fitzpatrick, Esq.

For Nye County:

Jeffrey Van Niel
Robert Anderson

For Clark County:

Debra Roby
Bryce Loveland

For White Pine County:

Richard Sears
Mike Baughman

For Inyo County:

Greg James

APPEARNCES (Continued)

For Four Nevada Counties:
Jennifer Gores

For Native Community Action Council
Rovianne Leigh

For Californa Energy Commission:
Kevin Bell

For Joint Iimbisha Shoshone Tribal Group:
Douglas Poland
Shane Elk

For Nye County:
Mal Murphy

For Eureka County
Diane Curran

P R O C E E D I N G S

>> JUDGE MOORE: Good morning. I'm Judge Thomas Moore. On my left is Judge Richard Wardwel. On my right is Judge Paul Ryerson. Construction Authorization 04 has convened the case management conference to discuss with the parties the matters raised by the licensing support network administrator's memorandum to the Board dated December 17th, 2009 and the Board's order of December 22nd, 2009. The conference this morning is being recorded on the DDMS. It is also being web streamed for public viewing at the links published in our January 11th order as well as being broadcast on the agency's broadband network.

Because we have a number of counsel participating by telephone this morning, we will have to follow some special procedures. So that the court reporter can create an accurate transcript and the parties participating by telephone can follow the proceeding, it is imperative that all counsel identify themselves and the party they represent whenever they speak. I would remind counsel sitting in the well that when they speak, they need to push the button on the base of the microphone so the green light comes on and then when they are -- and

to speak directly into the microphone, and then when they're finished speaking, you mute the mic by pressing the button again. I would remind all counsel that are participating by telephone conference, that when you are not speaking, please mute your mic so we have no interference here in the hearing room.

We will begin this morning by having those in the well identify themselves for the record and then we will have those that are participating by telephone do the same thing. Let's begin with those on my left.

>> MR. SHEBELSKIE: Good morning, Your Honors. My name is Michael Shebelskie from Hunter Williams, representing the Department of Energy. With me at counsel table is Daniel Martin of the firm of CACI. He is a representative of the Department of Energy's automated litigations support contractor that assists us on TELESN issues.

>> MR. JAMES: Good morning, Your Honor. Greg James for the County of Inyo.

>> MR. VAN NIEL: Good morning, Your Honor. Jeff van Niel for NYE County.

>> MR. ANDERSEN: Good morning, Your Honor. Robert Anderson for Makerman Centerfit on behalf of

Nye County.

>> MS. ROBY: Good morning. Debra Roby on behalf of Clark County.

>> MS. SILVIA: Good morning. Andrea Silvia on behalf of NRC staff.

>> MR. LOVELAND: Bryce Loveland on behalf of Clark County.

>> MS. BUPP: Margaret Bupp on behalf of the NRC staff.

>> MR. GENDELMAN: Adam Gendelman for the NRC staff.

>> MR. REPKA: David Repka representing the Nuclear Energy Institute, and with me is Mr. Rodney McCullum of NEI.

>> MR. BAUGHMAN: Mike Baughman. I represent Lincoln and White Pine Counties.

>> JUDGE MOORE: I'm sorry, you are Mr. --

>> MR. BAUGHMAN: Baughman.

>> JUDGE MOORE: Baughman, and it's Lincoln and White Pine Counties?

>> MR. BAUGHMAN: That's correct, Your Honor.

>> MR. SEARS: I'm Richard Sears. Mr. Baughman is sitting with me on behalf of White Pine. I'm counsel for White Pine.

>> JUDGE MOORE: Okay. Fine. My law clerk informs me, Mr. Bauman -- am I pronouncing that correctly?

>> MR. BAUGHMAN: It's Baughman, Your Honor.

>> JUDGE MOORE: Baughman. Mr. Baughman, that you wish to speak for Lincoln County?

>> MR. BAUGHMAN: Yes, Your Honor.

>> JUDGE MOORE: I'm sorry. You will not be able to do that. They are represented by counsel and counsel is not here, as I understand it, and you have informed us they are not available. So Lincoln County will not be represented this morning.

>> MS. LEIGH: Thank you, Your Honor. Good morning. Rovianne Leigh on beahlf of the Native Community Action Council.

>> MS. GORES: Jennifer Gores on behalf of the four Nevada counties of Churchill, Esmeralda, Lander and Mineral.

>> MR. FITZPATRICK: Good morning, Your Honor, Charles Fitzpatrick for the State of Nevada. At the table with me are Marty Malsch and John Lawrence, also for the State of Nevada.

>> JUDGE MOORE: I will now call upon those parties participating by telephone. California

Energy Commission.

>> MR. BELL: Kevin Bell from the California commission.

>> JUDGE MOORE: One moment, please, while we get the sound quality cleared up.

>> THE CLERK: Have him try again.

>> JUDGE MOORE: The Joint Timbisha Shoshone Tribal Group.

>> MR. POLAND: Good morning, Your Honor, Doug Poland with JTS.

>> MR. ELK: Good morning, Your Honor. Shane Elk also with JTS.

>> JUDGE MOORE: Nye County.

>> MR. MURPHY: Good morning. Mal Murphy on behalf of Nye County.

>> JUDGE MOORE: And Eureka County.

>> MS. CURRAN: Good morning, [inaudible]

>> JUDGE MOORE: Miss Curran, could you repeat that, please?

>> MS. CURRAN: Oh, sure. Hold on. Hello. My receiver -- is that better?

>> JUDGE MOORE: Yes, thank you.

>> MS. CURRAN: I wanted to point out something I wasn't aware of before I started this today, and that is I was hoping I could follow some

visual queus from watching the web stream, and it's a couple minutes ahead of, or behind, the telephone conference. So I just wanted to point that out as a, kind of, a glitch in this whole process, but we certainly appreciate being able to participate remotely and use the webcasting.

>> JUDGE MOORE: We will. Yes, Miss Curran, the delay is built-in. We can't do anything about it.

>> MS. CURRAN: Yes, okay. Thanks.

>> JUDGE MOORE: You should all be familiar with the LSNA's December 15th, 2009 memorandum to the Board pointing out the numerous problems with the LSN, should there be any long-term suspension or termination of this proceeding by actions of DOE such as seeking to withdraw its license application. In response to that memorandum, the Board, on December 22nd, directed all parties not to take any actions at this time that would prevent or hinder their ability to archive LSN documentary material in a readily accessible format such as PDF. The Board would like to thank those parties that accepted our invitation to comment in the writing on the LSNA's memorandum. your comments were helpful and provide us with a good starting point this morning. I think

it's appropriate to start by emphasizing that we are discussing planning steps this morning to help prepare for a hypothetical situation on how to preserve each party's LSN document collection should the need arise. The Board has not been advised by counsel that DOE intends to withdraw it's application or in anyway suspend its application. Prudence, however, dictates that we heed the old addage forewarned is forearmed, and prepare should such an event become a reality.

I think I would like to start with the staff this morning, because you gave us a great deal of information in your written comments on the LSNA's memorandum, and we have just a couple questions that would be helpful to us. In the second paragraph of your response, you state, and I quote, "if necessary, the remaining TIFF OCR pairs could be converted to PDF files at a future date."

>> MS. BUPP: Yes, Your Honor.

>> JUDGE MOORE: Will the staff commit to doing that?

>> MS. BUPP: Yes, Your Honor, I think we can commit to doing that. It depends as to when you can wish for us to commit to doing it later or --

>> JUDGE MOORE: If you will commit to

doing it --

>> MS. BUPP: -- if necessary.

>> JUDGE MOORE: We, like others, aren't going anywhere and we can insure that if we put that in an order that it can -- it will be followed up on.

>> MS. BUPP: Okay.

>> JUDGE MOORE: May the Board take the staff's other statements in its January 21st comments as commitments as well?

>> MS. BUPP: Yes, Your Honor.

>> JUDGE MOORE: Can you confirm for me whether all the documents in the staff's LSN collection have been coded with the WM-11 docket code in the Adams system, because that is the moniker for the LSN documents in Adams?

>> MS. BUPP: I believe so, Your Honor, but if you need a firm commitment on that, I'll have to get it to you at a later date.

>> JUDGE MOORE: We would appreciate that, and, secondly, can you tell me whether those that carry the WM-11 docket designation have been designated as permanent agency records?

>> MS. BUPP: I believe the response to that is yes, but, again, I would have to get you a firm confirmation.

>> JUDGE MOORE: We would appreciate it. Finally, we recognize that this is not required by the agency's record system, but can the staff commit to putting the LSN accession number somewhere in the Adams bibliographic header?

>> MS. BUPP: I believe we can. I would have to confirm there is actually space in the header for that, but I think we can. Your Honor, if that's your last question?

>> JUDGE MOORE: Yes, it is.

>> MS. BUPP: Okay. I just wanted to mention the staff has an update on its SCR schedule. I just wanted you to be aware that we'd like to give you that.

>> JUDGE MOORE: Let's do it at the end.

>> MS. BUPP: Okay.

>> JUDGE MOORE: Unless you are of the opinion it's going to change anything we're doing with regard to LSN document collection?

>> MS. BUPP: I don't think it should, no.

>> JUDGE MOORE: We will have to deal with Lincoln County in writing. So let's -- Mr. Sears, you're with White Pine County. Your LSN document collection currently consists of 98 documents, compiling 1,960 pages. In your January 21st

comments on the LSNA memorandum, you state, in effect, that White Pine header materials could be stored on CDs and archived with the White Pine County recorder. Will White Pine County commit to doing that?

>> MR. SEARS: Yes, Your Honor.

>> JUDGE MOORE: Will you also commit to providing the LSNA a CD copy of your LSN collection?

>> MR. SEARS: Yes, Your Honor.

>> JUDGE MOORE: Now, in past orders, the Board is without objection from any party, have directed the parties to submit electronic files to generate such things as privileged logs to the LSNA, and the language we've used is in the data format and via the transfer media as mutually agreed upon by the party and the LSNA. Is -- do you have any objection to an order that contains language like that with regard to the commitments you have just made in providing the LSNA a copy?

>> MR. SEARS: No, Your Honor.

>> JUDGE MOORE: Thank you. Inyo County.

>> MR. JAMES: Yes, Your Honor.

>> JUDGE MOORE: Your document collection currently consists of 391 documents comprising 7,820 pages. In your January 22nd comments on the

LSNA's memorandum, you state that Inyo County's LSN collection will be maintained and readily available in searchable form for as long as California law requires. Will Inyo County commit to storing its LSN document collection text and related header materials on CDs?

>> MR. JAMES: Yes, Your Honor.

>> JUDGE MOORE: Will Inyo County commit to providing the LSNA a copy, a CD copy of its LSN collection?

>> MR. JAMES: Yes.

>> JUDGE MOORE: And would Inyo County object to language in an order directing it to provide its LSN collection to the LSNA in the data format as mutually agreed upon by the county and LSNA?

>> MR. JAMES: No objection.

>> JUDGE MOORE: Let's turn to the four counties, Churchill, Esmeralda, Lander and Mineral.

>> MS. GORES: Yes, Your Honor.

>> JUDGE MOORE: Your collection, as I understand it, currently consists of 203 documents, comprising 4,060 pages. In your January 21st comments on the LSNA's memorandum, you state the four counties do not have any provisions or plans in place

for storing its LSN collection, stress the financial constraints upon the counties, and indicate more guidance would be helpful. With what's gone before, will the four counties commit to storing its LSN collection text and related headed material on CDs and let me give you a bit of background.

With the size of this collection, we're talking about one CD, and the cost is somewhere in the neighborhood probably not exceeding $300.

>> MS. GORES: Yes, Your Honor. We can do that.

>> JUDGE MOORE: Will the four counties commit to providing the LSNA a CD copy of its LSN collection?

>> MS. GORES: Yes, Your Honor.

>> JUDGE MOORE: Would the four counties object to language in an order directing it to provide its LSN collection to the LSNA in the data format and by the transfer media as mutually agreed upon by the counties in LSNA?

>> MS. GORES: No objection, Your Honor.

>> JUDGE MOORE: Let's turn to Eureka County. Miss Curran. Miss Curran?

>> MS. CURRAN: I'm sorry. Yes.

>> JUDGE MOORE: Your LSN collection

currently consists of 58 documents comprising 1,160 pages. Will Eureka County commit to storing its LSN collection text and related header material on CDs?

>> MS. CURRAN: Yes.

>> JUDGE MOORE: Will Eureka County commit to providing the LSNA a copy of a CD -- a CD copy of its LSN collection?

>> MS. CURRAN: Yes.

>> JUDGE MOORE: And would Eureka County object to language in an order directing it to provide its LSN collection to the LSNA in that data format and via transfer media as mutually agreed upon by the County and LSNA?

>> MS. CURRAN: Eureka County would have no such objection to such an order.

>> JUDGE MOORE: Thank you, Miss Curran. Let's turn to Nye County, Mr. Niel.

>> MR. VAN NIEL: Yes, Your Honor.

>> JUDGE MOORE: Your collection currently consists of 2,267 documents comprising 45,340 pages. Will Nye County commit to storing its LSN collection text and related header material on CDs?

>> MR. VAN NIEL: Yes, Your Honor.

>> JUDGE MOORE: Will Nye County commit to providing the LSNA a CD copy of the LSN collection?

>> MR. VAN NIEL: Yes, Your Honor.
>> JUDGE MOORE: And would Nye County objecto to language in an order directing it to provide its LSN collection to the LSNA in the data format and via transfer media as mutually agreed upon by the County and LSNA?
>> MR. VAN NIEL: We have no objection to that language, Your Honor.
>> JUDGE MOORE: Clark County.
>> MS. ROBY: Yes, Your Honor.
>> JUDGE MOORE: Your LSN collection consists of 86 documents comprising 127,000 pages. Will Clark County commit to storing its LSN text and related header material on CDs?
>> MS. ROBY: Yes, Your Honor.
>> JUDGE MOORE: And will Clark County provide a CD copy of the LSN collection?
>> MS. ROBY: Yes, Your Honor.
>> JUDGE MOORE: And would Clark County object to language in an order directing it to rpvoding its LSN collection to the LSNA in the data format and via transfer media as mutually agreed upon for the County?
>> MS. ROBY: No objection, no objection, Your Honor.

>> JUDGE MOORE: The joint Timbisha Shoshone tribal group.

>> MR. HEINZEN: Yes, Your Honor. Steve Heinzen on behalf of KTS.

>> JUDGE MOORE: And your LSN collections together currently consist of approximately 88 documents comprising 1,760 pages. Will JTS commit to storing its LSN collection text and related header material on CDs?

>> MR. HEINZEN: Yes, it will.

>> JUDGE MOORE: Will JTS commit to providing the LSNA a CD copy of its LSN collections?

>> MR. HEINZEN: Yes, it will.

>> JUDGE MOORE: And will JTS object to language in an order directing it to provide the LSN collection to the LSNA in the data format and via transfer media as mutually agreed upon by JTS and the LSNA?

>> MR. HEINZEN: No, it would not object.

>> JUDGE MOORE: Thank you, Counsel. The Native Community Action Council, NCAC.

>> MS. LEIGH: Yes, Your Honor.

>> JUDGE MOORE: Will NCAC commit to storing its LSN collection -- I should, in case you are not aware, you have three documents comprising 60

pages. Will NCAC commit to storing its text and related header material on CDs?

>> MS. LEIGH: Yes, Your Honor.

>> JUDGE MOORE: And will NCAC commit to providing the the LSNA a CD copy of the LSN collection?

>> MS. LEIGH: Yes.

>> JUDGE MOORE: And would NCAC object to language in an order directing it to provide the LSN collection to the LSNA in the data format and via transferred as mutually agreed upon in the LSNA in the LSN?

>> MS. LEIGH: No objection, Your Honor.

>> JUDGE MOORE: Mr. Repka of NEI. Your collection currently consists of 795 documents, comprising 15,900 pages. Will NEI commit to storing its LSN collection, text and related header material on CDs?

>> MR. REPKA: Yes, we will.

>> JUDGE MOORE: Will NEI commit to providing the LSNA a CD copy of its LSN collection?

>> MR. REPKA: Yes, we will.

>> JUDGE MOORE: And will NEI object to language in an order directing to provide to the LSNA in the data format and via transfer media as mutually

agreed upon by the NEI and the LSNA?

>> MR. REPKA: No objection, Your Honor.

>> JUDGE MOORE: That leaves the second largest collection, Nevada. Your collection currently consists of 5,446 documents comprising 108,920 pages. Will Nevada commit to storing -- your comments indicate that you were prepared to do it, but will Nevada commit to storing its LSN collection, text and related header material on CDs?

>> MR. FITZPATRICK: Your Honor, this is Charles Fitzpatrick, State of Nevada, with the preface that we have concerns about the premise for this hearing and the premise for this order that you are talking about issuing, with that said, we will certainly comply with that request and that order.

>> JUDGE MOORE: I am sure that there are a great numbers that share those same concerns. This is housekeeping. If we can get this out of the way, then we will address those concerns. Will Nevada commit to providing the LSNA a CD copy of the LSN collection?

>> MR. FITZPATRICK: Yes, Your Honor.

>> JUDGE MOORE: And, in your case, as well as the case of the several larger collections, the

reason for the language in the order, you would probably be using DVDs, not CDs, simply because of the capacity matter, but I just wanted to clarify that.

Would Nevada object to language in an order directing it to provide its LSN collection to the LSNA in the data format and via transfer media as mutually agreed upon by Nevada and the LSNA?

>> MR. FITZPATRICK: We would have no objection to that, Your Honor. One suggestion would be that if that were to take place, some provision ought to also be made in order for the updates that are anticipated by the parties to their LSN collections.

>> JUDGE MOORE: That is one of the matters we need to discuss. According to the LSNA's memorandum to the Board, that takes care of 1.1 percent of the LSN collection.

Now, Mr. Shebelskie, I guess it's your turn for the rest of the day. In an attempt to keep this as brief as possible, we'll give DOE an opportunity to fully address the two questions directed, essentially directed, to DOE in the LSNA's memorandum of December 17th. But first, so there is no misapprehension on the part of the Board

about the history structure and technology undergirding the history of the DOE collection, is the description of the DOE LSN collection contained in the LSNA's memorandum to the Board accurate?

>> MR. SHEBELSKIE: Your Honor, Mike Shebelskie on behalf of DOE, and the 98.9 documents in the collection. Essentially, it is correct. There is one point I would like to add, for the record, in case the Board was confused about it. The memo uses the expression, quote "on the fly" with respect to assemblying the documents in the LSN collection. That relates to the infrastructure with the way documents are stored and then re-assembled on the LSN, if you have a multiple-page document; in simple terms, each page is stored as a separate file on the LSN and then we do a search and retrieve that document.

The LSN infrastructure reassembles those ten pages into a single package. The expression "on the fly," I am told by our I. T. personnel, is a term of art used in their field. It is not intended to be a perjorative term. It's suggested as a Rube Goldberg band-aid approach. It is a highly standardized and controlled process, despite what a -- the appearance might seem.

>> JUDGE MOORE: This will come as a great shock to you. I knew that.

>> MR. SHEBELSKIE: Thank you, Your Honor.

>> JUDGE MOORE: In addressing the two queestions in the LSNA's memorandum, the Board is well aware of the administration's fiscal year 2011 budget, containing the specifics of DOE's fiscal year 2011 budget, is being printed by the PGO as we speak and will not publicly be released until Monday. Therefore, in addressing fiscal year 2011, we understand that DOE is not free today to provide us with any specific dollar amounts, but there does not appear to be any sound reason why DOE cannot inform us of its fiscal year 2011 planning assumptions.

So would you please address fully question A on page 2 of the LSNA's December 17th, 2009 memorandum, and putting that caveat into it, the exact DOE budget and the allocations for operation of its LSN collection that can be expected for the remainder of fiscal year 2010, and its planning assumptions in that regard for fiscal year 2011?

>> MR. SHEBELSKIE: Yes, sir. With respect to the current fiscal year, fiscal year 2010, the DOE budget, as we reported back last September, has adequate funds allocated to support the licensing

proceeding 42010 based on our expectations of what will occur this year. That includes adequate funds to continue to maintain our LSN collection and to continue to comply with our LSN supplemental obligation. In terms of dollar amounts in the current fiscal budget for LSN activities, I think the best number I can give you is the sum allocated to our automated litigation support contractor and its related activities, and that sum is between 8 and $9 million for the fiscal year and, obviously, some of it has been consumed so far, and the balance, though, we believe is sufficient for us to comply with our LSN obligations for this fiscal year. Your Honor, with respect to the fiscal year 2011, it is not able to comment on anything.

Our client has not been able to advise us of the sums to be expected for the litigation support activities for 2011. Obviously, if the proceeding continues in 2011, that will determine what the sums are.

>> MR. SHEBELSKIE: I'm just not in a position to provide anything right now, Your Honor.

>> JUDGE MOORE: You have none of the planning assumptions that went into the budget?

>> MR. SHEBELSKIE: I do not, Your Honor.

And I'm told that until the President releases his budget next -- next month, next week, that we wouldn't be in a position to know really what number to use.

>> JUDGE MOORE: The Board will expect, very quickly after that budget is made public, that you provide us with DOE's take on that. If the budget is released Monday, Thursday of next week, since -- it's already known, it's just not public. So there is no reason why gashing of teeth has to occur because it's being printed.

>> MR. SHEBELSKIE: I think your suggestion is fair and reasonable, and we will provide a written submittal next Thursday on the President's announcement.

>> JUDGE MOORE: I have a number of questions about 2010 that I'd like to quickly run through to give the backgrounds that will be helpful then in knowing where we're going in 2011. Where are the document computer servers housed in DOE, the LSN collection located?

>> MR. SHEBELSKIE: The servers are located at DOE servers here in Las Vegas.

>> JUDGE MOORE: Is the computer center operated by DOE employees, by contractors, or by

both?

>> MR. SHEBELSKIE: The servers can support -- and support for the servers are provided by our automated litigation support contractor, CACI. They obviously work under contract and supervision with the Federal government through a contract with the Department of Justice and so their responsibility, County responsibilities with the Department of Justice, and then, obviously, a work and -- they work in oversights with the Department of Energy lawyers and outside counsel.

>> JUDGE MOORE: Who is the current official responsible for managing DOE's LSN computer operations?

>> MR. SHEBELSKIE: The LSN responsible official at DOE is currently Steve Gomberg, but he is being detailed to a different division at DOE. We're in transition now. And the new official will be -- is Jeff Williams. I believe that will be effected in February.

>> JUDGE MOORE: What organizational -- DOE organizational unit does this individual report to?

>> MR. SHEBELSKIE: The Office of Civilian Radioactive Waste Management, OCRWM.

>> JUDGE MOORE: Is it fully funded for

2010?

>> MR. SHEBELSKIE: Yes, all the activities are as I stated.

>> JUDGE MOORE: Is the office?

>> MR. SHEBELSKIE: Oh, I believe so. Consistent with what we said back in that term.

>> JUDGE MOORE: And you probably can't answer in light of your previous, but it's one to put on your list, does DOE have any plans to altar this organizational structure for fiscal year 2011?

>> MR. SHEBELSKIE: I'm not currently aware of it in terms of organizational restructuring, but I will inquire and include that in the middle of next week.

>> JUDGE MOORE: Who is the current DOE official responsible for providing electronic files of documenting material as required by 10 CFR Section 2.1009?

>> MR. SHEBELSKIE: The same individuals, currently Mr. Gomberg and Jeff Williams.

>> JUDGE MOORE: And so, he's in the same organizational unit with the same reporting structure?

>> MR. SHEBELSKIE: Yes, sir.

>> JUDGE MOORE: Is some subset of the DOE

LSN document collection already in DOE's official agency record system in portable document format, that is PDF, in complete document structure form?

>> MR. SHEBELSKIE: Our collect -- yes, for first part, I know.

>> JUDGE MOORE: That's the subpart?

>> MR. SHEBELSKIE: Yes.

>> JUDGE MOORE: Then you have to tell me the percentage.

>> MR. SHEBELSKIE: Ah, percentage. Our collection consists of four major components. The largest group is the documents from our record processing center or RPC. That is, in essence, our official record-keeping database for the Office of Civilian Radioactive Waste Management.

>> JUDGE MOORE: All right. Are their documents in PDF?

>> MR. SHEBELSKIE: That's what I need to inquire. Some of them are, some of them are not.

>> JUDGE MOORE: Do you have a number or a percentage?

>> MR. SHEBELSKIE: I don't, but I can inquire into that. But that is a separate database that is subject to separate federal recordkeeping compliance, so they are in requirement with federal

law, whatever they require.

>> JUDGE MOORE: But they are a part of your LSN collection?

>> MR. SHEBELSKIE: We populate our LSN collection to put the documents on our LSN servers. We review the documents that go to the record processing center, is if -- what goes to the record processing center is documenting processing material, we create an electronic copy file of that document, or, excuse me, and then put it into our LSN server.

>> JUDGE MOORE: What format?

>> MR. SHEBELSKIE: Most of the documents in our LSN collection, in the subset and across the other subsets, are in TIF format.

>> JUDGE MOORE: Small substance? That's the conversion on the fly to PDF when they're delivered to the requester to the LSN?

>> MR. SHEBELSKIE: Yes, although, that was the way the LSN was set up many years ago, to handle that.

>> JUDGE MOORE: And you're gonna, on that subset, you're gonna check the percentage?

>> MR. SHEBELSKIE: Yes, sir, we will.

>> JUDGE MOORE: Is there any reason why DOE cannot archive that subset in PDF format?

>> MR. SHEBELSKIE: Technologically, I suppose it can be done. The reason we can't commit to that, Your Honor, is the vast number of documents involved. The extent is very large. We precisely haven't scoped out the cost of that because there are so many variables in play here. But it's fair to say it would be in a seven-figure number, for sure. And without an allocation in the budget to undertake that conversion, I don't think we can commit to that, Your Honor.

>> JUDGE MOORE: Before going to the other three parts, the percentage that are in this sub, the first subset in PDF format, in the official records system, are they in anyway linked to the LSN succession numbers?

>> MR. SHEBELSKIE: I do not believe in our record processing center we necessarily do, but we did make an effort, at one point a couple years ago, to go back and try to link them up, so I can't tell you with 100 percent certainty, but in large measure, yes.

>> JUDGE MOORE: Let's, then, address, as you just have with one-quarter, the other three-quarters.

>> MR. SHEBELSKIE: The next largest

collection or subcomponent of our collection is what we call an e-mail collection. This would be e-mails and attachments to e-mails in our collection. Those documents are not stored necessarily by any means in the official record processing center. Rather, they are back -- we have a backup system that we created several years ago to preserve the backup tapes and the new e-mails going forward in our collection. So we have, in, sort of, layman's terms, a warehouse of the e-mail traffic from the e-mail servers. That is currently maintained in an archived system, and certainly this fiscal year, it is being maintained.

>> JUDGE MOORE: And what format are those documents stored?

>> MR. SHEBELSKIE: I'm told they are in typical e-mail format, not PDF then, but the initial TST, I understand about.

>> JUDGE MOORE: Let's move onto your third category.

>> MR. SHEBELSKIE: I'll lump the third and fourth tone, because they present the same issues.

>> JUDGE MOORE: And they're all stored similarly?

>> MR. SHEBELSKIE: Yes, in our system. We have a group, of smaller percentage, of documents

that were paper copies that we found not in the record processing center, in people's offices, that sort of thing. Then, of course, electronic files, again, not from the record processing center but on people's laptops and things like that.

We collected those documents. We have them stored in their original paper and electronic copies filed with our automated litigation support contractor. They took the process of taking the paper files, converting them into the electronic images we needed to populate the LSN with them. Like electronic files, they have copies, they do whatever conversion was necessary to populate them in the LSN time. So, certainly we have them with CACI, stored in the TIF files that we needed for the LSN. We have both the text with them, of course, but we do not have PDFs for them, because there was no need for us to handle PDFs with them.

>> JUDGE MOORE: And the last three categories where you might want to bring the three in, three and four together, what percentage of your collection was that?

>> MR. SHEBELSKIE: Bear with me just a moment, Your Honor. We'll get back to you with the specs on Thursday, but rough order of magnitude, the

paper documents and the electronic documents, I would suspect, collectively, are probably not single digit percentages.

>> JUDGE MOORE: Now, let's go to the second category, what percentage?

>> MR. SHEBELSKIE: E-mails. E-mails are probably a good 25 to 40 percent of our collection, e-mails with their attachments.

>> JUDGE MOORE: And, excuse me, is that in regards to -- there a difference as to whether or not it's the number of items or the size of the files?

>> MR. SHEBELSKIE: The percentage that I was given, Your Honor, was just based on the percentage of documents, not a page count or megabyte comparison.

>> JUDGE MOORE: For those documents in -- that are a part of the agency's official records system, what's the record retention schedule for those?

>> MR. SHEBELSKIE: Simply put, a very long time, Your Honor, because they are governed by the federal record retention requirements which are measured. There are various categories, some of which go out, I believe, to 20 or 30 or more years for certain documents, but it's, it's an extended

period of time. Again, I will double check, but the answer varies based on the category of document. But I think the record -- we're not talking a short-term retention obligation here. It's the full year.

>> JUDGE MOORE: And from your description of the collection, I'm assuming that your first category has the longest retention schedule?

>> MR. SHEBELSKIE: Yes, sir. Absolutely.

>> JUDGE MOORE: And is it life of the Republic?

>> MR. SHEBELSKIE: I would like to think the life of the Republic is much longer than that, but, yes, I think it's long --

>> JUDGE MOORE: I thought it worked the other way, Mr. Shebelski, but --

>> MR. SHEBELSKIE: I think for any relevant time frame we have in mind, we already covered that.

>> JUDGE MOORE: Is TIF an acceptable format for submission of agency records to NARA?

>> MR. SHEBELSKIE: I believe so, Your Honor. I am told that there are archived documents in compliance with those national archive requirements that had been maintained for the past 20-plus years. They are in table robust form in

which to preserve the archive such documents and that it would be appropriate to both technologically and legally to maintain an archived collection in TIF format.

>> JUDGE MOORE: Does DOE currently have any plans to archive its LSN document collection?

>> MR. SHEBELSKIE: We have -- separate from our official record system, but the LSN collection of servers, that we discussed.

>> JUDGE MOORE: Under the structure, history and technology that is set forth in the LSNA's memorandum to the Board, that that functionality captures your document collection so when I request a document, I get it, and I get it in PDF format. Because of the complexity and the numerous steps that are involved in this technology that admittedly pushing better than 20 years, if DOE, hypothetically speaking, were to shut the system down, because you have the platform on which it's built, the hardware on which it's currently operating, and all of the various storage media, and a custom code lengthy computer program that grabs individual pages because they're not in a -- they're not in a document structured format, if anywhere along the line, we remove a piece of the puzzle,

three years hence, when you go to turn it back on, for example, and one of those circuit boards in one of those servers is gone, they don't even make those anymore, the system doesn't work and those documents can't be retrieved, I believe, if I'm reading the LSNA'S memorandum correctly. Therefore, archiving that strikes me as being roughly akin to tossing it into the waste basket because of the almost intolerable number of things that can go wrong when you put it back together. The age of the system and the people that wrote that computer program, I would be shocked and amazed to find if any of them are still employees, but ought to be well retired by now.

>> MR. SHEBELSKIE: Your Honor, I think I will answer your question this way. Today, we have not developed any contingency plans to archive the system because up to and through today, we are continuing to support our LSN obligation in the ongoing proceeding and, obviously, we will fully comply, continue to comply with maintaining our collection for the life of the proceeding and whatever the regulations require us to do to support that effort. Your Honor, your question poses, I think, a hypothetical that if there were a circumstance where proceeding with -- they are

terminated, you needed the ability in the future to preserve the ability to re-access the LS -- the existing LSN collection from a technological perspective, Your Honor is correct, it would, at least at present, be more feasible or better to maintain, not to go in a lights-out mode with the server, but to keep it up and running, if the objective were to preserve the ability to re-access those documents at some point in the future.

>> JUDGE MOORE: But -- archiving without access, unless I'm wildly mistaken, is essentially like lighting a match to it. If it can't be retrieved, what good does it do to archive it?

>> MR. SHEBELSKIE: Well, the other alternative, what you're suggesting is there was no anticipated need, reasonably, for licensing purposes, to preserve the ability to reconnect this collection in the hypothetical, then a decision would have to be made by DOE what to do with its LSN collection. There would be lots of hypotheticals, variables that come into play in it, depending on why you are archiving it. What duration are you talking about, what funds allocates to do that. That's why we really aren't in a position to commit one way or the other what would happen in that hypothetical in the

future.

>> JUDGE MOORE: Mr. Shebelskie, unfortunately, we're only human and we read the trade process as well. Has DOE, has DOE made any request, or does DOE have any plans currently under way, to request from OMB, the reprogramming of fiscal year 2010 funds away from any activity needed to support licensing?

>> MR. SHEBELSKIE: I am not aware of any, Your Honor. I have not been advised of any by my client. If the President makes any change in that next week, we will include that in what we report on Thursday.

>> JUDGE MOORE: Have you made inquiry?

>> MR. SHEBELSKIE: Yes, Sir.

>> JUDGE MOORE: And so that we're clear, currently, in fiscal year 2010 funds and program plans, there is no, nothing specifically identified for archiving LSN documents and related material other than any archiving that takes place as part of routine system backup and recovery tape generation?

>> MR. SHEBELSKIE: Our LSN bucket for fiscal year 2010 was -- has been modeled along. What we're doing now is to continue to maintain and continue to populate our collection to support the

licensing proceeding.

>> JUDGE MOORE: You've already taken question B off the table -- B off the table by saying you are not in a position to be able to answer it. But because you are going to be responding to us, we would be interested in knowing whether DOE is preparing an archiving plan for its LSN collection in a format that is readily retrieveable, what the principle components or features of that archiving plan would be, what the format of the, the archiving, the documents would be, for its LSN collection that is not currently in PDF format, and whether DOE has -- would have any plans about sharing its archiving plans with the LSNA or the licensing support network advisory review committee, and all of the where, hows and whys and the dollars and that would come with all of that, and how long it would take to complete.

And the reason the Board makes inquiry is because 2.1007, if I am remembering correctly, provides, in effect, that conditions may be attached once a notice of hearing is issued to any withdrawal of an application. And as set forth in our December 22nd order, it would seem only prudent that these collections be archived in a readily

accessible format, so because none of us do know the future and for that very reason contingency plans for that need to take place. And -- and I believe, as expressed in that order calling that provision to all the parties' attention, that is something that we would obviously want to hear all the parties on and entertain seriously. I think we need to move on quickly to the question that was raised by Mr. Fitzpatrick. There will be continuing monthly supplementation as long as licensing continues and at this point we were only dealing with a hypothetical prior to this, we are in reality here in spite of what some of you may think. And that will obviously change minutely the numbers of documents in everyone's collection. It will -- it cannot possibly, over the short haul, have any real dollar impacts on any party other than DOE and not likely that because your monthly average of documents has been trailing as often is quite small. So the status today is not going to be dramatically different from a future status, at least for the immediate future. In the eventuality that the information you -- eventuality that the information you provide us next week, after the President's budget is released and the situation dramatically

changes, we will then not be confronting the hypothetical, we will then have to deal directly with it, and I would like now to entertain all of the parties' views on what the best way to do that is. Respond to Board questions or comment on DOE's comments, have a case management conference where we hash it out. I would be interested in hearing all the parties on what your view is. Should the hypothetical not be a hypothetical, how best to proceed. Let's start with you, Mr. Shebelskie, since you had the floor.

>> MR. SHEBELSKIE: Well, Your Honor, next Thursday, we will report to the Board on any changes that might be appropriate to comment on and what may or may not be in the budget. In connection with that submittal, and it may, we can give any preliminary ^ report based on any elements next week, given the technical issues that we've discussed with archiving collections that were what needs to be discussed at that time, the details of the nuts and bolts of the archiving and calls were something we could do a preliminary scope on, I think it would probably need to be some more discussion, detailed discussions among informed I.T. people and our fundamental support staff along with the LSN administrator staff.

They could have some discussion and we could report back further with a more detailed plan in that circumstance. With that proposal, because obviously what we can do in those circumstance would depend upon what our budget cases are. So -- submittal to the Board with specifics, that people can then comment on, I guess.

>> JUDGE MOORE: Let's just go right down the list. Nye County, do you have a view on how we should proceed?

>> MR. VAN NIEL: Jeff Van Niel for Nye County, Your Honor. At this point, obviously we'd like to see what is presented. I'm not sure we feel case management or presentation is required. I think we could resolve most, if not all, of these issues on written submissions and questions from the Board.

>> JUDGE MOORE: Fine. Clark County.

>> MS. ROBY: Thank you, Your Honor. Again, Clark County would first like to see the written submission. It may be useful to have a case management conference, but not knowing what is going to be in that submission, it's difficult to tell, but providing written responses would be useful. But I think this kind of form is, kind of, useful.

>> JUDGE MOORE: NRC staff.

>> >> MS. BUPP: Margaret Bupp for the staff.

>> JUDGE MOORE: You are in the envious position of having covered all of your bases already, so --

>> >> MS. BUPP: Yes. I think for this particular conference, it was very useful to allow the parties to submit written submissions in advance. I think if we were confined to a conference, if necessary, allowing written submissions would be helpful, and, at that time, the staff could provide written confirmation to the three questions that the Board had about our collection, that we can't give 100% confirmation on today.

>> JUDGE MOORE: NEI.

>> MR. REPKA: David Repka for the Nuclear Energy Institute. I think we're very content to proceed in the first instance with written comments.

>> JUDGE MOORE: White Pine Ccounty.

>> MR. SEARS: We agree with NEI.

>> JUDGE MOORE: NCAC.

>> MS. LEIGH: Thank you, Your Honor. Rovianne Leigh for NCAC. We have an interest, certainly. We would welcome the opportunity to submit written comments and participate in a

conference if the Board so desires.

>> JUDGE MOORE: Inyo County.

>> MR. JAMES: Yes, Inyo County, Greg James. We concur with all the other previous suggestions.

>> JUDGE MOORE: Mr. Fitzpatrick.

>> MR. FITZPATRICK: Charles Fitzpatrick, State of Nevada. This is not being impudent, but you questioned this, if the hypothetical becomes a reality. What is the hypothetical? Is it a zero budget, is it a withdrawal of the application? What is the hypothetical that we are addressing?

>> JUDGE MOORE: It's essentially all of the above.

>> MR. FITZPATRICK: Well, because the answer to that --

>> JUDGE MOORE: Because I have no idea of what DOE's fiscal '11 budget is. Mr. Shebelskie does not either.

>> MR. FITZPATRICK: I, I --

>> JUDGE MOORE: If Congress does not appropriate, well, that's wrong. That is just a budget request. Congress will have to appropriate a timely determine, whether or not Congress goes along with DOE's budget requests.

>> MR. FITZPATRICK: That was reason for the question, Your Honor, because I suggest that this is -- this hearing and placing undue weight on a response by Mr. Shebelskie, which, however, he should be made to respond, but would be inappropriate because what's coming out is only a Presidential recommendation to Congress, and as we know from previous years, there may not be known what the Congressional budget is until perhaps after the elections, because it's, kind of, axiomatic that some Congressmen -- I think it happened last year, but in an election year, some Congressmen are reluctant to add to spending money until after the election is over. But in any event, what comes out next Monday and what comes out from DOE next Thursday may bear little relation to ultimately what occurs. So, with that in mind, I certainly think that at this stage, it would be sufficient to see what DOE says and to ask for written input from the other parties. But I made a comment earlier about being skeptical about the premise for this whole hearing and your order, and frankly, again, not to be impudent, but we're responding and you're responding to rumors and media accounts. And I submit that if White Pine County or, you know, NCAC was rumored by the media to be pulling

out of this proceeding, we wouldn't be here today. We wouldn't be, you know, jumping over ourselves to try to decide what to do to protect the party who is withdrawing and the other parties from that eventuality. And I suggest that if DOE, as I believe I heard, has no plans at present to change anything to protect its LSN, I don't believe it's appropriate for the cab to jump in and require DOE to protect itself and the other parties to protect themselves; likewise, in the eventuality that DOE may pull out, because if DOE were to pull out, DOE's position if Nevada pulled out, would be that's fine, Nevada's intentions are struck, bye-bye. And of course, if any party, I mean, they attempted to raise the LSN compliance issue to bar seven parties, JTS and NCAC were precluded from becoming party, even though they had admissible contentions, because their LSN compliance was not complete. And so, as DOE's pointed out many times, DOE -- LSN compliance is equally required of all parties, and so, a failure by any party then, big or small, to comply with those obligations should result in its exclusion from the proceeding and --

>> JUDGE MOORE: We understand your position in that regard, but Mr. Fitzpatrick, perhaps

we have been around too long, but this is because of the enormous investment in time and resources both by the AS LVP and the LSN, which is under our supervision, if you will, and the resources that the parties have had to expend in complying with those LSN requirements, and the requirements that the Board has imposed on them. I believe that recognizing that the hypothetical could become a reality, whether it does, I am in no position, or is anyone else in a position, to so state, but, we will have taken the first steps to protecting, to the best we can, that LSN asset at this point in time. And that's the sole purpose we're here. We recognize, as I started this, that this is hypothetical, but being forewarned is being forearmed. And events often can overtake one -- events can overtake one without time to deal with things properly and with proper reflection, and we want to avoid that problem. So, if we see -- I see, and I can't speak for my colleagues -- any problem with seeing what Mr. Shebelskie says and because that is -- reflects DOE's plans, whether or not it reflects the Congress' plans is entirely another matter, but that, in the real world, is an important piece of information to have.

>> MS. GORES: We agree with the last thing

you said, Your Honor, we look forward to the submission and having time to munch on it and having time to respond?

>> JUDGE MOORE: Four counties.

>> MS. GORES: Yes, Your Honor, we would support the opportunity to make written comments and then have a case management comments and details that need to be resolved.

>> JUDGE MOORE: California Energy Commission.

>> MR. BELL: California agrees. We welcome opportunities to participate in hearings as ordered by the Board.

>> JUDGE MOORE: The joint Timbisha Shoshone tribal group.

>> MR. POLAND: Your Honor, Doug Poland for JTS. We agree with the comments made by California.

>> JUDGE MOORE: And eureka County, Miss Curran.

>> MS. CURRAN: Thank you, Judge Moore. I had a question or a concern about something that I think may have come up in your discussion with Mr. Shebelskie. I had been aassuming that you were, you were thinking of this collection as something that was essentially frozen in time at whatever point

the case might end or the money might go away. And Eureka County would have a concern about needing to update its collection to basically be prepared to jump back into a case later on. I think that would be -- we would want a chance to respond to that in particular. I'm not sure whether you were actually assuming that or not, but that would be a concern. And I agree that it would -- we would like a chance to respond to the DOE's submission in writing and possibly in a case management conference.

>> JUDGE MOORE: And I take it, Miss Curran, that you have no reluctance to so state in your comments?

>> MS. CURRAN: I'm sorry. I didn't understand your comment, your question.

>> JUDGE MOORE: I take it you would have no reluctance to share that view in your written comments as well?

>> MS. CURRAN: Oh, right, that's correct.

>> JUDGE MOORE: Thank you. Do any of the parties have any other matters relating to the LSN that they wish to put before us?

>> MR. BELL: Your Honor, Kevin Bell, California Energy Commission, State of California. We weren't queried as to your earlier request of the

parties to comment on the Board's orders and California would have no objection.

>> JUDGE MOORE: I apologize. And thank you, Mr. Bell. What we would like to do is to take a brief 15-minute recess and -- one moment, Mr. Fitzpatrick -- come back into session as the case management conference, so that the Board has a moment to converse, and we will entertain the staff's update on its SCR schedule at that point as well as if during that time any of the parties, singularly or collectively, have any matters, we will then take them up. Mr. Fitzpatrick, you wish to be recognized?

>> MR. FITZPATRICK: Your Honor, Charles Fitzpatrick, State of Nevada. One clarification that I'd request with respect to the assignment given Mr. Shebelskie, I'm not certain -- I'm certain of the first part that the request applies to the efforts planned, contingency plans of DOE to preserve its LSN collection, again, in accessible form. What I'm not certain of is if it is also a requirement, which could be a separate requirement, that independent of the LSN, that DOE be required to preserve the scientific engineering data that's contained on the LSN, whether in an accessible format or not. And let me explain the reason. We have been told by the

media that Secretary Chu has asked for at least some money in 2011 to preserve, to wrap up things and to preserve the critical knowledge and data, and Mr. Grazer referred in his memo to you to the valuable scientific and engineering data, and I think we've all heard or read media accounts in the past of the reason to continue the proceeding in the face of the not-an-option phraseology is because of learning about the science of underground geologic disposal for possible future use. With all that in mind, I think it's just as important that DOE preserve the information and the data gleaned by this 20 years of studying this site and spending $10 billion, whether or not it proceeds in this licensing, and whether or not it captures it on an LSN archives and LSN retrievable as such. In other words, the data must not be lost, period, whether it's preserved in LSN or otherwise.

>> JUDGE MOORE: Isn't it a difference without a distinction, though?

>> MR. FITZPATRICK: I don't know that it's a difference without a distinction, because, I think one, one question that's clearly before, clearly raised in this question is, how would DOE plan to be able to have information LSN accessible under certain

conditions of reduced participation?

>> JUDGE MOORE: If the LSN collection is preserved in a retrievable -- readily retrievable format, does that not accomplish the very thing you've asked?

>> MR. FITZPATRICK: It accomplishes it for the time being, but if you were to order subsequently, you know, for instance, the denial of a license application with prejudice, the preservation of some documents in an LSN form -- LSN format might turn out to have been temporary, but the preservation of that data and information forever would be of importance for the future scientific world. I think both things should be addressed.

>> JUDGE MOORE: I am sure that you will be able to express those comments in writing in response to the information that Mr. Shebelskie will be providing us as well as if the future need arises, that we need to solicit additional information. That would appear to be a legitimate topic for us to address.

>> MR. FITZPATRICK: Thank you.

>> JUDGE MOORE: We will take a recess and re-convene at 10:30 and briefly, and then we will then recess again and then resume oral arguments.

Thank you.

(Recess)

>> JUDGE MOORE: Please be seated. Miss Bupp, I believe you have an update on the staff's SCR schedule for us?

>> MS. BUPP: Yes, Your Honor, I have an update on the schedule of completion for volumes 1 and 3. At this time, it appears volume 1 will be complete in August and volume 3 will be complete in November, both 2010.

>> JUDGE MOORE: If memory serves, the deposition schedule and our order were established on a different set of dates around the SCRs. Does this impact how all that discovery needs to be done?

>> MS. BUPP: I believe, Your Honor, and, of course, the other parties are free to weigh in, but from the staff's perspective, it would delay the start of discovery against the staff and it would delay the close of discovery because, obviously, discovery against the staff on SCR volume 3, which is where the bulk of the contentions are, in phase 1, couldn't begin until two months after the date we had originally assumed discovery would begin. And so that would obviously extend the time period for discovery.

>> JUDGE MOORE: Okay. Before we go down that path, we have a couple of LSN matters.

>> JUDGE WARDWELL: Mr. Shebelskie, I was hoping you might be able to shed some light on this, and if you can't, just include it on your list of bullet items for Thursday's dissertation. And that deals with the fact that you mentioned four different components of your record system -- of your records that are on the LSN. And the records system itself is one, and I think I recognize that is a permanent type of collection. I was interested if you could shed some light on what the retension schedule is for those other three and, likewise, whether or not those are in a format that are considered to be of permanent record material.

>> MR. SHEBELSKIE: Your Honor, Mike Shebelskie, DOE. I will have to add that to the list. The e-mail will be provided on Thursday. The e-mail collection is preserved in a separate repository that we maintain, and that will be subject to a different retention requirement than documents and the record processing center collection. The documents that are the smallest component of the paper, electronic files, we'd have to consider that as well, because I suspect they may or may not be

considered federal records by being put into CACI's possession for this proceeding. It would vary, so I really don't know that, we will conclude that on Thursday.

>> JUDGE WALDWELL: You mentioned the other two that I thought of. I couldn't remember the forth one, it was the middle one between your e-mails and your current record, I believe.

>> MR. SHEBELSKIE: The paper files and the electronic files.

>> JUDGE WALDWELL: Oh, those are the two. And in regards to what I call the sweep ones of the hard copies and electronic copies, I assume those are potentially from other agencies that do work for other contractors that do work for DOE, the federal agencies, other organization, is that correct, or is only DOE participants, do you know?

>> MR. SHEBELSKIE: It's across the board, really, DOE contractors and some other agency records. And there can be duplicates in these collections.

>> JUDGE WARDWELL: Thank you.

>> JUDGE RYERSON: I suppose the change in the time, of the SCR will necessitate some change in the case management order, the outstanding case

management order. Miss Bupp, was the original date for SCR 3, the third volume, which I think is the principal SCR in this phase, was that September?

>> MS. BUPP: Yes, Your Honor, it was September.

>> JUDGE MOORE: Okay. So we're talking about a two month delay. Based on September, the case management order, I think this was proposed by the parties has a discovery cutoff of November 30, so if we were to extend that simply two months, that would be January 31st, 2011. December may not be the best time for taking depositions, but just to throw out, is there a -- is there a sense in the room whether we should just extend that two months?

I think that would be the only change in the case management order. Let's start -- Nevada, I suspect, you will be taking many depositions, what's your view?

>> MR. FITZPATRICK: Charles Fitzpatrick, State of Nevada. We had discussed that as soon as Miss Bupp spoke and we think that's probably a logical consequence, a two-month extension.

>> JUDGE RYERSON: I could go all the way around the room, but if anyone thinks extending that simply a portion of two months doesn't make sense,

speak now or forever hold your peace. We will just issue an order extending the case management order. I haven't checked it thoroughly, but I believe that's the only change that would be required. We'll have the cut charge-off then on January 31, 2011, the discovery cut off with the phase 1 contention. Hearing no objection, we'll do an order to that effect.

>> JUDGE MOORE: Are there any other matters in light of the staff's new SCR schedule, as well as anything ongoing that you wish to bring before us before we adjourn the case management conference and resume the last two issues for oral argument?

Yes, Mr. Fitzpatrick.

>> MR. FITZPATRICK: Charles Fitzpatrick, State of Nevada. I don't know if this fits in here. I think it does, but would you address whether in view of the written filings and all, we can stop reserving the 23 and the 24, February dates?

>> JUDGE MOORE: Yes, just one moment. I think it's prudent to go ahead and hold those dates. We will be seeing something from Mr. Shebelskie on Thursday. We will be issuing an order for responsive times, and the timing would, I believe, work out, if

we did need another case management conference, that might be since everyone has already preserved those dates, that might be a logical time to do it. If after we see all the material -- we will release them upon seeing the material, if it's not necessary.

>> MR. FITZPATRICK: Your Honor, with all due respect, I mean that's fine, and everyone will have to reserve, it's just that I reiterate my prior suggestion that no matter what happens on February 4 or February 1, it's very hypothetical, and --

>> JUDGE MOORE: We understand that. We understand that and, indeed, we can certainly release one of those days since we don't have oral arguments attached to it, at least none that we know at this point. We'll -- let's go ahead and release Wednesday, February 24.

>> MR. FITZPATRICK: Yes, sir.

>> JUDGE MOORE: And as soon as we see the materials, the Board will be in a position to know whether the case management conference and receive the parties' comments and their suggestions, we'll be in a position and we will do that immediately upon receiving all that material, and we will get an order out to you early next week, setting a schedule for responding.

>> MR. FITZPATRICK: Thank you, Your Honor.

>> JUDGE MOORE: I thank you all for your participation. Again, the current situation is hypothetical, but we do think it demands some contingency planning and that was the purpose and function of this. So we will now adjourn the case management conference and in -- at - in ten minutes, so that the staff can rearrange the room, we will resume with -- take up issue 10 and oral argument. Thank you very much. We greatly appreciate your participation and your comments, and we now stand adjourned. Thank you.

(Adjourned: 10:40 a.m)