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Open Session

OFFICE OF SECRETARY
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Docket Number: 70-7004-ML; ASLBP No.: 05-838-01-ML

Location: Rockville, Maryland

Date: Tuesday, March 20, 2007

Work Order No.: NRC-1495 Pages 462-536/589-632/641-667

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E X H I B I T S

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>	<u>IDENT</u>	<u>REC'D</u>
	<u>Staff</u>		
38	Groundwater Monitoring	648	
50	Sampling Locations	648	
39	Monitoring Well Locations	649	
40	Monitoring Well Locations	649	
42	X-701B monitoring locations	650	
43	X-740 monitoring locations	650	
44	X-616 monitoring locations	650	

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

2 JUDGE McDADE: Are we ready to proceed?

3 MS. BUPP: Yes, we are.

4 JUDGE McDADE: Okay. For the record,
5 would the panel for the Staff introduce themselves.

6 MR. WESTCOTT: I'm Rex Westcott.

7 MR. SMITH: Brian Smith.

8 MR. HENSON: Jay Henson.

9 MR. JOHNSON: Tim Johnson.

10 MR. TROSKOSKI: Bill Troskoski.

11 JUDGE McDADE: And I believe that all of
12 you gentlemen were sworn yesterday. Is that correct?

13 MR. JOHNSON: Yes, sir.

14 JUDGE McDADE: Okay. And for USEC, we
15 have Mr. Miner, again, and Mr. Burino?

16 MR. BERNERO: Bernero.

17 JUDGE McDADE: Okay. Sir, could you
18 rise to be sworn. Were you sworn yesterday? I
19 don't believe so.

20 MR. BERNERO: No.

21 JUDGE McDADE: Okay.

22 (Witness sworn.)

23 JUDGE McDADE: Please be seated.

24 JUDGE WARDELL: Just starting off with a
25 general question for any panel member from the Staff

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1 who so wishes to address this question; that is, is
2 there a technical requirement that all credible
3 events leading up to a high or intermediate
4 consequence accident, and all IROFS needed to
5 demonstrate that the performance requirements for
6 that accident are met, need to be identified?

7 MR. JOHNSON: Yes, sir, there is.

8 JUDGE McDADE: Okay. And that's Mr.
9 Johnson?

10 MR. JOHNSON: Tim Johnson, yes.

11 JUDGE WARDELL: I see other people
12 scurrying, so I'll wait a few minutes to see if
13 anyone else would like to comment on that, or have
14 any other issues they wish to address in regards to
15 that. I'll go on with Mr. Johnson, then, and then
16 other people can comment.

17 Given that, has the ACP application
18 included all that information that you needed to
19 address all those credible accidents?

20 MR. JOHNSON: Could you repeat that,
21 please?

22 JUDGE WARDELL: Yes. Has the ACP
23 application provided all the information you need to
24 address all those credible accident events?

25 MR. JOHNSON: The standard that we used

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1 was a reasonable assurance standard, and with the
2 exception of a couple of individuals, I think all of
3 the other reviewers agreed that there was sufficient
4 information provided to meet that standard.

5 JUDGE WARDELL: And does that meet the
6 standards or the guidance provided in 1520, also
7 NUREG 1520? Has it been reconciled with review
8 guidance in that --

9 MR. JOHNSON: I think that's the feeling
10 of everyone, except the individuals that have
11 indicated that they disagree with that.

12 JUDGE WARDELL: Is there anyone else who
13 would like to comment on that, on this line of
14 questioning?

15 MR. TROSKOSKI: Well, this is Bill
16 Troskoski. In the SRP, the guidance provided there,
17 I believe the words are "consistent" --

18 JUDGE WARDELL: Which SRP is this?

19 MR. TROSKOSKI: The Standard Review
20 Plan, 1520. It refers to do a safety review
21 consistent with the level of design available, so it
22 does recognize that you're not dealing with a
23 complete design. And that Reg Guide was developed
24 through a series of public meetings where we had all
25 stakeholders involved and participating in it. It

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1 was docketed. There were Federal Register notices
2 on it, and it underwent a very thorough open review
3 and approval process.

4 JUDGE WARDELL: Are there any criteria
5 in that review plan, NUREG 1520, that helps you
6 determine whether there's sufficient design in order
7 to comfort yourself that you've come up with a
8 reasonableness determination that all credible
9 events have been identified? To say it another way,
10 is there any guidance in there to comfort you that
11 the applicant isn't putting off so much information
12 until later that there are major gaps in some of
13 your evaluation needed to address the credible
14 events.

15 MR. JOHNSON: Okay. Although there is
16 not -- I don't think there's a lot of specific
17 guidance in that regard, based on professional
18 judgment and experience, including my experience at
19 other UF6 handling facilities, and in licensing
20 other gas centrifuge facilities, I feel that the
21 level of detail that we've got is sufficient to meet
22 the standard.

23 JUDGE WARDELL: Is there a potential
24 that the lack of design details for the ACP
25 application had some reasonable chance of preventing

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1 you from identifying all credible events; that is,
2 is the lack of information there so that you might
3 have been unable to identify one, because it
4 wouldn't have been brought to your attention in
5 regards to that particular design element that might
6 have led to a credible event that needed to be
7 identified?

8 MR. WESTCOTT: I'd like to speak to
9 that, and the first thing I'd like to say --

10 JUDGE WARDELL: Mr. Westcott.

11 MR. WESTCOTT: Yes, this is Rex
12 Westcott.

13 JUDGE WARDELL: I recognize you.

14 MR. WESTCOTT: Neither the regulation,
15 nor the SRP, requires all credible events. It
16 requires credible events that are above the
17 threshold of 7061; that is, that have either
18 potentially high or intermediate sequences need to
19 be identified and evaluated. So you could have a
20 lot of low threshold events where you have very
21 minor releases that don't cause significant
22 consequences that need not be identified, and can,
23 in fact, be screened out during the actual hazards
24 identification process. And by looking at areas
25 where we've already testified are likely to be the

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1 significant consequences, like the sampling and
2 transfer area, the feed area, the cylinder yards,
3 fire, perhaps, I think we have a very good
4 indication that the high consequence, intermediate
5 level sequence accidents have, in fact, been
6 identified.

7 JUDGE LAM: So this is a risk-informed
8 approach that you are taking?

9 MR. WESTCOTT: Well, the SRP and the
10 rule basically identifies a risk-informed approach.

11 JUDGE WARDELL: What comforts you that
12 there isn't a design detail out there that when you
13 saw it, wouldn't flag in your mind wow, that may
14 lead to one of those credible events that I should
15 be addressing?

16 MR. WESTCOTT: I believe we take
17 confidence in the fact that none of the IROFS that
18 we are aware of involve technologies that are
19 unknown, or non-standard. I mean, basically, you're
20 talking about isolation valves, and pressure
21 transducers, and temperature measuring,
22 thermocouples. These are all things that are
23 basically well-known technology, and the
24 development, and the design and manufacture of such
25 systems are prescribed in codes and standards, which

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1 the applicant has agreed to, which he has committed
2 to. So I think we take confidence that even though
3 we have not seen final designs of these various
4 safety systems, that they will, in fact, work in a
5 reliable and effective manner.

6 JUDGE WARDELL: Would you care to
7 comment in regards to the level of the design that
8 has been submitted in regards to whether or not you
9 are down to that level of detail? Are there some
10 components that aren't to that level of detail,
11 where you're looking at the specific design of the
12 IROFS, that there's design elements missing that are
13 sub-systems that you're not aware of, that may lead
14 you to believe it could result in one of those
15 credible events, once you got to see it?

16 MR. WESTCOTT: Well, I was just going to
17 say that what we've reviewed is consistent with our
18 guidance. Basically, it describes functions, and
19 design bases, and what's required in the SRP.

20 MR. JOHNSON: Well, let me give you an
21 example.

22 JUDGE WARDELL: Mr. Johnson?

23 MR. JOHNSON: Tim Johnson.

24 JUDGE WARDELL: Thank you.

25 MR. JOHNSON: One of the IROFS --

1 mS. BUPP: I'm not quite sure what he's
2 going to say, but before we get into any specific
3 examples, this session, I believe, is still open to
4 the public, so we need to close it if we're going to
5 be discussing specific IROFS.

6 MR. JOHNSON: I think I can make this
7 general enough.

8 MS. BUPP: Okay.

9 JUDGE WARDELL: I think that's all I --

10 MR. JOHNSON: In one of the systems that
11 USEC is proposing as an IROFS is a system for
12 containment of liquid UF6, and in there, they're
13 going to apply the American Society of Mechanical
14 Engineer's Process Piping Code B31.3, and they
15 committed to applying that code. Now the level of
16 design that was submitted to us doesn't include the
17 joints, and how the particular joints may be
18 connected, whether it's welded, or flanges, or where
19 those welds or flanges are going to be, but if you
20 apply the commitment to the code, the code will make
21 sure that all of those details will be applied
22 correctly in accordance with that code. So while we
23 don't have all the piping details, we do have a
24 process and a program for ultimately making sure
25 that that system will be designed to have the

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1 appropriate pressure integrity, and confinement
2 function that was intended for it.

3 JUDGE LAM: So that is a sensible way of
4 doing business, isn't it, Mr. Johnson? Once you see
5 an ASME code commitment, you know what the detail
6 will be in the future, even though you don't have
7 them now.

8 MR. JOHNSON: That's correct. And, of
9 course, these things can be easily inspected in
10 verification that the facility was designed and
11 built to meet the licensee commitments.

12 MR. SMITH: This is Brian --

13 MR. TROSKOSKI: This is Bill Troskoski.
14 For example, the autoclave, it's going to be an ASME
15 pressure code Class 3 vessel. That's basically all
16 you need to know. It's going to be made to a very
17 stringent code. It's going to have QC points on it.
18 It's going to have quality assurance requirements
19 imposed on it.

20 JUDGE LAM: So in the end, if and when
21 the licensee does not deliver its commitment of
22 equipment promised to be ASME code compliant, then
23 the applicant has a problem. Right?

24 MR. TROSKOSKI: Oh, yes. And it's
25 enforceable.

1 JUDGE McDADE: Thank you. If I could,
2 just as a follow-up, with regard to the functional
3 level of design, there are some items of technology
4 here that, as you've indicated, are relatively well-
5 known, such as the autoclave that you've just
6 mentioned, such as certain piping that you have
7 described, that there are well-established codes and
8 standards for that, so that when a commitment - and,
9 again, it's a commitment, it's more than just simply
10 saying this is what we intend to do, this is what
11 they have to do with regard to that. But there are
12 other parts of the design that are, for lack of a
13 better phrase, innovative, new, cutting edge
14 technology, things that have not been done before.
15 And with regard to those parts of the technology,
16 the question is, is it still a functional kind of
17 design information, or specifically, when you're
18 getting into the more complex technology, technology
19 where the requirement for reliability is absolute,
20 technology that requires human input and control,
21 and perhaps, very specific training for it; don't
22 you need more information in order to pass on the
23 safety of that? And are there any instances in this
24 particular design where you feel you lack that kind
25 of information? And I realize that's a complex

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1 question. I should never ask --

2 MR. TROSKOSKI: This is Bill Troskosi.
3 I'll start by taking two steps back. First of all,
4 what the licensee is trying to do is meet the
5 performance requirements of 70.61. That's broken
6 down into radiation exposure levels, and it's broken
7 down into chemical exposure levels. They're trying
8 to take a graded approach to control the risk so
9 that a high consequence exposure is highly unlikely,
10 and an intermediate consequence exposure is
11 unlikely, a high consequence is highly unlikely.

12 JUDGE McDADE: And just so the record is
13 clear, when you say 70.61, that's 10 CFR 70.61.

14 MR. TROSKOSKI: 10 CFR. Correct. Now
15 what they're required to do is do a safety analysis
16 to look at their facility and ask what hazards do we
17 have that could result in exceeding the performance
18 requirements. And then they're going to look at all
19 unmitigated accident sequences that can do that.

20 Now keep in mind, there are basically
21 just two outcomes that you can have where you would
22 exceed one of those performance requirements of 10
23 CFR 70.61. The first is an inadvertent criticality,
24 and the second is a loss of confinement. So let's
25 just look at it from a chemical point of view, which

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1 is my background. How can you lose confinement?
2 You can lose it by two basic mechanisms; you can
3 lose it by an external mechanism, such as natural
4 phenomena hazard, man-made event, driving a forklift
5 truck through it, or you can lose it through an
6 internal mechanism, such as corrosion, erosion,
7 over-pressure, over-temperature, et cetera.

8 What the applicant has done is based on
9 their 50 years of operating experience of dealing
10 with UF6 at the gaseous diffusion plant, they did an
11 initial hazards analysis, they also did a what-if,
12 and a checklist, where they methodically broke down
13 their facility node by node, and they applied that
14 checklist to ask what methods can possibly result in
15 breaching this confinement, either externally, or
16 internally? So when you do it in that kind of a
17 systematic way, you do not need a lot of detailed
18 design analysis for it. Once you've established a
19 mechanism or an accident sequence that can exceed
20 Part 61, then you're going to be applying IROFS that
21 will either prevent it, or they're going to mitigate
22 the consequences of it.

23 Now the basis for the selection of those
24 IROFS, the basis for the frequency that they take
25 credit for, those are provided in various tables in

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1 the ISA summary. And the Staff has had an
2 opportunity to look at generically how they were
3 going to do that, and to do vertical slices of how
4 it was actually done. In addition, when the
5 facility gets ready to operate, we will be doing an
6 operational readiness review with the folks from
7 Region 2 to verify that what's out in the field is
8 actually what is represented in the license
9 application. Does that help some?

10 JUDGE McDADE: It helps a great deal,
11 yes. Mr. Johnson.

12 MR. JOHNSON: This is Tim Johnson. Let
13 me also add that the safety systems that are being
14 proposed for this plant really are fairly standard
15 safety systems. While there is innovative
16 technology in the business end of the plant, in
17 terms of the safety systems, these are systems that
18 are commonly applied for all Uranium Hexafluoride
19 systems, and certainly systems that USEC has been
20 familiar with from the operation of its gaseous
21 diffusion plants.

22 MR. TROSKOSKI: This is Bill Troskoski,
23 again. We're using an innovative or an old standard
24 design gas centrifuge, you know, the failure
25 mechanism, you're going to consider, can it fail

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1 internally, can it fail externally? There are only
2 so many ways you can fail, either physically, or
3 chemically, or with pressure, temperatures,
4 fragmentation, et cetera. And that's well-known.

5 MR. WESTCOTT: Yes. This is Rex
6 Westcott. One thing to add to what Mr. Troskoski and
7 what Mr. Johnson have said, is that the only
8 significant consequence areas, potential consequence
9 areas, in our opinion at the plant, are basically
10 the sampling and transfer area, the feed area, and
11 the cylinder yard, as we said before. We don't
12 believe that there's anything really innovative in
13 those areas, maybe with the exception that feed is
14 being sublimed, rather than liquified into the
15 system, which makes it inherently safer, actually.
16 But as far as consequences in the process buildings,
17 and the centrifuge, and the cascades, which are
18 innovative, those are not potentially high
19 consequence, or intermediate consequence areas.

20 JUDGE McDADE: So in your professional
21 judgment, the level of design information you have
22 is adequate for you to do a safety assessment.

23 MR. WESTCOTT: That is correct.

24 JUDGE McDADE: Okay. A moment ago, you
25 used the term "vertical slice", and that's been

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1 mentioned quite a bit in the documents that we have.
2 Just to make sure that my understanding of that is
3 correct, could you explain that to me, again?

4 MR. WESTCOTT: Okay. Rex Westcott. A
5 vertical slice is where you pick out a sequence, and
6 you go through it right from the initiation of the
7 sequence, to the consequences of the sequence; in
8 other words, is there justification for the
9 initiator? Have you identified all initiators? How
10 about likelihoods, have you properly identified
11 likelihoods? What references, what basis has the
12 licensee or the applicant used? Those are things we
13 check on a vertical slice.

14 We go on and look at the actual
15 consequence calculation, is it accurate? And then
16 if it exceeds the 10 CFR 70.61 performance limits,
17 we look at the controls that are proposed, the
18 IROFS. And, first of all, we determine if these are
19 going to be effective in controlling it, are these
20 the right IROFS? We look at the reliability. We go
21 through the type of calculation I was talking about
22 yesterday, where we look at the events, and what the
23 different permutations are based on IROFS failures,
24 and IROFS successes, and determine if the licensee
25 has, in fact, met the performance requirements for

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1 that particular sequence. And during the course of
2 this review, we also look at things like
3 conservatism, we look at quality assurance. We make
4 sure that the calculations were done accurately.
5 Well, that's actually about it.

6 JUDGE LAM: So this is not a job for an
7 amateur.

8 MR. WESTCOTT: Maybe Brian can add.

9 JUDGE LAM: So this is no job for an
10 amateur, Mr. Westcott, is it?

11 MR. WESTCOTT: Well, you're correct.
12 You have to have a technical knowledge of what
13 you're looking at, and that's why we have relatively
14 large teams doing an ISA review, and we have a
15 number of people with the expertise that is required
16 to perform these reviews. And we bring this team
17 down, and we go on site and perform these reviews.

18 JUDGE LAM: And if you select a priori
19 the wrong sequence, that this vertical slice
20 analysis would provide you with no information.

21 MR. WESTCOTT: Well, we do a risk-based
22 selection. And, in fact, we select the sequences
23 normally before we go on our on-site visits, and we
24 select them based on the potential consequences,
25 based on the complexity of the IROFS, the controls

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1 that are being selected. And we believe that the
2 sequences that we've proposed for vertical slices
3 give us a good indication of the overall quality of
4 the work done by the applicant.

5 JUDGE LAM: Oh, Mr. Westcott, I'm not
6 saying you'll select the wrong sequence.

7 MR. WESTCOTT: Oh.

8 JUDGE LAM: I'm saying if you have
9 selected the wrong sequence, then all that effort
10 may not provide any useful information.

11 MR. TROSKOSKI: This is Bill Troskoski.
12 That's not true. What you're doing is, the
13 applicant is applying an approved process with
14 qualified people to do that. That's a horizontal.
15 What we're doing now in the vertical slice is, we're
16 independently verifying that all the commitments
17 they made for program were, in fact, implemented,
18 and that we're in agreement with work that was done
19 by the qualified personnel who were charged with
20 implementing that program. So we're not doing a
21 complete review of all accident sequences, what
22 we're doing is we're doing the risk-informed
23 selection to verify that what the applicant
24 committed to, is actually functioning.

25 JUDGE LAM: Yes, indeed.

1 JUDGE WARDELL: In regards to that, as a
2 standard practice, as design evolves and becomes
3 more detailed, does the applicant submit that for
4 your review, even after their license has been
5 granted, and to what level of detail will you review
6 that? And when, in the construction process, will
7 that take place?

8 MR. SMITH: This is Brian Smith. As the
9 design does evolve, and the applicant does identify
10 additional details about various systems and parts
11 of the plant, they will periodically update their
12 ISA summary. And each year, as I testified
13 yesterday, in accordance with Part 70, 70.72, they
14 are required to submit by essentially the end of
15 January each year a list of page changes to the ISA
16 summary where changes have been made. And we do
17 perform reviews of those submittals, along with any
18 facility changes that the licensee may have made
19 during the year, that they were allowed to make
20 without coming in for an amendment.

21 MR. TROSKOSKI: This is Bill Troskoski.

22 JUDGE WARDELL: Can I just finish up,
23 and then I'll let you proceed. A follow-up on that
24 is, so what you're saying is you will have been
25 submitted -- the applicant will have submitted to

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1 you changes that relate to safety issues that would
2 affect the ISA, but wouldn't do any other types of
3 design details that have no affect on safety. Is
4 that what you're trying to say? Can I take that as
5 an inference from what you were saying?

6 MR. SMITH: Yes, sir. I believe so.

7 JUDGE WARDELL: And when would you
8 review this in regards to the construction of that
9 particular element that you could use as a
10 hypothetical example?

11 MR. SMITH: Okay. From a headquarters'
12 perspective, we'll review the submittals that come
13 into us each January.

14 JUDGE WARDELL: But what if they had
15 done a design analysis in the first of February,
16 completed it, and then started construction on it;
17 and, meanwhile, you didn't see it until the next
18 January?

19 MR. SMITH: Okay. I'll let Jay talk
20 about that.

21 JUDGE WARDELL: Sure.

22 MR. SMITH: But just one thing; we do
23 have a license condition that requires the applicant
24 to follow their IROFS boundary package procedure.
25 It's for the development of each individual IROFS,

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1 and it requires them to look at the specific
2 controls can be in the IROFS, what is within the
3 boundary of that IROFS, electrical power,
4 instrument, air, procedures. It also has to address
5 the management measures that are required to be in
6 placed to maintain the reliability of that IROFS,
7 and so we've required them to follow that procedure
8 for each individual IROFS.

9 JUDGE McDADE: And, Mr. Smith, how is
10 that reviewed by the NRC?

11 MR. SMITH: They're not required to
12 submit those. However, that will be a major thing
13 that the Region 2 inspectors will be utilizing as
14 part of their construction and operation, readiness
15 review inspections. I'll let Jay talk about that.

16 JUDGE McDADE: Mr. Henson.

17 MR. HENSON: Yes. What we do from an
18 inspection standpoint is, the first thing is we'll -
19 and we have a meeting planned with USEC next week to
20 discuss construction. And what we want them to be
21 able to tell us is from an IROFS standpoint, when do
22 you expect to procure, or develop, or have a design
23 package ready for review and implement IROFS, a
24 particular IROFS, so we'll have that scheduled in
25 with our inspection effort.

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1 When we go on site, we also take Region
2 2 inspectors. If we're going to look at an ISA
3 issue, we'll ask support from the headquarters ISA
4 staff to come with us. We will look at their ISA
5 summary. We do a similar horizontal and vertical
6 slice, where we look and make sure they've got the
7 policies, the processes, the procedures, the
8 programs, and the people in place to implement their
9 ISA program. And then we do that vertical slice
10 through the inspection process of selecting some of
11 those from a risk-informed standpoint, those IROFS
12 that we want to follow through from the standpoint
13 of the design, all the way through to its
14 implementation and construction, and testing, and
15 verification. And so we, again, apply that risk-
16 informed approach to make sure that all those
17 important safety systems, again, are designed. And
18 if we need design support, that we have the Center
19 for Nuclear Waste do regulatory analysis to help us
20 with that, say if it's a seismic issue, if we think
21 we need that kind of expertise, we have that
22 available. If it's some other issue, say
23 electrical, we have electrical engineers in our
24 construction inspection group in Region 2 that can
25 provide that support to us. So, again, we get the

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1 support where we need it, but we do have a process
2 through this design and construction phase to make
3 sure that those IROFS will be looked at, and their
4 programs will be looked at during construction to
5 make sure that they are designed and implemented as
6 required by the license.

7 MR. TROSKOSKI: This is Bill Troskoski,
8 if I may supplement this. The licensee is required
9 to submit a license application. Along with it, but
10 not part of the application, is something called the
11 ISA summary. That's what we have reviewed here.

12 Now on-site, they keep the entire ISA,
13 which is a lot of material, including design
14 information. Part of that is something referred to
15 as Process Safety Information. In 10 CFR Part 70,
16 there are specific regulatory requirements
17 specifying what they must do to maintain that
18 Process Safety Information, which includes the
19 design, current and available for NRC inspection at
20 any time.

21 JUDGE McDADE: Okay. Thank you, sir.

22 MR. MINER: Excuse me. Pete Miner.

23 Could I offer something?

24 JUDGE McDADE: Please.

25 MR. MINER: Just one additional follow-

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1 up. In addition to the annual updates that Mr.
2 Smith identified, we also do have a commitment to
3 provide an ISA update 180 days before we introduce
4 UF6, so there is one additional ISA summary update.

5 JUDGE WARDELL: Considering you're
6 speaking, maybe I'll go on to some of your pre-filed
7 testimony then, since you've opened the door for
8 that. On page 13 of your pre-filed testimony, you
9 are addressing a question that said, "Please explain
10 the requirements under 10 CFR 70.72 regarding the
11 need for prior Commission approval for changes that
12 significantly affect information contained in the
13 ISA summary."

14 Could you point out to me where in 70.72
15 it says "significantly"? Doesn't it, in fact, say
16 that -- does it have that phrase "significantly",
17 just talks about needing to meet that prior approval
18 prior to -- for information, or any information, or
19 something like that, I can't remember the exact
20 phraseology in that, but I was wondering where the
21 phrase "significantly" comes from? And then,
22 likewise, what's the definition of that, from your
23 perspective and your submittal.

24 MR. MINER: Peter Miner. Just one
25 second, and I'll refresh my recollection of 70.72.

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1 I don't see the word "significantly" in here. I
2 believe what we've done is, we've summarized the
3 criteria by which we would be able to make those
4 changes that would require NRC approval. 70.72(c)
5 specifies under what conditions you may make changes
6 without prior NRC review and approval. So, to us,
7 those criteria contained in 70.72(c), if you do not
8 meet those, that would be significant.

9 JUDGE WARDELL: For those changes, are
10 there any opportunities for public input into that?

11 MR. MINER: If the changes did not meet
12 the criteria for internal implementation; in other
13 words, they did require a license amendment, that
14 opportunity would be afforded.

15 JUDGE WARDELL: If there wasn't a need
16 for an amendment, but it was a change to the ISA,
17 you still need to submit that to the -- you need to
18 change your ISA accordingly, and that would be
19 submitted in January, as I understand it, as part of
20 the changes. Is that correct?

21 MR. MINER: Peter Miner. Yes, that's
22 correct.

23 JUDGE WARDELL: Thank you. Anything
24 that USEC has stated that the staff would like to
25 comment on?

1 MR. SMITH: No, sir. Brian Smith.

2 JUDGE WARDELL: Those are all the
3 technical questions I have, before we talk about
4 legal aspects.

5 JUDGE LAM: I would like to ask Mr.
6 Bernero a couple of questions. Mr. Bernero, you
7 have had a distinguished career with this agency
8 before you retired. You practically have done
9 everything possible within this agency, as senior
10 manager, different technical statutory offices. Now
11 as an advisor to the applicant, may I ask you a
12 couple of questions? It may not be fair to you.

13 If I can just ask, would you please put
14 on your head a former hat as a senior manager of
15 this agency. If you now look at this facility, as
16 proposed - two questions. Are there anything that
17 would keep you awake at night? Secondly, are there
18 anything the applicant is doing right that would
19 give you comfort?

20 MR. BERNERO: This is Bob Bernero
21 speaking. Yes, Judge Lam. I was approached as --

22 JUDGE LAM: Yes, it would keep you awake
23 at night?

24 (Laughter.)

25 MR. BERNERO: No, what I was referring

1 to was the approach of a senior regulator. I have
2 been a consultant, Nuclear Safety Consultant, for 12
3 years since I retired from the NRC, and I have been
4 engaged by USEC for the gaseous diffusion plants for
5 more than 10 years. And they asked me late last
6 year, as a retired senior regulator, if I would look
7 at this application with which I had no dealings
8 prior to that, if I would look at this, and answer
9 is there enough information here to satisfy the
10 regulation, for completeness, for sufficiency of
11 filed information.

12 I approached that as a senior regulator,
13 and my approach to it was, where is the risk? I'm
14 quite familiar with Uranium enrichment technology,
15 and UF6 handling. I have extensive experience in
16 the licensing and safety review process, as my
17 resume indicates. And so what I did is, I
18 approached this first to look at the application,
19 say where do they find, or show the principal
20 sources of risk? And you're quite familiar with it
21 by now, the centrifuges themselves have very low
22 pressure and mass within them. And that is a
23 characteristic of a gas centrifuge enrichment plant,
24 so that one has to look to the large masses of
25 Uranium Hexafluoride, that's at the feed, at the

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1 product withdrawal, and product sampling, handling,
2 things like that, and of course, at the tails
3 withdrawal, because that's the largest mass flow.
4 And these mass flows are going to be carefully
5 designed if you would operate the plant safely, and
6 they have to be carefully designed if you would
7 operate it effectively, because the low inventory of
8 the cascade itself makes it incumbent on the
9 operator to be able to feed with sufficient
10 rapidity, and more importantly, to withdraw product
11 with sufficient rapidity to maintain production. So
12 that's where I looked.

13 I looked at these large mass locations,
14 and then what I did is, everyone that would have the
15 material in the most risky form, which is liquid, I
16 went after those first. Then I went after other
17 large mass flow operations that unlike the GDPs, do
18 not use the liquid form, and I went to see if they
19 come close, because they do have large masses there.
20 And I went through all of these, and basically, I
21 was looking for worrisome things, things that would
22 make me uneasy, evidence of -- in my experience, we
23 used to use the expression "risk insights", now the
24 conventional terminology is "risk-informed"
25 regulation.

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1 You keep the risk in mind as you look at
2 the operation, and at the proposed license. You
3 look at what is potentially risky. And, frankly, I
4 found nothing that would keep me awake at night. I
5 could go into detail, but that would require --

6 JUDGE LAM: Oh, no.

7 MR. BERNERO: That's not public
8 information.

9 JUDGE LAM: Right. That would not be
10 necessary. I am very glad that, Mr. Bernero, you
11 provided a global perspective as a senior advisor to
12 the applicant, as to where the major vulnerabilities
13 are. And thank you for that.

14 JUDGE McDADE: With regard to that, if I
15 could, we've had some discussion earlier with regard
16 to the degree of design finality, that for certain
17 aspects, the design is already pretty well set, for
18 others, there still needs to be some work done with
19 regard to it. You identified the feed, the
20 withdrawal, the sampling, and the tails withdrawal
21 as those areas that, in your judgment, based on your
22 professional experience, pose the greatest risk.
23 Are you satisfied that the design in those areas is
24 sufficiently advanced to be able to assess the
25 reliability of the systems involving the feed, the

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1 withdrawal, the sampling, and the tails withdrawal?

2 MR. BERNERO: Yes, I am so satisfied. I
3 would tell you that I was engaged by USEC in
4 November of '06, 2006, and the first documents I was
5 given to start with were the August 4th memorandum
6 from Mr. Pearson, and the two differing opinion
7 memoranda that followed closely on there, so that
8 brought me automatically into one of the priority
9 areas, and so I did go in there quite closely. But
10 as I said a little earlier, it would require a
11 closed session to talk about that with more
12 information. I did find adequate information there.

13 JUDGE McDADE: Adequate information for
14 what purpose?

15 MR. BERNERO: Sufficient for the safety
16 review.

17 JUDGE WARDELL: Let me ask it this way,
18 then. Do you feel there is sufficient design
19 information, such that there are reasonable
20 assurances that all credible events leading to high
21 or intermediate consequence accidents could be
22 identified by both the applicant and the staff in
23 their review?

24 MR. BERNERO: Yes, I am so satisfied.
25 And the reason I am so satisfied is, very early when

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1 I had access to the application, it's very large,
2 very cumbersome, and I couldn't possibly read the
3 whole thing and study it, just as an individual.
4 But I reviewed the ISA methodology. I'm very
5 familiar with the history of ISA development, and
6 PRAs before that, and I reviewed that methodology,
7 and that indicated to me that the process for safety
8 evaluation was sufficiently thorough, that it was
9 going to find the bad ones. It wouldn't be perfect,
10 but it was an appropriate process, and could provide
11 reasonable assurance.

12 JUDGE WARDELL: Thank you, Mr. Bernero.

13 JUDGE LAM: Now if I may, Mr. Bernero,
14 we've gone through the issue of completeness before.
15 I'm sure you have seen and heard the testimony.
16 When you talk about well, it's not perfect, which is
17 well acknowledged, you also talk about reasonable
18 assurance. And then Mr. Tim Johnson had earlier
19 testified there is a reasonable assurance standard.
20 Now would you please elaborate on just exactly what
21 is a reasonable assurance, is it something different
22 to the eyes of the beholder? Do you have a
23 different reasonable assurance standard than I, or
24 Mr. Johnson?

25 MR. BERNERO: Bernero speaking. I can

1 tell you what my understanding is of reasonable
2 assurance. And I'm fairly confident that it is an
3 understanding that is held by most of the NRC staff.
4 There is a body of regulatory history that has given
5 evidence of what constitutes a sufficiently thorough
6 safety evaluation and analysis in order for the
7 regulator to have reasonable assurance that the
8 health and safety of the public is protected.

9 Now this depends on the requirements
10 levied on the applicant for a license; that's, the
11 applicant is seeking authorization to do something
12 that has hazards, or potential threats to the public
13 health and safety, and the responsibility for safety
14 is the applicant's first and foremost, and remains
15 the applicant, even after a license. So the staff
16 is really viewing the conduct of the safety analysis
17 presented by the applicant, is reviewing the
18 thoroughness or completeness of it. And if there
19 are misgivings about certain aspects of the required
20 submittal, then the staff moves to rule making to
21 require more submittal. So the standard that the
22 staff uses is, are there well-documented and well-
23 understood requirements and safety analyses to
24 fulfill or satisfy those requirements, and can the
25 staff do enough analysis and review independently,

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1 not 100 percent review, not taking over the
2 responsibility of the licensee or applicant, but
3 doing enough to draw a conclusion that given the
4 infrastructure that we require the applicant and
5 licensee to have in place to operate this facility,
6 and the oversight the NRC provides for inspection
7 and oversight of that facility, that we have
8 reasonable assurance that the public health and
9 safety is protected, so it's a very abstract
10 concept.

11 There is one example, where the NRC
12 actually changed the words "reasonable assurance" to
13 something else in the high level waste regulation,
14 10 CFR Part 63. You will find the legislative
15 record that at the suggestion of the Environmental
16 Protection Agency, which sets the high level waste
17 standard, the NRC has adopted the judgment of
18 reasonable expectation, simply to distinguish that
19 in the case of reactors or uranium enrichment
20 plants, the evaluation is for this generation. It's
21 for a 30-year, or a 40-year, or a 50-year period,
22 and it is active surveillance. But the judgment in
23 the case of the high level waste repository is for
24 hundreds, and thousands, and tens of thousands of
25 years after the waste is in place. It's not the

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1 same thing. It's not the same level of assurance.
2 It's a rather long-winded answer, I'm afraid.

3 JUDGE LAM: Thank you for a very helpful
4 response. I appreciate it.

5 JUDGE McDADE: Any member of the staff
6 believe they would like to supplement that?

7 MR. SMITH: No, sir. Brian Smith.

8 JUDGE McDADE: Okay. I think that wraps
9 things up as far as the questions we have for this
10 particular panel. As we indicated before, there are
11 some legal issues we have, and at some point in the
12 proceeding to hear from counsel with regard to the
13 legal issues with regard to the differing
14 professional opinion, but that doesn't require
15 testimony from the witnesses. I think we're in a
16 position to excuse the witnesses at this point,
17 unless there's anything, Ms. Bupp, that the staff
18 would like to bring out through these witnesses,
19 that has not been brought out.

20 MS. BUPP: Before we excuse the
21 witnesses, could we take a brief recess, just to
22 confer and make sure that we don't have anything
23 else that we'd like to bring out through the
24 technical witnesses?

25 JUDGE McDADE: Okay. The next issue

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1 that we intend to take up would be with regard to
2 the liability insurance, then financial capability,
3 then decommissioning funding. Question - do you
4 want to break for an hour for lunch first, or do you
5 want to just take five minutes with this panel, and
6 then come back? I have it's about a quarter of one
7 now.

8 MS. BUPP: I think rather than running
9 the risk, or the uncertainty of having to call the
10 panel back after lunch, if we could take just a few
11 minutes now, make sure that we have all the
12 technical issues covered. And then if they are,
13 then we could break for lunch then, and cover the
14 legal issues related to this process after lunch?

15 JUDGE McDADE: That's fine.

16 MS. BUPP: Okay.

17 JUDGE McDADE: So we will stand in
18 recess for five minutes. At that point, we will
19 come back in. If there's anything further from this
20 panel, take it up at that point, and then recess for
21 one hour for lunch.

22 MS. BUPP: Okay.

23 JUDGE McDADE: We are in recess.

24 (Whereupon, the proceedings went off the
25 record at 12:37:07 p.m., and went back on the record

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1 at 12:45:24 p.m.)

2 JUDGE McDADE: The hearing will come to
3 order. Ms. Bupp?

4 MS. BUPP: The staff has no further
5 technical issues they'd like to address.

6 JUDGE McDADE: Okay. No further
7 questions with these witnesses.

8 MS. BUPP: Yes.

9 JUDGE McDADE: And, Mr. Silverman?

10 MR. SILVERMAN: No further questions for
11 these witnesses.

12 JUDGE McDADE: Okay. Do you propose
13 then that we recess for lunch, and come back at say
14 1:45? Is that going to be enough time, Ms. Bupp?

15 MS. BUPP: That's sufficient.

16 JUDGE McDADE: Mr. Silverman?

17 MR. SILVERMAN: Yes, that's fine, Your
18 Honor.

19 JUDGE McDADE: Okay. These witnesses
20 can be excused. Thank you very much. We appreciate
21 the testimony and the assistance that you've given
22 to us. When we do come back with regard to the
23 various issues, at this point, there are both on
24 some of these issues legal issues, as well as
25 factual issues. Do you want to hold the discussion

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1 of the legal issues until the end, and get through
2 any fact witnesses first, or do you want to --
3 anyway, think about that over lunch, and when we
4 come back at the end of the break, we can pursue
5 that further. We're in recess until 1:45. Thank
6 you.

7 (Whereupon, the proceedings went off the
8 record at 12:46:24 p.m., and went back on the record
9 at 1:44:52 p.m.)

10 JUDGE McDADE: The hearing will come to
11 order.

12 (Pause.)

13 Ms. Bupp, is the staff ready to proceed?

14 MS. BUPP: Yes, we are, Your Honor.

15 JUDGE McDADE: Mr. Silverman?

16 MR. SILVERMAN: Yes. Your Honor.

17 JUDGE McDADE: The next thing on our
18 agenda has to do with liability insurance. There's
19 limited factual questions with regard to liability
20 insurance. There was a legal issue. And then
21 there's going to be some legal issues coming up as
22 well.

23 Do you want to move forward with the
24 taking of testimony from witnesses, get that out of
25 the way and then handle legal issues at the end or

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1 to handle legal discussions as we go.

2 Ms. Bupp?

3 MS. BUPP: I think it would be sensible
4 to handle all the legal issues at the end.

5 JUDGE McDADE: Mr. Silverman, is that
6 agreeable with you?

7 MR. SILVERMAN: It is.

8 JUDGE McDADE: Okay.

9 (Pause.)

10 JUDGE McDADE: With regard to financial
11 capability issue number 6, for the staff, could you
12 state your name, sir?

13 MR. ULECK: The name is Ronald Uleck.
14 I'm employed as a cost analyst at NRC's Office of
15 Nuclear Reactor Regulation and the Division of
16 Policy and Rulemaking.

17 MR. PITTIGLIO: Clayton Pittiglio and I
18 work in the Division of Policy and Rulemaking and I
19 am a senior financial analyst.

20 MR. SILVERMAN: Your Honor, I know at
21 least the Applicant does not have the HTS 6 Panel.
22 We have the HTS 11 Panel up. What about the staff?

23 MS. BUPP: The staff had intended to
24 address to HTS 11 through counsel, unless there were
25 specific factual issues that haven't been addressed.

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1 JUDGE McDADE: Let me, maybe I'm
2 speaking incorrectly here. I had thought that from
3 the panel's standpoint the Board only had legal
4 questions with regard to the liability insurance,
5 that what we have received from you answered all of
6 the factual questions as to how it would operate and
7 that we had no further factual questions.

8 Judge Wardwell, am I correct?

9 JUDGE WARDWELL: I have none.

10 JUDGE McDADE: Judge Lam, do you have
11 any factual questions with regard to issue 11 on
12 liability insurance?

13 JUDGE LAM: No.

14 JUDGE McDADE: Because, in fact, nothing
15 was submitted in regards to -- sorry. The only
16 things submitted were legal briefs in regards to --

17 MS. BUPP: But we did answer the Board's
18 initial questions.

19 JUDGE McDADE: Right.

20 MS. BUPP: Provided factual information.

21 JUDGE McDADE: And there's also the
22 information from the application and the reviews by
23 the NRC staff. So we do have a factual record on
24 which to proceed and we believe our factual
25 questions were pretty well answered by the

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1 submissions that were made. And the legal questions
2 that we have raised with you earlier are still
3 something that we're trying to grapple with and will
4 seek your assistance from at the appropriate time.

5 But at this point, we do have questions
6 with regard to factual questions with regard to the
7 financial capability and the staff's review in that
8 regard.

9 MR. SILVERMAN: We'll just need to get
10 our witness. It will just take a moment.

11 JUDGE McDADE: That's fine.

12 (Pause.)

13 JUDGE McDADE: And for the record, sir,
14 could you state your name?

15 MR. BARPOULIS: John Barpoulis.

16 JUDGE LAM: Perhaps this is a good
17 moment for me to state for the record that --

18 JUDGE McDADE: Before you do, if we
19 could, one thing, just question, is this to be a
20 closed session from the NRC staff standpoint?

21 MS. BUPP: From our standpoint, it would
22 be an open session.

23 JUDGE McDADE: And from USEC's?

24 MR. SILVERMAN: That's our plan right
25 now. I think Mr. Barpoulis should alert us if he

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1 needs to answer a question with a proprietary piece
2 of information.

3 JUDGE McDADE: Okay, I just want to make
4 sure that was my understanding as well, before we
5 got started. I wanted to make sure that we're all
6 playing from the same sheet of music.

7 Judge Lam?

8 JUDGE LAM: I would like to say for the
9 record that I have known the witness, Mr. John
10 Barpoulis, as a neighbor for more than ten years.
11 Mr. Barpoulis and I have no discussion whatsoever on
12 any matter related in this proceeding. And I do not
13 anticipate our association would have any impact on
14 how I may rule in this license application.

15 JUDGE McDADE: Does either the staff or
16 the Applicant have any questions of Judge Lam in
17 that regard?

18 MR. SILVERMAN: The Applicant has none.

19 JUDGE McDADE: Thank you, Mr. Silverman.

20 MS. BUPP: The staff has none, Your
21 Honor.

22 JUDGE McDADE: Okay. Mr. Barpoulis, I
23 believe you've already been sworn.

24 MR. BARPOULIS: Yes, sir.

25 JUDGE McDADE: And with regard to the

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1 NRC witnesses, we have -- have not. Will you please
2 rise?

3 Raise your right hand.

4 (The witnesses were sworn.)

5 JUDGE McDADE: Please be seated.

6 Judge Wardwell.

7 JUDGE WARDWELL: Yes, would either of
8 you be able to provide some insight in regards to
9 the relationship to the construction funding by
10 phase as it relates to decommissioning funding
11 allocations? Just so that we could get a better
12 feeling should the project terminate any time during
13 the construction process, how it relates to the
14 decommissioning funding. And if not, that's fine.
15 I'll just wait and we'll address it in the next
16 session, if you -- if either of you aren't
17 appropriate in order to address that issue.

18 MR. PITTIGLIO: I think that we may want
19 to clarify that. Our role was to review the
20 construction cost of the facility. NMSS or FSME
21 reviewed the order of consultants, the
22 decommissioning cost part of it.

23 To make sure that we were comfortable
24 with the cost, we had requested that and there's
25 certainly a large uncertainty in some of the cost

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1 numbers with looking at inflation and so forth and
2 the time frames, that at a minimum a license
3 condition be established. That would require the
4 licensee before they proceeded into any one phase to
5 provide the estimated cost and the amount of money
6 necessary to be able to complete that part of the
7 project.

8 We did not, Ron or myself, get involved
9 in reviewing the decommissioning cost or the
10 decommissioning financial mechanism.

11 JUDGE WARDWELL: And what's the timing
12 for that and when you would receive that information
13 and

14 --

15 MR. PITTIGLIO: The information has to
16 be submitted to us prior to the initiation of any
17 start of that particular phase which would be
18 involved in a construction.

19 JUDGE WARDWELL: And part of that is
20 also a demonstration that they have the monies
21 available to complete that phase of the --

22 MR. PITTIGLIO: Absolutely. Two things
23 that we want. One is the identification of the
24 construction phase of it and the supporting
25 financial mechanism for completing that phase of it.

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1 And we'll look at the amount of money that's
2 submitted and the estimated construction part and
3 its cost that will be submitted with the
4 information.

5 JUDGE WARDWELL: If during your review
6 you have questions or comments or disagreements with
7 what they're proposing, what types of actions do you
8 have available in order to interact with them to
9 resolve such --

10 MR. PITTIGLIO: The first thing we would
11 do is identify to the licensee what the issue is,
12 whether it's part of the construction phase or
13 whether funding is not sufficient or we believe
14 underfunded to address the issue.

15 At that stage, we would expect a
16 response from the licensee that would hopefully
17 close that issue out. If it doesn't, it doesn't
18 proceed until we get a resolution of our concerns.

19 JUDGE WARDWELL: And how do you stop
20 that from proceeding?

21 MR. PITTIGLIO: The license condition
22 states, the proposed license condition states that
23 the licensee is supposed to submit to us the
24 construction costs and the funding mechanisms prior
25 to initiation of construction.

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1 JUDGE WARDWELL: But they submit that
2 and then they start construction, can they not?

3 MR. PITTIGLIO: That is possible, but if
4 they proceed, they are at risk. And of course, the
5 other option is we can always issue an order to stop
6 construction.

7 JUDGE WARDWELL: And that's what you
8 would have to do with, in fact, they had initiated
9 it and --

10 MR. PITTIGLIO: Personally, I would
11 doubt that they would want to proceed. I mean it
12 places them at risk, but you're right, they could
13 proceed without our approval or agreement on the
14 process. But it does place them at extreme risk as
15 far as the financial commitment that they're
16 expending.

17 JUDGE WARDWELL: And just to clarify
18 that they don't need approval to start construction,
19 once they submit that, they can start construction.
20 They will have met that license condition and they
21 can start construction.

22 MR. PITTIGLIO: They will have met the
23 license condition. That is correct.

24 JUDGE WARDWELL: From USEC's point of
25 view, do you agree with that of evaluation of what

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1 that license condition means and how that's what
2 you'd be doing?

3 MR. PITTIGLIO: Yes.

4 JUDGE WARDWELL: Thank you. Do you have
5 any more to add to that that you'd like to from your
6 perspective, from USEC's perspective?

7 MR. PITTIGLIO: No.

8 JUDGE WARDWELL: Thank you.

9 JUDGE McDADE: Okay and before we get
10 back to Mr. Barpoulis for USEC getting back and I
11 hope I don't mispronounce your name, although I
12 almost surely will, it was Mr. Pittiglio.

13 MR. PITTIGLIO: Pittiglio.

14 JUDGE McDADE: Thank you. If I say it
15 in my mind three or four times, then it will come
16 out right.

17 Mr. Pittiglio, part of the application
18 and part of the proposed license condition indicates
19 that before each phase of construction, the
20 Applicant needs to submit the up-to-date estimates
21 as far as the costs and you have an opportunity then
22 to review them.

23 Is there any place that a phase of
24 construction is defined? Are there specific, for
25 example, breaking ground is phase 1. This is a

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1 situation where there already are a number of
2 buildings existing that are going to be used? Is it
3 specifically a phrase that would involve the
4 rehabilitation of some of those buildings?

5 If you could just give us an idea of how
6 these phases have been established and what you
7 understand them be?

8 MR. PITTIGLIO: Yes. The approach would
9 be obviously once construction is initiated and that
10 is, as you said, excavation of any time. That
11 starts the initial phase of the construction. Ron
12 Uleck reviewed the proposal in detail. But I
13 believe that they identified a phased approach in
14 the license application of how they were going to
15 complete certain percentages or certain modules
16 before they moved into the second, third, or fourth
17 phase of that construction period.

18 So the question might be is when does
19 the initial phase start? After that, I think that
20 the application defines the initial application
21 defines what would be the stages that they're going
22 to go through although we've heard yesterday there
23 was a press release that said that they may expand
24 the magnitude of the project, but clearly that would
25 have to be defined before they proceeded.

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1 JUDGE McDADE: But the selection of the
2 phases is left up to the Applicant and that's
3 included in the application. You then review each
4 one of the phases submitted by the Applicant and
5 determine whether or not there's a reasonable basis
6 to believe that there would be funding available to
7 complete that phase, correct?

8 MR. PITTIGLIO: That's correct.

9 JUDGE McDADE: That's the way the
10 procedure would operate.

11 Initially, I believe the estimate was
12 approximately \$1.5 billion for the overall project?

13 MR. PITTIGLIO: That was the initial
14 estimate, yes.

15 JUDGE McDADE: Have there been
16 subsequent official submissions to the NRC with
17 regard to updated information with regard to the
18 projected costs?

19 MR. PITTIGLIO: Ron?

20 MR. ULECK: No.

21 MR. PITTIGLIO: No, there have not been.
22 And I believe that was based on a submittal that was
23 dated as 2004, 2005 numbers were the \$1.5 billion
24 estimate.

25 JUDGE McDADE: And from what I

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1 understand there are any kind of rumors out there,
2 if you chose to look in the press that would
3 estimate different costs for the overall project.
4 But as far as any kind of official submission,
5 there's been no supplement to the NRC with regard to
6 updated construction costs?

7 MR. PITTIGLIO: That is correct. There
8 has been no supplemental submittals.

9 JUDGE McDADE: But prior to initiating
10 each phase, you would be receiving that information,
11 reviewing the information and passing on whether or
12 not there was a reasonable basis demonstrated that
13 the funding would be there to complete that
14 particular phase?

15 MR. PITTIGLIO: That is correct.

16 JUDGE McDADE: At this point in time,
17 and I believe Dr. Uleck, you've been involved in the
18 review, can you give us sort of an overview of the
19 kinds of review that you have done to this point in
20 time?

21 MR. ULECK: On this project?

22 JUDGE McDADE: Yes. Given the fact that
23 each of the phases hasn't started yet. Just what
24 the nature of the review has been to this point and
25 then what you would envision doing once you're

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1 advised that Phase 1, here's Phase 1, this is what
2 we're going to do during this time period.

3 MR. ULECK: The Applicant submitted its
4 cost estimate for the total project of up to \$1.5
5 billion in the 2004 application. There wasn't any
6 additional information that I recall in there that
7 broke that costing down into any phases.

8 So when the Applicant submits his
9 information prior to construction on the particular
10 phase as he defines it, then we would review that
11 cost estimate. We would review the source of funds
12 available or committed and make a judgment on that
13 ourselves that those sources of funds are acceptable
14 and the cost estimate is reasonable. And assuming
15 that the phase doesn't cover the 3.5 million SWU,
16 that were identified in the 2004 application, then
17 there's about a million SWU in the first phase.
18 Then we would expect another phase to come in or two
19 or whatever the Applicant thinks is appropriate in
20 his own business judgment.

21 JUDGE McDADE: And it at least appears
22 relatively straight forward to me how you go about
23 assessing the estimates of how much the project will
24 cost.

25 When we're getting into the other aspect

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1 of it, of how they're going to pay for it, there are
2 a number of different says. Obviously, the easiest
3 is we have the cash on hand. You could just simply
4 go and take a look in the bank.

5 Other options would be well, we have
6 some cash on hand. We're going to borrow a certain
7 amount of money. We're going to get certain amount
8 of money by equity, by selling stock in our company.

9 How do you go about assessing that, as
10 to whether or not, in fact, the money would be
11 available through a loan or whether or not the money
12 would be available in the securities markets?

13 MR. ULECK: The Applicant would need to
14 submit the program for the funding for the
15 particular phase. And let's say it was -- this is
16 for construction though we're talking about?

17 JUDGE McDADE: Yes.

18 MR. ULECK: Let's say part of the
19 program was that the Applicant would obtain some
20 equity partners. That would involve contracts
21 between the Applicant and those other entities. We
22 would want to see those contracts. We would look at
23 them for their legal validity, identification of the
24 parties, firmness of the commitment to the Applicant
25 to help fund the project and any other thing in

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1 those contracts that we would feel would be
2 important from our standpoint, that is securing
3 access to funds for that particular stage of the
4 project.

5 JUDGE McDADE: What kind of a review do
6 you do of the proposed equity partners to see
7 whether or not they have the capacity to actually
8 meet the commitments? In other words, if I signed a
9 contract agreeing to pony up \$1 billion, it wouldn't
10 be worth very much. Now it might be a fine looking
11 contract, but the money wouldn't be forthcoming.

12 MR. ULECK: Well, I think we would
13 review the potential equity partners in a fashion
14 similar to how we looked at the Applicant here.

15 The Applicant in this case is an
16 existing NRC licensee. It's been in the nuclear
17 services business a long time. It has quite a bit
18 of assets. Annual revenues and so forth. Is
19 knowledgeable about this particular business.

20 First of all, we wouldn't anticipate
21 that the Applicant would bring along some equity
22 partners that would not have any credibility. So it
23 would be a case-by-case review --

24 JUDGE McDADE: I have credibility. I
25 just don't have cash.

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1 (Laughter.)

2 MR. ULECK: The equity partner's
3 capabilities to participate in the project. So we
4 would look at those entities in a fashion similar to
5 how we reviewed this Applicant.

6 And then, of course, too, the parts of
7 the contracts between the Applicant here and the
8 other equity partners would be reviewed thoroughly
9 so that we'd see a direct connection, no easy outs,
10 no particular contingency arrangements where the
11 partners can back out of the funding because we
12 don't want that kind of thing from our perspective.

13 So as I said, it would be kind of a case
14 by case review.

15 JUDGE McDADE: And it would involve
16 looking into the financial background of the --

17 MR. ULECK: Yes. If there were any
18 legal problems, the relationships between the
19 parties, we would get OGC involved, as necessary.

20 JUDGE McDADE: One of the ways that they
21 could possibly raise money would be by selling stock
22 in their company by making an offering of stock.
23 Would you look into that and if so, how?

24 MR. ULECK: We would look into that as
25 well as any other potential source of funds. We

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1 would expect that the Applicant would submit the
2 entire program for raising funds from selling of
3 stock. And we would evaluate that program.

4 Now I personally am not a stock analyst.
5 I haven't been directly involved in any equity
6 situations like that, but if it came to that, then
7 we would either have other staff participate in
8 review or we would hire a contractor that -- we have
9 a contractor on board that would have the capability
10 to do that kind of review.

11 JUDGE LAM: Now in your prior testimony,
12 you mentioned the 10K annual report to the
13 Securities and Exchange Commission who reviewed that
14 type of report, since you indicate you have no
15 expertise in stock evaluation.

16 MR. ULECK: Well, I looked at the 10Ks
17 for numerous years in a kind of a global way. And
18 when we wrote the SER, I think we identified there
19 were particular factors that we looked at in a
20 general way. Sales revenue, net income, total
21 assets. And made a decision ourselves, based on --
22 and other factors. This particular Applicant has a
23 history of being in the nuclear services business
24 and in our judgement, based on that review, it would
25 appear to us that it appears that the Applicant is

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1 qualified to enter this project.

2 We don't do an accounting type review of
3 the Applicant's financial statements per se.

4 JUDGE LAM: But you do review the
5 Applicant's assets, income and liability?

6 MR. ULECK: IN a very general way.

7 MR. PITTIGLIO: Maybe to add a little
8 clarification, this staff would be very similar to
9 what we've done as far as license transfers. Over
10 the past three or four years, there's been several
11 transfers of sales of the different reactors and at
12 that time we do a case-by-case analysis of the
13 potential buyer to make sure that they're
14 financially qualified. We look at their assets,
15 their operating income, their technical
16 qualifications, to make sure that if we approve the
17 transfer of that plant, that we have both financial
18 and competence that it will be able to run the
19 facility.

20 In this case, our review would be very
21 similar in style to what we've done for those
22 license transfers, except that in this case, we're
23 reviewing the application before there's been any
24 issue of operation.

25 JUDGE LAM: Does this review rise to the

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1 level of due diligence review in the typical merger
2 and acquisition review?

3 MR. PITTIGLIO: Yes, the level of the
4 review would be very similar to what we do for
5 transfers or mergers of operating reactors.

6 And again, it's to make sure that the
7 money is there, sufficient funds are there and so
8 forth and there's many things that we've identified
9 in our transfer reg. guides and review plans to
10 provide guidance and we would probably use some of
11 that information to make sure we have a checklist of
12 the key items we look for.

13 JUDGE LAM: If Judge McDade is finished,
14 I would have some questions for the panel.

15 JUDGE McDADE: I mean you can go ahead.
16 I have some more questions as well, but if you'd --

17 JUDGE LAM: Okay. Let me go back, since
18 I have both witnesses. You talk about the projected
19 cost estimate. Now it seems to me as Judge McDade
20 was indicating, different people look at this
21 project differently with a very big range of cost
22 estimates.

23 May I ask you what type of uncertainty
24 are we dealing with here in looking at your cost
25 estimate, besides the obvious parameter like

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1 interest rate and the Applicant's ability to raise
2 cash.

3 MR. PITTIGLIO: When we reviewed the
4 initial \$1.5 billion estimate, we take the approach,
5 first of all, to deal with the technical staff to
6 make sure that all of the appropriate principal
7 equipment facilities are identified. And we go back
8 in and in fact, I believe, and this one we had to
9 develop an RAI, Request for Additional Information,
10 to ask for a breakdown by materials, labor,
11 equipment, for each of the buildings or principal
12 mechanisms.

13 We looked at those factors and we looked
14 at the contingency factors involved with the
15 construction of those facilities and then we make an
16 analysis and determine whether that number is
17 reasonable. Now when I say reasonable, we are
18 concerned as to whether it's \$1.5 or \$1.8 billion is
19 not the issue.

20 What we're trying to make sure is that
21 number, \$1.5 billion represents a reasonable range.
22 \$3 billion is unreasonable. But if it's -- our cost
23 estimates are not worried about a 10 percent factor.
24 We're trying to make sure that the numbers in a
25 reasonable range because the cost estimate, if the

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1 cost estimate is inaccurate, then any of the
2 financial mechanisms or vehicles that they provide
3 to provide the funding don't mean anything if the
4 number is off by a factor of two. So we review
5 labor rates.

6 We looked at, in this case, we didn't
7 have to initially for the reactors, we looked at the
8 difficulty factors that affect times in for
9 contaminated areas. We looked at crafts that are
10 involved. We looked at man hours, materials, those
11 types of items that are a typical construction
12 project and see whether they're in a reasonable
13 range.

14 JUDGE LAM: So the \$1.5 billion in your
15 estimate would be within the range of a factor of 2
16 or less.

17 MR. PITTIGLIO: Yes. I would say we
18 believe it was within 20 to 30 percent range.

19 JUDGE WARDWELL: In your prefiled
20 testimony on page three, you note and make reference
21 to the fact that there's been these articles that
22 the cost estimate has increased to \$2.3 million.

23 JUDGE LAM: Billion.

24 JUDGE WARDWELL: Billion, I'm sorry.

25 While that hasn't been submitted to you in a formal

1 manner, does not that concern you in regards to your
2 initial conclusions if in fact, you agreed with the
3 Applicant that the \$1.5 billion was a reasonable
4 estimate? It seems like \$2.3 is starting to push
5 beyond what you would consider to be an accurate,
6 the accuracy of your original estimate?

7 MR. PITTIGLIO: No, it doesn't, and I'll
8 give you a brief explanation of why. Before I came
9 to the meeting today, I pulled the Bureau of Labor
10 Statistics numbers for both energy and labor and
11 looked at the numbers based on December 31, 2004 and
12 the numbers based on December 31, 2006. Energy for
13 the average, across the country, over that two-year
14 period increased 44 percent energy costs. Labor
15 costs were about 7 percent for the average. When
16 you looked at those factors while labor and energy
17 aren't the sole factors, that's a significant impact
18 on the construction costs.

19 A construction cost number is good for
20 one point in time. And we recognize that and
21 whether it be a year or two years or three months
22 later, that number can vary significantly.

23 So I'm not surprised that the fact that
24 number jumped to what it did.

25 JUDGE WARDWELL: Thank you. That was

1 helpful. But you go on to mention that that
2 increase doesn't concern you. I gather from your
3 testimony then that anything beyond a 20 percent, 30
4 percent difference, based on today's current cost
5 estimates would concern you, if in fact, that's what
6 you came up with as opposed to what they came up
7 with. Is that a fair assessment?

8 MR. PITTIGLIO: That is correct, if
9 those numbers based on the day's estimate varied by
10 more than that, I would go back to find out why.

11 JUDGE WARDWELL: Thank you.

12 JUDGE LAM: So the \$1.5 billion estimate
13 has to be taken as an estimate for a specific point
14 in time?

15 MR. PITTIGLIO: That is correct.

16 JUDGE McDADE: Specifically, August of
17 '04?

18 MR. PITTIGLIO: That is correct.

19 JUDGE McDADE: So you would anticipate
20 just based on inflation that it would go up
21 significantly?

22 MR. PITTIGLIO: Yes, based on inflation
23 and I think that you have to recognize that
24 inflation, general inflation is one number, but
25 energy costs and labor costs were significantly

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1 higher for that two-year period.

2 JUDGE McDADE: Now with regard to the
3 fact that you reviewed, did it anticipate a \$3.5
4 million separate work unit facility?

5 MR. PITTIGLIO: No. At that stage, I
6 did not -- Ron did more of a detailed review, but
7 clearly we had not anticipated that the program
8 might be expanded to that number.

9 JUDGE McDADE: Okay, what number were
10 you working with? The possibilities have been 3.5,
11 possibly 3.8 and then possibly being increased to 7
12 million separate work units.

13 JUDGE WARDWELL: To clarify, wasn't the
14 3.8 merely the efficiency of the centrifuge. It's
15 not necessarily geared to any cost increases or more
16 equipment, where the 7 million certainly would be in
17 relationship to more financial obligations.

18 JUDGE McDADE: What I'm getting at is I
19 thought the original application that you received
20 back in 2004 was based on a 3.5 million separate
21 work unit.

22 MR. ULECK: That's correct, I'm sorry.

23 JUDGE McDADE: And there is a
24 possibility and there's been discussion of having an
25 additional facility constructed up to 7 million, but

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1 that's not something that you all have reviewed at
2 this point in time?

3 MR. PITTIGLIO: That is correct.

4 JUDGE McDADE: But under the phased
5 construction that you envision under the proposed
6 licensing amendment, if they were to do that
7 additional construction, prior to initiating that
8 phase of the construction, they would need to submit
9 to you the data and you would review it?

10 MR. PITTIGLIO: Correct.

11 JUDGE McDADE: And a question of why
12 this matters to the Nuclear Regulatory Commission.
13 The various phases that you have, up until the point
14 in time that nuclear material is introduced into the
15 facility, it basically is very similar to any other
16 large industrial plant, whether you were going to be
17 building automobiles or freezers in it. What
18 difference if they get halfway through building this
19 facility don't get to the point of being able to
20 accept nuclear materials and then need to stop?

21 MR. PITTIGLIO: Well, from a health and
22 safety perspective, you're absolutely correct. It
23 probably doesn't have an impact. But looking at the
24 need for the facility, clearly if the start basis
25 for the facility isn't valid with supporting

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1 financial assumptions, the probability of having the
2 facility completed is very slim. And that's why we
3 were involved in looking at whether or not those
4 numbers were reasonable and whether or not the
5 financial people would feel that the financial
6 options are reasonable. Again, there is a real
7 urgency for this type of facility and therefore
8 although it's not a health and safety issue to fuel
9 this process, we were concerned that it was a valid
10 approach to constructing and operating this
11 facility.

12 JUDGE McDADE: And if you had an
13 Applicant who patently did not have the financial
14 wherewithal, am I correct that the Nuclear
15 Regulatory Commission would not spend the time to
16 continue to review the application if a
17 determination was made that there simply was no
18 funding available to go forward and that's part of
19 the premise behind the regulation requiring the
20 submission of financial capacity?

21 MR. PITTIGLIO: That is correct. If we
22 believe that the Applicant wasn't financially
23 qualified, I would also probably start questioning
24 the technical competence of the individual also. It
25 would seem to me that those two things are hand in

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1 hand, the technical design and the ability to
2 finance and build it.

3 JUDGE McDADE: But here, even though as
4 construction begins, the Applicant is not going to
5 demonstrate to you that they will be able to go
6 through with all of the funding, but only for the
7 particular phase that they're undertaking. You're
8 satisfied, based on the review that you've conducted
9 to date, that there's a reasonable basis to believe
10 that they would be able to complete the project.

11 MR. PITTIGLIO: That is correct.

12 JUDGE McDADE: But your review would be
13 very specific as to each phase?

14 MR. PITTIGLIO: That's correct. At that
15 stage, we will look at it in great detail to make
16 sure that we agree with the numbers and the
17 financing to support it.

18 JUDGE McDADE: And you indicated that
19 the phase would initially be decided by the
20 Applicant. They would break the construction into
21 the number of pieces that they believed appropriate.
22 As you understand the license conditioning, would
23 you have input in this if you thought that those
24 phases were inappropriately crafted?

25 MR. PITTIGLIO: I believe that we would

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1 have input and we would certainly when we conducted
2 our review of it, make it known to the licensee if
3 we felt that they were inappropriate phases as
4 identified in their proposal.

5 JUDGE McDADE: Are you satisfied that
6 the proposed license condition as drafted, gives you
7 that authority?

8 MR. PITTIGLIO: I am satisfied that it
9 provides us that flexibility that we need to be able
10 to conduct a reasonable review.

11 JUDGE McDADE: And reasonable in that
12 the sense if you believe the phases were
13 inappropriately drawn that you would be able to
14 correct that?

15 MR. PITTIGLIO: That is correct.

16 JUDGE McDADE: Okay. Mr. Barpoulis, is
17 anything that was said inconsistent with the
18 Applicant's understanding of how this will operate?

19 MR. BARPOULIS: I agree. I have three
20 points of clarification. First, the \$2.3 billion
21 estimate is more than just something that is being
22 reported in the press. It is something that we
23 issued a press release on and updated target
24 estimate in early February.

25 Second point, in addition to the

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1 inflation factor as mentioned by the Panel, an
2 increase in materials costs was also a significant
3 contributor to the increased target cost estimate.

4 And last, just a clarification of the
5 \$3.8 million SWU capacity is a reflection of
6 improved performance through machines, rather than
7 an expansion, a planned expansion of the facility.

8 JUDGE McDADE: But the current estimate
9 of \$2.3 billion is based on the construction of the
10 facility that would be at this point 3.8 million
11 separate work units?

12 MR. BARPOULIS: Yes, and our license
13 condition does require us to update that cost
14 estimate through the pre-phased, pre-funded phased
15 approach.

16 JUDGE McDADE: And it's your
17 understanding that initially it would be the
18 Applicant's responsibility to determine what the
19 appropriate phases would be, but that that would be
20 subject to review by the Nuclear Regulatory
21 Commission?

22 MR. BARPOULIS: Yes.

23 JUDGE LAM: And Mr. Barpoulis, I'd like
24 to get a picture from you about how financially
25 capable is the Applicant. Would you quickly

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1 describe to us what the Applicant's financial
2 capability in terms of what its assets are, what is
3 its current annual income, what is its liability and
4 furthermore, what is its ability to raise capability
5 either privately or in the equity market?.

6 JUDGE WARDWELL: And while you're going
7 through that, it would be a good time also to
8 elaborate a little bit more on your pre-filed
9 testimony on page 3 where you talk about funding
10 mechanisms and mention the U.S. Government. I'd be
11 interested in exploring that a little bit.

12 JUDGE LAM: Yes.

13 MR. BARPOULIS: I think with respect to
14 the question from Judge Lam, in our recently issued
15 10K, our assets were in excess of \$1.8 billion;
16 annual revenue in excess of \$1.5 billion; and net
17 income for 2006 was in excess of \$100 million. From
18 a liability standpoint, we do at this point have
19 relatively debt outstanding. We have \$150 million
20 in bonds that are currently outstanding. We repaid
21 \$350 million of bonds in January of 2006.

22 With respect to our financial
23 capability, it's important to note that through the
24 end of 2006 the company has invested over \$370
25 million in the American Centrifuge Project. The

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1 funding for that investment has come entirely
2 through cash from operations.

3 In the near term, we do expect that
4 funding for the project would continue to be from
5 cash on hand and from borrowings under our existing
6 credit facility. Also disclosed recently in our
7 10K, we ended last year with over \$170 million in
8 cash. We have a \$400 million credit facility that
9 at the end of the year had no borrowings
10 outstanding, but did have \$35 million roughly of
11 letters of credit issue.

12 So in the near term, it's our
13 expectation that funding would come from those two
14 sources. In the longer term, as noted in the pre-
15 filed testimony, we would expect that funding for
16 the program would come from externally raised
17 capital, through the issuance of debt in equity,
18 through potential investment from third parties or
19 strategic investors or through support from the U.S.
20 Government.

21 JUDGE LAM: Now if you were to raise
22 capital by issuing additional equity alone, how much
23 of a dilution are we talking about on the existing
24 corporate structure? The question is if you were to
25 raise an additional \$1 to \$2 billion of equity

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1 alone, would that be almost 100 percent dilution?

2 MR. BARPOULIS: Our current market
3 capitalization of equity is in excess of \$1 billion.
4 And so I think as in the question that you outlined,
5 yes. The issuance of \$1 billion of equity would
6 significantly dilute the existing shareholders. We
7 have not -- we do not have definitive plans at this
8 point. Exactly how much equity we would seek to
9 raise publicly through an equity issuance or through
10 a potential agreement with a third party. But any
11 additional equity that would be issued would dilute
12 our current shareholders, yes.

13 JUDGE WARDWELL: Could you elaborate a
14 little bit more on the source from the U.S.
15 Government? What form does that take? Why is that
16 authorized? How much you expect?

17 MR. BARPOULIS: The clearest example of
18 that is in December we did file a pre-application
19 with the Department of Energy under the loan
20 guarantee program that was part of the 2005 Energy
21 Policy Act. So that, and approval of that
22 application in providing a guarantee for debt for
23 the construction of the project is one way that the
24 government can provide such support.

25 JUDGE McDADE: Are there other ways that

1 you're looking at, or is that the primary one?

2 MR. BARPOULIS: That is the primary
3 area. We are looking at other ways that we could
4 potentially craft some additional revenue generation
5 and things that would make sense for the Department
6 of Energy and other elements of the government as
7 well.

8 JUDGE McDADE: Thank you.

9 (Pause.)

10 MR. BARPOULIS: Just a clarification
11 also on the \$2.3 billion estimate. That estimate is
12 for more than just the construction of the
13 commercial plant. It is for all project activities
14 including dollars spent to date, our lead Cascade,
15 as well as our Oak Ridge operations.

16 JUDGE LAM: and as you indicated
17 earlier, the dollars spent today, it's more than
18 \$300 million?

19 MR. BARPOULIS: In excess of \$370
20 million, that's correct.

21 JUDGE McDADE: Okay, I think we're ready
22 to move forward to decommissioning funding.

23 MS. BUPP: We might have one or two
24 clarifying questions for the panel. If we could
25 have five minutes or two minutes, a couple of

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1 minutes?

2 JUDGE McDADE: Okay, why don't we
3 compromise, take three.

4 MS. BUPP: Okay.

5 (Laughter.)

6 JUDGE McDADE: We are in recess.

7 (Off the record.)

8 JUDGE McDADE: Ms. Bupp, do you have any
9 additional questions for these witnesses?

10 MS. BUPP: We just have one or two
11 clarifying questions.

12 JUDGE McDADE: Okay, the hearing will
13 come to order.

14 MS. BUPP: With regard to the license
15 condition regarding construction through incremental
16 funding, that incremental funding, will it be
17 submitted directly to the NRC staff or will you be
18 inspecting in the field?

19 MR. PITTIGLIO: Well, the actual wording
20 to the license condition say it will be made
21 available.

22 So whether they submit it to us or we go
23 out to where it's available, we'll determine at that
24 time.

25 MS. BUPP: That was all. I just wanted

1 to make sure the condition was clear.

2 JUDGE McDADE: Okay. Anything further,
3 gentlemen, that you feel should be clarified, based
4 on anything we've asked?

5 MR. PITTIGLIO: No. No, sir.

6 JUDGE McDADE: From the Applicant's
7 standpoint, Mr. Barpoulis?

8 MR. BARPOULIS: No, sir.

9 JUDGE McDADE: Thank you very much for
10 your testimony. You are excused. We're going to be
11 moving forward to the decommissioning funding. I
12 would want to note for the record that during the
13 course of the recess we did receive a copy of what
14 had been marked as USEC Exhibit 2A that we had
15 discussed earlier. There being no objection from
16 the staff, we admit it into evidence.

17 (Whereupon, at 2:36 p.m., the
18 proceedings went into Closed Session.)

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1 JUDGE McDADE: Are you ready to proceed?

2 MS. BUPP: Yes, we are, your Honor.

3 JUDGE McDADE: Mr. Silverman, are you
4 ready to proceed?

5 MR. SILVERMAN: We are. One preliminary
6 matter, your Honor, if you wouldn't mind; could the
7 Board let us know if you have any expectation that
8 you will be getting to HTE-1, 4 or 6 today? We have
9 a witness who's not presently here who we would need
10 to make sure is here if you thought that would be
11 happening today.

12 JUDGE McDADE: I would think not, that
13 we would not be getting to 1, 4 or 6 today. I would
14 think -- I would hope to get through liquid effluent
15 control today. Do you have a problem that we -- you
16 would request that we change the order of these in
17 order to accommodate a witness or --

18 MR. SCOTT: Dennis Scott, your Honor.
19 No, just Phillip Sewell, who is our senior VP for
20 advanced technologies is not here presently. I can
21 certainly call and get him here but I wanted to see
22 if that was necessary. He'll be here tomorrow if
23 that's when you expect to get to it.

24 JUDGE McDADE: And he will be testifying
25 on --

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1 MR. SCOTT: HTE-1, 4, and 6.

2 MS. BUPP: The staff is in a similar
3 situation with a witness for those panels, at least
4 for Panels 1 and 4 as well, which we could get him
5 here within an hour or so but --

6 JUDGE McDADE: I don't think that that
7 would be a good use of their time. Why don't we
8 just plan on having them come first thing in the
9 morning. If we get through environmental issue 5, I
10 think we'll be doing well. So why don't we just
11 plan on that. One other preliminary thing before we
12 get started with these witnesses, at this point it's
13 my understanding that the rest of the issues would
14 be open. In other words, there would be no reason
15 to have a closed session for any of the remaining
16 issues.

17 If at any time during the remainder of
18 the hearing, you come to the conclusion that that is
19 incorrect and you want the session closed, please
20 give us notice in advance so that we can arrange for
21 that, because otherwise, we're going to go by the
22 assumption that everything from here on out will be
23 open unless otherwise specified.

24 Okay, so are we ready to start? We have
25 some familiar faces here, Mr. Johnson. Would you

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1 please go down and identify yourself for the record?

2 MR. WOOD: My name is Ray Wood. I'm
3 with Trinity Engineering Associates and I supported
4 the staff of the Nuclear Regulatory Commission on
5 the -- some of the environmental issues.

6 JUDGE McDADE: Is the microphone -- is
7 the little green light on, on the microphone?

8 MR. WOOD: There it is. I obviously
9 wasn't close enough to it. My name is Ray Wood.
10 I'm with Trinity Engineering Associates and I
11 supported the staff on environmental issues related
12 to radiological materials.

13 MR. TOKAR: My name is Michael Tokar.
14 I'm a retired annuitant, providing consulting
15 services to the Division of Waste Management and
16 Environmental Protection in NRC's Office of State
17 and Federal Materials and Environmental Protection -
18 - Environmental Management Programs. That's quite a
19 mouthful.

20 JUDGE McDADE: It must be a challenge to
21 get that on a card.

22 MR. TOKAR: It definitely is, but I
23 don't have a card, with that on it. But in any
24 event, my involvement in this has to do with the
25 fact that I, and other staff in that division are

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1 engaged in performing a strategic assessment of the
2 NRC's regulatory low level waste program and as one
3 of the issues that --

4 JUDGE McDADE: Well, at this point,
5 you're just identifying yourself. We haven't sworn
6 you in yet. We haven't started your testimony.

7 MR. TOKAR: Okay, fine, thank you.

8 JUDGE McDADE: So at this point, we know
9 who you are.

10 MR. BLEVINS: Matt Blevins with the NRC.

11 MR. FOUT: Gregory Fout for the
12 Applicant.

13 JUDGE McDADE: Mr. Fout, I don't believe
14 you have been sworn in, have you? Okay, and
15 likewise, Mr. Wood. Could you all rise to be sworn?
16 Raise your right hand.

17 (Witnesses sworn.)

18 JUDGE McDADE: Okay, please be seated.

19 JUDGE WARDWELL: You're looking at me.

20 JUDGE McDADE: This is your baby.

21 JUDGE WARDWELL: Well, rather than
22 repeat some of the questions I asked during the last
23 session were the new members on the panel present to
24 hear the discussion that went on and would you like
25 to comment on any of the discussions that we did

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1 have in regards to adding any light or further
2 clarification on the issues? If not, I can start
3 going through some of the sequential questions if
4 that will help you better than just some of your
5 general comments in regards to the approach you
6 took.

7 MR. BLEVINS: I think we heard the
8 questions, but it would probably be better to walk
9 us through to get a clear answer to you.

10 JUDGE WARDWELL: Let me see if I can
11 start with a broader one and then if not, I can
12 chunk it down into individual questions. But I
13 think the question of interest is to what level did
14 the potential for capacity at -- of DU disposal for
15 whatever you evaluated in the EIS at what level does
16 that get effected by the potential that that
17 capacity won't be there when these particular
18 tailings are actually ready to be disposed at that
19 location and how does that effect any conclusions
20 that were reached in the EIS? So you can start as
21 early in the process as you want to, describing what
22 you did look at and then comment on that or just
23 comment on that if you wish for whoever wants to
24 respond to it.

25 MR. BLEVINS: I'll start, Matt Blevins.

1 What we looked at and you know, what initially was a
2 plausible strategy for disposition of the depleted
3 uranium tails and part of this -- part of what we
4 looked at is the capacity impacts. We looked at
5 several other impacts from this whole scenario. But
6 relative to just the capacity impacts, we looked at
7 what the remaining capacity was at Envirocare or
8 Energy Solutions as it is now. And it was a very
9 low percentage.

10 What would be generated by the ACP
11 amounted to about 11 percent and combined with all
12 the other existing tails, I think both at Paducah
13 and Piketon, it amounted to a total of 20 percent.
14 Now, I think your question got to really what was
15 the timing of those tails disposition and looking
16 back at our FEIS in just the short break we had, we
17 did -- it did look like we did -- there was some
18 analysis that showed that there was a GAO report
19 that stated there was 20 years left of capacity.
20 Now, in terms of what the actual generation rate or
21 the disposal rate at Energy Solutions is currently,
22 I don't know what that number is.

23 JUDGE WARDWELL: What assumptions did
24 you use in the EIS in regards to when the tails
25 would actually arrive there?

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1 MR. BLEVINS: We didn't look at the
2 actual timing of the arrival of the tails. We
3 looked at what the total available capacity is
4 compared to what the proposed ACP would generate
5 along with what the proposed OES facility would
6 generate plus the existing tails inventory at the --
7 both Paducah and Piketon sites.

8 JUDGE WARDWELL: Well is that a
9 plausible strategy then if, in fact, it is
10 reasonably certain that the tailings would not reach
11 a given disposal facility in time before that
12 disposal facility is filled up?

13 MR. BLEVINS: Stated like that it would
14 not seem reasonable but I mean, again, it was -- we
15 thought the numbers were low enough that I'm not
16 sure we considered the actual timing of their
17 arrival there.

18 MR. WOOD: I'm Ray Wood, breaking out a
19 little bit to that as well. We also examined the
20 fact that there are alternate locations for the
21 tails other than just Energy Solutions and that
22 includes the Nevada Test Site which DOE ships low
23 level waste to and that facility would also be
24 available to supplement anything from Energy
25 Solutions if the capacity issue became a problem.

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1 JUDGE WARDWELL: Do you have an estimate
2 of how much capacity is available at the Nevada Test
3 Site?

4 MR. WOOD: We didn't examine the total
5 capacity at the Nevada Test Site. I went out there
6 and it's large. They use the Sedan Crater and a
7 number of other areas, Area 5 and such out there and
8 they have a lot of capacity. I don't know exactly
9 what the cubic meterage is.

10 JUDGE WARDWELL: Without putting words
11 in your mouth, is it -- is that a conclusion what I
12 just heard then that the approach that you took was
13 to look at the percentage of air space that would be
14 utilized based on what's available right now at
15 Energy Solutions and concluded that that is small
16 enough that regardless of the timing that either
17 Energy Solutions or a high expectation some other
18 facility would be available for what is considered
19 to be in your calculations a relatively low volume
20 space requirement.

21 MR. BLEVINS: Yes, I think that's a fair
22 statement.

23 JUDGE WARDWELL: Thank you.

24 JUDGE McDADE: Did I understand
25 correctly though, you're figuring the tailings that

1 are currently at Piketon and the tailings that are
2 currently at Paducah, the anticipated tailings from
3 LES as well as the anticipated tailings from the ACP
4 and that still came out to less than 20 percent of
5 anticipated capacity at the Utah site?

6 MR. BLEVINS: I believe that's the 20
7 percent number in the FEIS. Eleven percent is just
8 the ACP.

9 JUDGE McDADE: And that --

10 MR. BLEVINS: And that's also -- again,
11 this is Matt Blevins, and that was for a 7-million
12 SWU plant. That's why the ACP appears -- well,
13 takes more than the other ones because the LES
14 facility is a 3-million SWU plant.

15 JUDGE WARDWELL: And that's seven
16 million from day 1 of operation?

17 MR. BLEVINS: There might be a phased
18 and I don't know the answer to that off the top of
19 my head.

20 MR. JOHNSON: This is Tim Johnson.

21 JUDGE WARDWELL: I think it's in the
22 record.

23 MR. JOHNSON: It's my understanding that
24 if USEC decides to expand to three and a half --
25 from three and a half million to seven million there

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1 would also be a phase-up as well as a phase-down in
2 operations at the conclusion of their operating
3 cycle, the same way that was done for the three and
4 a half million, separate work unit plant.

5 JUDGE WARDWELL: Okay, but you're not
6 testifying -- you're testifying in regards to what
7 you understand in the decommissioning aspect but not
8 in regards to what was looked at for the FEIS.

9 MR. JOHNSON: Well, as part of the
10 decommissioning funding plan review, we did look at
11 the overall cost of tails disposition and the
12 information that was provided to us by USEC shows a
13 phase-up and a phase-down in production. So it's
14 not -- you're not going to be getting a constant
15 rate of production for every year of their operating
16 period.

17 JUDGE McDADE: Okay, who are the other
18 candidates for use of the facility out in Utah, the
19 Envirocare facility for storage? In other words,
20 the ones we just listed would come up to 20 percent
21 of their capacity. Is there anybody else who could
22 get in ahead of the APC in order to fill up the
23 other 80 percent.

24 MR. WOOD: This is Ray Wood. There is
25 ongoing decommissioning from Department of Energy

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1 sites. Some of that is going -- I don't know the
2 exact percentage but some of that is going to
3 Envirocare at this time. For example, the Fernald
4 site outside of Cincinnati that was just
5 decommissioned, sent it's silo waste to Fernald so -
6 - or to Envirocare. So there are some other
7 activities, but I don't know exactly what their --
8 how much the would push the capacity limit.

9 JUDGE McDADE: But here we're talking
10 about you know coming from Piketon, I think it was
11 something like 512,000 metric tons. Is there other
12 source -- are there other sources out there with
13 that kind of volume that could fill up the facility
14 before the waste from Piketon could get there?

15 MR. BLEVINS: This is Matt Blevins. I
16 think it's fair to say we didn't look to see what
17 other sources of waste are going to Envirocare. I
18 think that's outside of the Environmental Impact
19 Study.

20 JUDGE McDADE: Okay, would there be any
21 way of determining, you know, the likelihood, the
22 probability? You know, you looked at it, you
23 determined that the amount to be generated through
24 the APC is relatively small considering the capacity
25 of the Envirocare facility. You also looked at at

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1 least three other sources of you know, product that
2 would go to the Envirocare facility and came up
3 still with a relatively small percentage of their
4 overall capacity. You also looked at other
5 potential, although not necessarily secure places.
6 There's no commitment at this point to take it into
7 the Nevada Test Site, although you know, as you
8 indicated, that is a relatively large facility that
9 arguably would have significant capacity but what
10 I'm just trying to get at is this is going to
11 generate a considerable volume and yet still be in a
12 relatively small percent of the capacity. There's
13 only a limited number of sources that generate the
14 kind of material that would be sent to the
15 Envirocare facility. Is there a reasonable
16 possibility that the Envirocare facility would be
17 full prior to the time that these arrive there from
18 the APC? I mean, is this something that is very
19 unlikely, likely, probable?

20 MR. BLEVINS: It would seem unlikely to
21 me based on my involvement in this review, Matt
22 Blevins.

23 MS. BUPP: Your Honor, I think we have
24 actually another staff witness who could give you
25 the details on the capacity if we could move him up

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1 there>

2 JUDGE McDADE: Is he currently --

3 MS. BUPP: He's right there. So if we
4 could just move Mr. Hammer up into the witness box
5 and get his sworn in, I think he has the details
6 that you're looking for.

7 JUDGE McDADE: Okay, well, in that
8 phrase, come on down.

9 JUDGE WARDWELL: Did he volunteer for
10 this?

11 MS. BUPP: Yes, yes. But also, while
12 Mr. Hammer is getting settled, although there are
13 technical aspects to this question, there are also --

14 JUDGE McDADE: He's all settled.

15 MS. BUPP: -- there are also some legal
16 aspects to this question because it was addressed at
17 length in the LES proceeding and the Commission made
18 some determinations as to plausibility at disposal
19 at Envirocare or Energy Solutions which were
20 discussed in some of the staff legal briefs, and so
21 some of this is a legal question rather than a
22 factual question.

23 JUDGE McDADE: Okay, but we now have Mr.
24 Hammer, who should be able to answer our factual
25 questions. And Mr. Hammer, we do have your CV. It

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1 has been introduced as part of Staff Exhibit 54, but
2 you have not yet been sworn.

3 MR. HAMMER: Correct.

4 JUDGE McDADE: Would you please rise,
5 raise your right hand?

6 (Witness sworn)

7 JUDGE McDADE: Please be seated.

8 MR. HAMMER: I wanted to talk
9 specifically to two of the questions that were a
10 little bit uncertain. With respect to what was
11 analyzed in the FEIS, whether or not it was a
12 phased-in approach or whether or not we analyzed at
13 the 7 million SWU capacity from day one, and the
14 correct response would be that we did all of the
15 impacts in the FEIS were analyzed at the 7 million
16 SWU capacity from day one. I believe that was your
17 first question.

18 The second question that I wanted to
19 address is with respect to whether or not there are
20 other sources of radioactive, low level radioactive
21 material that could eat up a lot of the capacity of
22 the Envirocare or Energy Solution site such that it
23 would reduce or lessen the probability that all of
24 the converted waste would be able to be disposed
25 there over time. And there are other sources. Low

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1 level waste is generated, as we know, at nuclear
2 power plants. Those are sources. Medical
3 facilities also generate volumes of low level
4 radioactive waste that are eligible for disposal at
5 that facility.

6 It's the only facility in the country
7 that can accept waste from anywhere in the country.
8 All the other existing facilities are subject to the
9 compact agreements where they define which states
10 that waste can actually come from. The amount of
11 tails that we're talking about, the 512 million
12 cubic yards or 512,000 cubic yards, what's the --

13 JUDGE McDADE: I thought it was metric
14 tons.

15 MR. HAMMER: Metric tons, I'm sorry,
16 metric tons is by far the largest volume of waste
17 that's going to be generated or need to be disposed
18 of one particular waste stream. Combined, all of
19 the material from decommissioning of the power
20 plants and all of those activities would not take up
21 as much capacity as the tails disposal. So given
22 the fact that with the Piketon, the Paducah and the
23 anticipated ACP tails being approximately 20 percent
24 of the existing remaining capacity, I think it's
25 fairly likely that that remaining capacity would be

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1 available at the time that it's needed based on the
2 amounts of other material that could possibly be
3 sent there over time.

4 JUDGE McDADE: Thank you.

5 JUDGE WARDWELL: And I think it was Mr.
6 Blevins or someone testified that there was a report
7 out that said Energy Solutions capacity would be
8 utilized in 20 years. Did someone say that on this
9 panel or was it the previous panel or -- I didn't
10 dream that I hope.

11 MR. BLEVINS: It was a GA report, I
12 think, on the current capacity in the US.

13 JUDGE WARDWELL: The US.

14 MR. BLEVINS: I think if I'm reading the
15 FEIS correctly.

16 JUDGE WARDWELL: Given that, was there
17 any other estimation of when it would be anticipated
18 that the tailings from the ACP would, in fact, be
19 sent to a facility, be deconverted and sent to a
20 facility given the fact that the premise in the
21 decommissioning is that it would be deconverted at
22 the Portsmouth facility and looked at, as I
23 understood the testimony from Mr Johnson, two
24 options both sequentially with it or afterwards once
25 the existing DOE inventory was utilized. If in

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1 fact, the latter was the case, it's liable to be
2 many years before the ACP tailings would need a
3 final resting spot.

4 MR. BLEVINS: And I think -- Matt
5 Blevins, I think the GAO report, it's important to
6 state that it says to last more than 20 years. It
7 didn't say it would last 20 years. So I think
8 that's maybe a better way to state the findings of
9 that report.

10 JUDGE WARDWELL: That's a significantly
11 different way of stating that. That's fine, thanks.

12 MR. BLEVINS: Thank you.

13 MR. HAMMER: If I could just -- Don
14 Hammer. If I could just add to that one point. In
15 the FEIS we did, as Dr. Wood mentioned, look
16 qualitatively at other options for the disposal of
17 this material, the Nevada Test Site being one. I
18 think the key point to remember is that once DOE
19 accepts this waste and is therefore, responsible for
20 it, it is required to find a disposal facility for
21 it. If that means that additional capacity needs to
22 be built, then that would be the case that would
23 have to occur. This is not a case where this
24 material would be able to sit on a storage pad
25 forever and not be dispositioned. It would

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1 ultimately have to find a place for disposition and
2 in the meantime, the waste would be managed under
3 the existing programs at the site where it's
4 monitored, where the cylinders are inspected and
5 there's a program to insure that that material is
6 not getting into the environment.

7 JUDGE WARDWELL: Correct, but then it
8 gets back to the -- gets away from the FEIS
9 combinations.

10 MR. HAMMER: That's correct.

11 JUDGE WARDWELL: We're back to find --
12 we understand that, but yet then that has an impact
13 on decommissioning costs and we're back to that
14 aspect of it. And it's a vicious circle back and
15 forth between the two of them when you --

16 MR. HAMMER: Right, this is Don Hammer
17 again.

18 JUDGE WARDWELL: -- find a point like
19 that, that may very -- we understand that DOE is
20 required to take it; however, and that's a plausible
21 strategy for an FEIS approach but then it gets back
22 to is there appropriate cost allocations within the
23 funding for decommissioning then.

24 MR. HULL: That's correct, and I can't
25 speak to the decommissioning funding aspect.

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1 JUDGE LAM: Now, I think this is a good
2 point for me to ask a general question to the staff.
3 In your prefiled testimony you talk a great deal
4 about taking a hard look at the environmental
5 impacts of this facility. Now, above and beyond
6 taking a hard look, the staff has done a reasonably
7 good job in describing what constitute a hard look.
8 My question is, above and beyond taking a hard look
9 what is the staff's duty and obligation?

10 JUDGE WARDWELL: I assume you mean that
11 in regards to the FEIS.

12 JUDGE LAM: Right.

13 MS. BUPP: I think that's a legal
14 question as to what the standard under NEPA is that
15 the staff has to meet. And actually NEPA says that
16 the staff must take a hard look at environmental
17 impacts and that's our statutory obligation under
18 NEPA.

19 JUDGE LAM: I understand. My question
20 is above and beyond that, is the staff planning to
21 do anything? I understand where you're coming from,
22 counsel. But my question is -- the answer is a
23 simple yes or no. I mean, yes or no?

24 JUDGE McDADE: Well, Judge Lam, if I
25 could clarify, I believe what Ms. Bupp said was that

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1 the standard is a legal issue that has been
2 addressed by the NRC staff counsel in the documents
3 they've submitted. It's a well established that --

4 MS. BUPP: It is well established but we
5 haven't specifically addressed it in the documents
6 that have been filed yet because it is such a well
7 established standard, but under NEPA the federal
8 agency is required to take a hard look at
9 environmental impacts. That is the standard, that
10 is what we're required to do.

11 JUDGE McDADE: But that these witnesses
12 are not appropriate to give testimony in that but I
13 believe Judge Lam asked an additional question which
14 was not what the legal standard is but is there
15 anything further that they intend to do, was there
16 anything beyond the hard look set out in the
17 regulations and then NEPA that was done by the
18 staff? Is that correct, Judge Lam?

19 JUDGE LAM: That's exactly right.
20 That's exactly right. I am well aware what the NEPA
21 requirement is. If the staff does not plan to do
22 anything more, please say so, if counsel would
23 permit you to do that. And then after I hear the
24 answer from you, then I would have a question for
25 counsel.

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1 MS. BUPP: As long as we're clear what
2 the legal standard is and what the staff is actually
3 required to do, they can go ahead and answer the
4 question as to what they plan to do.

5 JUDGE McDADE: Well, what we understand
6 is that they're not being asked for the legal
7 standard. They're just being asked to tell what
8 they've done.

9 MS. BUPP: Well, if -- are you asking
10 them to describe that hard look that they took?

11 JUDGE LAM: Oh, no, no, that has been
12 well-described in the prefiled testimony. My
13 question is exactly what Judge McDade has said, is
14 any more being planned. I'm well aware of what is
15 legally required for you under NEPA. But my
16 question is, beyond the hard look approach --

17 MR. BLEVINS: Matt Blevins. The answer
18 is no, there aren't any further studies that we plan
19 to undertake relative to depleted uranium.

20 JUDGE LAM: All right, I have my answer,
21 thank you.

22 JUDGE McDADE: You look like you're
23 starting to say something, Judge Wardwell.

24 JUDGE WARDWELL: Well, I'm trying to
25 think if I'm going to ask a follow-up question, but

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1 I don't think I will.

2 JUDGE McDADE: What constitutes a very
3 hard look?

4 JUDGE WARDWELL: No.

5 (Laughter)

6 JUDGE WARDWELL: A question here on
7 prefiled testimony on page 10, and it's down at the
8 second paragraph where you say, "As discussed in
9 Section 4.2.13.2 of the FEIS, the staff reviewed the
10 licensing basis for Energy Solutions' license", and
11 it goes on from there. I was curious in regards to
12 the phrase "reviewed" as opposed to "independently
13 reviewed" and would like some comments on that.
14 Just is it not true that the staff has done an
15 independent review of the information in the ER to
16 reach their conclusions in regards to the FEIS?

17 MR. BLEVINS: Matt Blevins, yes, we've
18 done an independent review.

19 JUDGE McDADE: For my purposes can you
20 describe the nature of the review that you did?

21 JUDGE WARDWELL: And then that was going
22 to be my follow-up question also, describe --

23 JUDGE McDADE: I got to it first.

24 JUDGE WARDWELL: Yes, he's awful quick
25 and you have to be on your toes up here. Could you

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1 also demonstrate as you describe that, the
2 independence of it as opposed to just a review of
3 the existing information? What makes it independent
4 as opposed to just reviewing what's in the ER and
5 regurgitating it.

6 MR. WOOD: This is Ray Wood. We looked
7 at a number of things and I assume this question is
8 related simply to the depleted uranium still that
9 we're on here but --

10 JUDGE WARDWELL: Well, it is and it's
11 more of a general question, too. I just happened to
12 pick it up here in this one regards to the DU
13 disposal but it also applies to all your review.
14 Whenever you say you reviewed something in the FEIS,
15 it should apply, does it not, common on whether or
16 not it applies to other aspects of the FEIS when, in
17 fact, you're doing a review.

18 MR. WOOD: Okay, thanks, I understand.
19 In short, yes, we did perform independent modeling
20 in many cases. An example of that, and it's not
21 germane to you right here but that would be like the
22 air modeling that we've performed independent of the
23 applicant's licensing or submittal information.

24 We also performed a lot of -- a fair
25 amount of review of the -- for the DU situation

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1 looking at independent modeling of, for example, the
2 Baird report that was done that's the basis for
3 Utah's license. We performed a little bit of
4 independent modeling on that to validate the results
5 that the groundwater pathway, for example, was not a
6 real important pathway given the parameter sets that
7 are in the Baird report that describe the disposal
8 cell at the Energy Solution site.

9 So yes, we did do independent
10 validations of the information that was in the
11 licensee's submittal or the applicant's submittal,
12 as well as for DU in particular we did some
13 independent modeling and independent review of the
14 information that we received stating why they
15 excluded certain pathways, why they considered
16 intruder events not plausible. We looked at that
17 independently and drew the same conclusion.

18 JUDGE WARDWELL: And what do you mean by
19 that, you looked at that independently of --

20 MR. WOOD: Well, for example, exclude
21 intruder pathways, we went and looked at data
22 regarding groundwater depth, salinity, extractable
23 resources, is anybody going to come in and drill for
24 oil there and arrived at the conclusion that with no
25 incentive for someone to become an intruder event on

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1 the site, you know, 200 years from now that that
2 pathway, it's reasonable to exclude that pathway.

3 So we did not rely simply on the
4 information from USEC or even the information from
5 the phone calls from the State of Utah, we actually
6 went in and looked at the data that was collected
7 for the site to arrive independently at that
8 conclusion.

9 JUDGE LAM: So you may have done more
10 than just doing a hard look.

11 MR. WOOD: Well, I think -- this is Ray
12 Wood again. I -- from my perspective, that's part
13 of doing a hard look. I mean, we have to look at --
14 we have to validate the information we receive in
15 all this information. We can't accept at face value
16 what we receive. I mean, that's part of doing our
17 job in my opinion.

18 JUDGE WARDWELL: Yeah, and to follow up
19 on that question, the hard look required in the
20 development of an FEIS, is in fact, an independent
21 review of information you're provided, whether it's
22 from the applicant in their ER that they've compiled
23 for you based on that regulations and the
24 information that you gather.

25 MR. WOOD: And that's exactly the

1 approach we took. We tried to validate that
2 information wherever possible and for the most part,
3 most of it was validatable. We didn't really have
4 any issues where we felt like their information was
5 incorrect or, you know, way off base. So we arrived
6 at the same conclusions.

7 JUDGE WARDWELL: And those conclusions
8 were?

9 MR. WOOD: That, for example, related to
10 DU, that groundwater was not a valid pathway for
11 exposure to offsite residents, that without
12 groundwater available, the dose to anyone living
13 around the site was not -- that the impact on that
14 was very small, the doses were very low. Also that
15 since there's no extractable resources and no
16 potable water to perform agriculture on the site,
17 that the intruder scenarios were not valid, so
18 therefore, since those were the single highest
19 potential dose scenarios, that really removed from
20 us any concern from us that the site was not a valid
21 location.

22 JUDGE WARDWELL: And so your final
23 conclusions were that the radiological impacts from
24 the near surface disposal of these large quantities
25 of DU would be small.

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1 MR. WOOD: And more specifically what we
2 concluded, what I concluded was that Utah's
3 assessment that the site was licensable for that
4 purpose I felt was very well grounded and that I
5 guess that's going -- you know, arriving at the same
6 conclusion independently but I didn't want to say
7 that their -- you know that we actually are
8 licensing the site. We felt that their conclusion
9 was valid based on an independent review.

10 JUDGE WARDWELL: And that their review,
11 in fact, demonstrated that the Part 61 performance
12 objectives are being met in regard to the disposal
13 of this material.

14 MR. WOOD: Yes, right.

15 JUDGE WARDWELL: They're equivalent to
16 that.

17 MR. WOOD: Right, right, yes.

18 JUDGE WARDWELL: On your prefile
19 testimony on page 13, well, I can't find it here
20 now. I must have typed that wrong. Somewhere in
21 your prefile testimony have you not stated that when
22 comparing different costs associated with what was
23 in the FEIS compared to the FSER, that -- oh, I know
24 what the problem is. No, it should have been here.
25 Okay. That you testified that the costs in the FSER

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1 are correct because they are updated costs. I've
2 seen this somewhere and I thought it was in this
3 prefile testimony but obviously, when I turn to the
4 page, I can't find it. So if anyone could help me
5 with this, somewhere in the testimony in addressing
6 a question relating to the differences in cost
7 estimates for DU disposal, the FSER had a different
8 cost, I think it was a different unit cost than the
9 FEIS.

10 MR. BLEVINS: Matt Blevins, the concept
11 sounds familiar and just based on the time line,
12 remember the FEIS was published in April of 2006.
13 The SER obviously, was published about six months
14 later, so it does sound familiar that there was a
15 cost estimate update to that tails disposal. I
16 don't think we testified to it in this HTE-2.

17 JUDGE WARDWELL: Yeah, maybe it was
18 under another one.

19 MR. JOHNSON: This is Tim Johnson. The
20 cost estimates in the final safety evaluation are
21 the current cost estimates for the facility and
22 there was a later update to the decommissioning
23 funding plan that was provided to us after the
24 Environmental Impact Statement was published. So
25 that's the reason why there's a difference.

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1 JUDGE WARDWELL: And wherever that was
2 stated, the FSER was stated as the most up to date
3 one and the correct one in that. My comment would
4 be -- my question to the FEIS people are how would
5 the conclusions in your FEIS change, if any, if the
6 recent modified costs in the FSER were used in the
7 NEPA analysis?

8 MR. BLEVINS: Matt Blevins. I don't
9 believe cost played a huge part of our impact
10 determination and I also am -- my recollection is
11 that the updated number wasn't significantly
12 different than what they provided. So in terms of
13 disposal capacity, and things like that, that would
14 remain unchanged. So I don't think it would change
15 any of the conclusions reached in the FEIS.

16 MS. BUPP: Just to clarify, I think I've
17 found Judge Wardwell's reference. It's in the
18 testimony on HTS-7. It's in Answer 13 which begins
19 on page 12.

20 JUDGE WARDWELL: That's what I had
21 listed here. I thought that was a typo. I have it
22 under HTS-7 at 13. See, I thought I was wrong for
23 the first time in my life, and I wasn't. Does any
24 of the other two parties, witnesses would like to
25 add any comments or concur or disagree with the

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1 statements that were made?

2 MR. HAMMER: This is Don Hammer. I
3 would concur with Mr. Blevins.

4 MR. WOOD: This is Ray Wood. I agree
5 with Matt.

6 JUDGE WARDWELL: And that testimony is
7 that in your professional opinion you would not
8 anticipate that the conclusions reached in the FEIS
9 would change as a result of the small change that
10 occurred and the differences between the prices used
11 for DU disposal between the ones that were used for
12 the FEIS and those that were updated for the FSER.

13 MR. BLEVINS: Matt Blevins, that is
14 correct, I wouldn't -- in my professional opinion, I
15 wouldn't expect that to change.

16 JUDGE WARDWELL: Thank you.

17 JUDGE McDADE: Is that it?

18 JUDGE WARDWELL: I'm done, yeah.

19 JUDGE McDADE: Does USEC have anything
20 they wish to --

21 JUDGE WARDWELL: I do -- I'm sorry, I've
22 got one more. Sorry. I saw one little line that
23 wasn't checked off here. I was curious on how the
24 FEIS might change if, in fact, there would be any
25 additional impact if the plant shut down in

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1 midstream such that it completely closed down. They
2 just got the word, "We can't operate any more, shut
3 the lights off and flush out whatever you've got
4 left inside there such that it's partially depleted
5 uranium". You're now not getting fully depleted
6 uranium. There could be a hypothetical case where
7 they don't even try to market that that has been
8 partially enriched. And I think I just answered my
9 own question, so I don't need any response. Thank
10 you.

11 (Laughter)

12 JUDGE McDADE: Well, your suggestion
13 that they just shut off the lights and walk away was
14 causing the applicant to --

15 JUDGE WARDWELL: I knew -- so we don't
16 even have to address it. We covered that when we
17 covered what's the volume in the existing rotor, so
18 I'm not concerned about that any more.

19 JUDGE McDADE: They were cringing at the
20 possibility of that hypothetical.

21 JUDGE WARDWELL: I know, that's why --

22 JUDGE LAM: He's the best adjudicator
23 you can possibly have. He answers his own
24 questions.

25 JUDGE WARDWELL: That's right.

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1 JUDGE McDADE: And sometimes correctly.

2 JUDGE WARDWELL: Not very often, usually
3 it's the opposite.

4 JUDGE McDADE: Did the witnesses from
5 the applicant have any clarification or modification
6 they wish to make to the testimony offered by the
7 staff witnesses?

8 MR. MINER: No, sir, Pete Miner.

9 JUDGE McDADE: Can we excuse these
10 witnesses and move on?

11 MR. O'NEILL: Yes, your Honor.

12 JUDGE McDADE: Okay.

13 MS. BUPP: Yes, your Honor.

14 JUDGE McDADE: We next have
15 environmental monitoring. Mr. Blevins doesn't need
16 to go too far, nor does Mr. Hammer. Is Mr. Hammer
17 on the next --

18 MS. BUPP: Mr. Hammer is on the next
19 panel.

20 JUDGE McDADE: Okay, I thought you were
21 trying to escape.

22 JUDGE WARDWELL: What time is it?

23 JUDGE McDADE: It's five minutes of
24 5:00.

25 JUDGE WARDWELL: Can we take a 10-minute

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1 break. People are getting their stuff. It might be
2 appropriate that we take a short recess when you all
3 get set up. So it's about five minutes of 5:00 now.
4 I would propose we stand in recess till five minutes
5 past 5:00. Is that agreeable, Ms. Bupp?

6 MS. BUPP: Yes, please, thank you.

7 JUDGE McDADE: Mr. Silverman?

8 MR. SILVERMAN: Yes, your Honor.

9 JUDGE McDADE: We are in recess.

10 JUDGE LAM: Remember, there's no
11 escaping this process.

12 (A brief recess was taken.)

13 JUDGE McDADE: On the record. Is the
14 staff ready to proceed?

15 MS. BUPP: Yes, we are, Your Honor.

16 JUDGE McDADE: Mr. Silverman?

17 MR. SILVERMAN: Yes, Your Honor. The
18 Applicant is ready.

19 JUDGE McDADE: Okay. The next regarding
20 environmental monitoring, we have Mr. Blevins. We
21 have Dr. Echols. We have Mr. Hammer. Okay. We
22 have a new face.

23 MR. STRIBLEY: Todd Stribley.

24 JUDGE McDADE: And we do have your
25 curricula vitae as part of Exhibit 54.

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1 MS. BUPP: Yes, Your Honor.

2 JUDGE McDADE: And you have no objection
3 to testifying as an expert.

4 MR. SILVERMAN: No, Your Honor.

5 JUDGE McDADE: And you're the only one
6 who has not been sworn.

7 MR. STRIBLEY: Yes, sir.

8 Whereupon,

9 TODD STRIBLEY

10 was called as a witness, and having been first duly
11 sworn, was examined and testified as follows:

12 JUDGE McDADE: Please be seated. And we
13 have the same cast of characters for the Applicant.
14 Okay. Do you want to launch this boat?

15 JUDGE WARDWELL: We will launch this
16 boat. If we could start off by recognizing that this
17 is really a combination between HTS-9 and HTE-3 and
18 I think the USEC even combined it with a couple
19 others. But anyhow, there are a couple systems that
20 are of interest to explore a little bit. If we could
21 just start off with an individual explaining to us
22 how the machine cooling water system operates and
23 the liquid effluent control system operates in
24 regards to its functionality, potential for carrying
25 radioactivity where piping for these systems go in

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1 the plant in regards to buried pipes such that if
2 they leaked would there be an inadvertent release of
3 radioactivity to the environment. Those will be
4 some of the areas that we want to explore. So you
5 don't have to respond initially in your general
6 description of each of these whoever would like to
7 volunteer to tackle this general question, but we'll
8 have follow-up questions to pursue those as needed.

9 We did see some schematics yesterday
10 during the both public and the nonpublic portion.
11 We are open here. Is that correct?

12 JUDGE McDADE: Yes.

13 JUDGE WARDWELL: So if you want to refer
14 to those from the public portion of the presentation
15 that was provided as our hearing issue one feel
16 free, but would anyone like to volunteer to start
17 off and just generally describe those two systems
18 for us?

19 MS. BUPP: I'm not sure that the
20 witnesses that are currently here with the exception
21 of Mr. Echols and Mr. Lamastra where the MCW is not
22 their area of expertise. Would it be the correct
23 staff witnesses to offer a detailed description of
24 the machine cooling water system? I mean Mr. Faraz
25 spoke about it yesterday and I think that's the

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1 level of detail that the staff has from USEC at this
2 point.

3 JUDGE WARDWELL: And that's fine.
4 That's all. I didn't ask for much more detail. I
5 just wanted to kind of introduce it to get the ball
6 rolling in regards to kind of repeating what that
7 is. I don't anticipate it necessarily being in any
8 more detail than that. But I will ask amplifying
9 questions based on the pre-file testimony when you
10 discuss these systems. Considering they are brought
11 up in the pre-file testimony, I thought it would be
12 worthwhile to set the stage for that.

13 JUDGE LAM: Now since Judge Wardwell has
14 an interest in this particular system, may I ask the
15 Applicant is there a detailed system analysis
16 performed in terms of reliability? Do we have data
17 such as piping and instrumentation diagrams,
18 detailed system specifications and performance
19 specifications available that may satisfy some of
20 Judge Wardwell's questioning if they are available?

21 JUDGE WARDWELL: My guess is that it
22 would be more detail than what I need to know. I
23 think we're making this too complicated and I
24 probably should have just launched into my specific
25 questions. But I thought it would be helpful if I

1 just had a general description of two systems, the
2 machine cooling water system and the liquid effluent
3 control system.

4 MR. MINER: This is Peter Miner.

5 JUDGE WARDWELL: That's Peter Miner from
6 USEC.

7 MR. MINER: From USEC. As described
8 yesterday by Mr. Faraz and others, the machine
9 cooling water system is a closed loop system and it
10 exchanges its heat through a heat exchanger and
11 ultimately through the tower water cooling system.

12 So there is actually two loops that are cooled, the
13 primary loop in contact with equipment that are
14 supporting the centrifuge process, not the
15 centrifuge itself as we described in other sessions.
16 It cools components exterior to the centrifuge
17 machine. We have not done any detailed analyses of
18 failure moments but the system does operate at
19 pressure and will operate at a pressure higher than
20 the systems that it cools. So any leakage would be
21 into the other systems, not any potential
22 radioactive materials into the machine cooling water
23 system.

24 JUDGE LAM: So this is not a system
25 we're doing that rises to the level of performance

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1 requirements that would meet ASME compliance or with
2 IEEE compliance. Right? This is just common
3 industrial type of water cooling system we're
4 dealing with. Am I correct?

5 MR. MINER: Peter Miner. That's exactly
6 right. We would consider this an industrial cooling
7 system. It's no particular quality assurance levels
8 required.

9 JUDGE WARDWELL: So at the cooling
10 interface with any of these machines, if those were
11 to wear down enough such that whatever that
12 particular machine that it was cooling -- Let me
13 back up a bit. The machines that they are cooling
14 are operating on fluids that have radioactivity in
15 them. The only machine that's designed to have
16 radioactivity in it or uranium hexafluoride is the
17 centrifuge itself.

18 As we've described before, the
19 centrifuge itself is not cooled by MCW. The motor
20 is cooled. It's not in contact with any uranium
21 hexafluoride. So any these motors, any of these
22 machines, that are being cooled, they're not
23 operating on anything, any fluid, and I use the term
24 "fluid," I'm sure it's gas, but that would have
25 radioactivity in it.

1 MR. MINER: Peter Miner again. They are
2 not in contact with uranium hexafluoride. They are
3 not designed to do that.

4 JUDGE WARDWELL: Machines being cooled
5 by this system.

6 MR. MINER: Right.

7 JUDGE WARDWELL: Okay. Thank you.
8 Could you explain the liquid effluent control
9 system? How it operates? What it's there for?
10 What is it collecting? And how it handles that
11 material? And where does it send it?

12 MR. FOUT: Gregory Fout for the
13 Applicant. The liquid effluent control tanks and
14 system has a series of -- It's a manifold system
15 within the process buildings. There's a drain under
16 each individual machine in an area under the
17 machine. Those are all manifold, too, the tank
18 system. There's approximately four tanks on each
19 cardinal point of the building that's going to
20 support this. Not all tanks have been installed at
21 this point in time. They are 550 gallon tanks or
22 fiberglass, single-walled tanks, schedule 40 piping
23 that's chemically welded together so it forms a
24 tight system.

25 The tanks are designed to catch any

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1 spills or releases from within the building
2 particularly the machine cooling water system if
3 there's an inadvertent leak in that system or if
4 there's a fire sprinkler activation. At this point
5 in time before gas is introduced in the system,
6 there may be some inadvertent MOP water that enter
7 into that system. Once the system is online, we
8 have the production process going. We'll go to a
9 dry contamination. So that source of water should
10 not be present.

11 The tanks are designed as a contingent
12 or hold-up capacity in the event of those spills or
13 releases. They are not intended to be a holding
14 tank for waste water.

15 JUDGE WARDWELL: Is there any chance
16 that any of the liquids being collected by this
17 system would contain radioactivity?

18 MR. FOUT: At this point, we feel no,
19 but we're going to -- if in fact we do have a leak
20 into that system, we will analyze the tank's
21 contents before it's dispositioned.

22 JUDGE WARDWELL: What do you mean by "a
23 leak into that system"?

24 MR. FOUT: If we have the sprinkler
25 activation or if we have a leak from the machine

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1 cooling water system that goes into those tanks, we
2 would do analytical on the contents of the tanks
3 before we determined what the disposition of that
4 water is.

5 JUDGE WARDWELL: But I just heard from
6 Mr. Miner that there is no chance, there is no
7 radioactivity, in the machine cooling water. It's a
8 closed loop system and it's cooling machines that
9 are not handling any material that had radioactivity
10 in it.

11 MR. FOUT: That's a correct statement
12 and we're doing that as our diligence.

13 JUDGE McDADE: If I could interrupt for
14 a second because I heard something different and
15 please correct me. As I understood Mr. Miner's
16 testimony, he indicated that the design was such
17 that there shouldn't be any radioactivity leaking
18 into or out of. But you didn't indicate that there
19 could not be. Am I correct?

20 MR. FOUT: No, Mr. Miner's testimony is
21 correct. As the system is designed, it cannot get
22 in that. We would sample as our diligence just for
23 assurance that there were no inadvertent pathways
24 that we're not aware of.

25 JUDGE McDADE: And I'm just trying to

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1 make sure I understand the distinction between
2 "should not" and "can not" and understood from the
3 original testimony it was that it should not and am
4 I correct that what you're now saying is the way
5 that it's designed it's your belief that not only
6 "should it not," "it cannot."

7 MR. MINER: Peter Miner for USEC. Your
8 Honor, that is our design intent so that it cannot.
9 The inarticulate word is "should" I believe, so
10 "cannot" is the design. We do not want -- The
11 systems should not be in contact with any uranium
12 bearing systems. So there will not be any uranium
13 in the machine cooling water system. That is the
14 design.

15 JUDGE McDADE: Okay, and then the
16 question is in the event that things do not always
17 work the way things are supposed to with regard to
18 how it is monitored to determine whether or not
19 there has been some sort of inadvertent release
20 whether though a leak, a seep or whatever, I think
21 that's getting into the next issue that we have
22 here. I don't want to interrupt. Why don't you --

23 JUDGE WARDWELL: Let me just ask it one
24 more time. The machines that the machine cooling
25 water system are cooling do not handle any material

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1 that has radioactivity. Is that correct?

2 MR. MINER: Your Honor, I'm looking at
3 Figure 1.1, Peter Miner, Figure 1.1-16 of our
4 license application and it describes what components
5 are cooled by the machine cooling water system. The
6 centrifuge, diffusion pumps, I believe, as Mr.
7 Corzine mentioned this morning are cooled by the
8 machine cooling water system and there could
9 possibly be some uranium in the diffusion pump.
10 However, the design of the machine cooling water
11 system is such that the uranium would not be in
12 contact with the liquid medium, the coolant.

13 JUDGE WARDWELL: I'm aware of that. But
14 I guess I confused you on my question because if
15 that diffuser pump failed, then is it your testimony
16 that the reason the material being handled by that
17 diffuser pump and I assume that's a gaseous -- What
18 is in that? What is that diffuser pump pumping?

19 MR. MINER: I would like to confer with
20 other members of the USEC staff if I could.

21 JUDGE WARDWELL: Sure.

22 (Off the record discussion.)

23 MR. O'NEILL: Your Honor, we'd like to
24 bring Mr. Towne up to address this issue. However,
25 I understand that may have involve some non-public

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1 information. So you would have to close the session
2 temporarily. We feel this is necessary before we
3 answer your question.

4 JUDGE McDADE: Is there anybody
5 currently in the room who has not been placed on the
6 list with regard to proprietary information? And I
7 would ask Counsel to take a quick look to see if
8 there is anyone that they can identify. We haven't
9 had the guard keeping them out for the last couple
10 of moments here. Okay. There does not appear to
11 anybody. Counsel has not identified anybody and we
12 will notify the guard to keep other individuals out
13 until further notice.

14 (Whereupon, the proceedings went into
15 Closed Session.)

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1 MR. O'NEILL: The staff's testimony,
2 Your Honor.

3 JUDGE WARDWELL: Back to --

4 MR. MINER: Judge Wardwell?

5 JUDGE WARDWELL: Yes.

6 MR. MINER: If I could just clarify one
7 thing.

8 JUDGE WARDWELL: Sure.

9 MR. MINER: Peter Miner. When we were
10 talking about these hypothetical events and having
11 residual contamination for lack of a better word, it
12 would be highly unlikely that that would occur. Any
13 contamination event or release it would be our
14 intent to immediately clean those up and for just
15 good contamination practice, contamination control
16 practices and radiological protection requirements,
17 we wouldn't leave residual contamination around.

18 JUDGE WARDWELL: These are refurbished
19 buildings that were used previously for activities
20 at the reservation, is that correct, that the
21 process buildings are or that the centrifuges are
22 going to installed in?

23 MR. MINER: The buildings currently
24 exist, yes.

25 JUDGE WARDWELL: And were they

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1 previously -- What types of refurbishment have been
2 needed to be done on those sites and if any cleanup
3 was needed from past activities, to what degree of
4 cleanup were those activities carried to? Do you
5 know?

6 (Off the record discussion.)

7 MR. MINER: Peter Miner. I'm not
8 prepared to answer those questions.

9 JUDGE WARDWELL: Is there -- As a past
10 process building to your knowledge, were there any
11 residual radioactivity in those buildings that
12 needed some type of mitigative efforts or will need
13 it before you can occupy them?

14 MR. O'NEILL: Your Honor, we would like
15 another opportunity to confer with Mr. Miner's
16 colleagues.

17 JUDGE WARDWELL: Sure.

18 MR. O'NEILL: We may have an individual
19 who could speak to that.

20 JUDGE McDADE: Please take a moment.

21 MR. O'NEILL: Thank you.

22 (Off the record discussion.)

23 JUDGE McDADE: Mr. O'Neill.

24 MR. O'NEILL: Yes. Thank you, Your
25 Honor. Mr. Miner is going to attempt to respond to

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1 the question. We reserve the right to bring up
2 another witness if necessary. We're getting into
3 some details that we didn't initially anticipate.
4 So we thank the board for obliging on this. Thank
5 you.

6 MR. MINER: Okay. Peter Miner. I also
7 didn't want to speak for the Department of Energy.
8 Prior to USEC leasing the facilities for the lead
9 cascade, the Department of Energy had cleanup
10 activities to remove the existing centrifuge
11 machines from the program that was used in the 1980s
12 or the machines that were used in the 1980s. As
13 part of that cleanup effort, they removed any
14 contaminated machines and cleaned up the area before
15 USEC took it over. We did do a characterization of
16 the facilities before we took them over and the
17 facilities were clean of contamination.

18 JUDGE WARDWELL: To non-detects or to
19 some level?

20 MR. MINER: I believe it was to non-
21 detectable.

22 (Off the record discussion.)

23 MR. MINER: That's correct.

24 JUDGE WARDWELL: Back to pre-filed
25 testimony on page 10, you talk about sampling the

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1 contents and then going to the sewer and I think I
2 started to bring this up and either got interrupted
3 or maybe you answered it. I'm going to ask you
4 again. What is meant by "offsite disposal" of the
5 liquid if it's needed?

6 MR. FOUT: If we found that the material
7 based on sampling analysis did not meet the
8 acceptance criteria to go the sanitary sewer which
9 would ultimately go to the X-6619 which is an NPDS-
10 permitted outfall, if it did not meet that criteria,
11 we would containerize that material and we would
12 ship that off to a treatment storage disposal
13 facility (TSDF) that could take that material or
14 through a service contract, we would send that
15 through the X-705 based on their concurrence.

16 JUDGE WARDWELL: Are there any holding
17 ponds associated with the sewer treatment outfall or
18 are those only for storm water?

19 MR. FOUT: That's for storm water
20 runoff.

21 JUDGE WARDWELL: And that's where I got
22 interrupted. That's right. You weren't supposed to
23 answer that because it was the staff's testimony.
24 It wasn't yours.

25 (Laughter.)

1 JUDGE WARDWELL: Thank you for
2 clarifying staff's testimony. Now we'll get the
3 staff's testimony in this regard. What did you mean
4 by "offsite disposal"? Was it very similar to what
5 was just presented to us in regards to the testimony
6 on page 9? I'm not sure it's listed as a -- Well,
7 it is. Dr. Eckols's testimony.

8 DR. ECKOLS: (Off microphone.) Yes, into
9 a licensed facility and for the non-containerized
10 before being released into the river, they would
11 have to meet the 10 CFR 20 Appendix B limits. I
12 think Table 3 lists all of the limitations for
13 radionuclides for sewer systems. If they do meet
14 those or are within those limits, then they could be
15 discharged directly through the pipe -- Interesting,
16 that for these systems that they can take credit for
17 dilution, but they're well within limits,
18 radiological and non-radiological without taking --

19 JUDGE WARDWELL: You also talk about the
20 holding ponds for storm water that are onsite. How
21 often do they need to be -- How do sediments
22 accumulate in those ponds and do they need to be
23 dredged and, if so, what happens to the dredgings
24 from those ponds?

25 DR. ECKOLS: This is Stan Echols. I

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1 would have to refer back on the maintenance of
2 those ponds. The use of the ponds are to collect
3 any runoff. Now this could be both radiological or
4 non-radiological. If it's radiological, there would
5 be some residual contaminants in the soil for
6 instance that would go in. For the non-
7 radiological, it could be any number of things that
8 would be monitored in the pond. But as far as the
9 maintenance of the pond, I would have to defer back.

10 JUDGE WARDWELL: It's not -- Could you
11 just get back to us with that? I don't want to
12 necessarily pause for that.

13 DR. ECKOLS: Sure.

14 JUDGE WARDWELL: It's a small item that
15 I just wanted to assure that I close a loop on those
16 sediments.

17 (Off the record discussion.)

18 JUDGE WARDWELL: In your pre-file
19 testimony on page 12, you listed a number of
20 exhibits where there was a presentation of
21 background concentrations. Within that list, I
22 don't see anything related to background
23 groundwater. Is there such a list? Is there such a
24 table of background concentrations of groundwater
25 that surrounds the proposed ACP area which I guess

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1 would also include the storage yards for the DU
2 cylinders?

3 MR. STRIBLEY: This is Todd Stribley.
4 Yes, in the EIS we did look at the groundwater and
5 there is a series of operable units on the
6 installation and we did do a summary of the
7 groundwater and the contamination found at each one
8 of those zones, I guess, the quadrants on the
9 installation. So it's not necessarily a summary
10 just around the ACP but of the installation as a
11 whole and it includes each site and the fate and
12 transport from that site and the nature of the
13 extent and I believe that was provided in the
14 exhibits that we submitted. It provided the
15 groundwater plumes, their extent and the
16 concentrations that were found in those as well as
17 the pollutants that were found in each plume.

18 JUDGE WARDWELL: That encompassed in all
19 quadrants of the site. Is that correct?

20 MR. STRIBLEY: Correct.

21 JUDGE WARDWELL: Thank you. In your
22 testimony from Dr. Eckols and --- Who is DH?

23 MR. HAMMER: That's Don Hammer.

24 JUDGE WARDWELL: There we go. That your
25 attached Staff Exhibit 50 which presents both

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1 monitoring sampling locations and in there, it
2 wasn't clear to me that those would be groundwater
3 monitoring samples. Do those both monitoring
4 locations include groundwater monitoring?

5 MR. HAMMER: If I could have just one
6 moment to check through the figures.

7 JUDGE WARDWELL: Sure.

8 (Off the record discussion.)

9 MR. HAMMER: This is Don Hammer. I
10 would, Judge, refer you to Staff Exhibit 38.

11 (Whereupon, the document
12 referred to was marked as NRC
13 Exhibit No. 38 for
14 identification.)

15 MR. HAMMER: Staff Exhibit 38 describes
16 the groundwater monitoring areas as a whole. So it
17 gives you an idea of the coverage of the facility
18 and where the groundwater is monitored. Staff
19 Exhibit 50 then provides a table of the specific
20 sampling locations, the media that are sampled, the
21 parameters and then the frequency of that sampling.

22 (Whereupon, the document
23 referred to was marked as NRC
24 Exhibit No. 50 for
25 identification.)

1 JUDGE WARDWELL: Could you point to the
2 portion of Exhibit 50 that deals with groundwater
3 monitoring?

4 MR. HAMMER: There is one more exhibit
5 that I would also point you to as well, actually a
6 series of them.

7 JUDGE WARDWELL: Okay.

8 MR. HAMMER: Exhibit 39 has the
9 locations of all the monitoring wells for the plumes
10 for the TCE plume.

11 (Whereupon, the document
12 referred to was marked as NRC
13 Exhibit No. 39 for
14 identification.)

15 MR. HAMMER: Staff Exhibit 40 shows
16 quadrant 1 groundwater monitoring wells and for
17 quadrant 2 as well.

18 (Whereupon, the document
19 referred to was marked as NRC
20 Exhibit No. 40 for
21 identification.)

22 MR. HAMMER: Staff Exhibit 42 indicates
23 the groundwater monitoring well locations
24 surrounding the X-701B holding pond.

25 (Whereupon, the document

1 referred to was marked as NRC
2 Exhibit No. 42 for
3 identification.)

4 MR. HAMMER: Staff Exhibit 43 indicates
5 those same monitoring well locations for the X-740
6 waste, oil handling facility.

7 (Whereupon, the document
8 referred to was marked as NRC
9 Exhibit No. 43 for
10 identification.)

11 MR. HAMMER: Staff Exhibit 44 indicates
12 the locations for the X-616 chromium slug surface
13 impoundments and it indicates the groundwater
14 chromium concentrates as well from that plume.

15 (Whereupon, the document
16 referred to was marked as NRC
17 Exhibit No. 44 for
18 identification.)

19 MR. HAMMER: And I believe that is the
20 extent of the exhibits that indicate where the
21 monitoring wells are located for groundwater.

22 JUDGE WARDWELL: That's helpful. Thank
23 you. But my main question related to what's the
24 proposed groundwater monitoring plan that is being
25 anticipated for the ACP.

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1 MR. STRIBLEY: Yes. This is Todd
2 Stribley. Currently, it's our understanding that
3 the Applicant doesn't propose to do a groundwater
4 monitoring plan. It's just for the media that are
5 listed in that Exhibit 50.

6 JUDGE WARDWELL: And is there a
7 particular reason for not?

8 MR. HAMMER: This is Don Hammer. I
9 believe that the rationale is that all of these
10 groundwater monitoring wells are being monitored as
11 part of a RCRA corrective action program that's in
12 agreement that the Department of Energy made with
13 either the state or the EPA. So they are
14 responsible for the actual monitoring sampling of
15 all those wells with respect to groundwater at this
16 time.

17 JUDGE WARDWELL: Does or will the ACP
18 receive that data and is there any plans for them to
19 look at it to see whether or not there are any
20 indications that their particular facility may be
21 contributing to what's there already in regards to
22 radiological releases to the groundwater to your
23 knowledge?

24 MR. HAMMER: To my knowledge, I don't
25 have that answer. I would expect that possibly the

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1 USEC staff could elaborate on that.

2 JUDGE WARDWELL: Would anyone else on
3 this panel like to elaborate?

4 JUDGE McDADE: I'm sorry. Who could
5 elaborate on that, Mr. Hammer?

6 MR. HAMMER: The USEC staff.

7 DR. ECKOLS: Stan Eckols. I believe
8 that existing monitoring programs such as this as
9 well as of the GDP are made available to the staff
10 for their review on a regular. So all reports that
11 come from these sources are made available to USEC.
12 They can confirm that.

13 MR. FOUT: Greg Fout for the Applicant.
14 Mr. Eckols is correct. DOE publishes an annual
15 report which we're on distribution too. However,
16 DOE gets their monitoring results on a periodic
17 basis throughout the year and if in fact there was
18 an upset that they felt that we may have contributed
19 to they would immediately notify us.

20 JUDGE WARDWELL: Do you know the
21 frequency with which they sample the wells and for
22 what constituents and are those constituents ones
23 that if there was an inadvertent radiological
24 release from the ACP they would be on that list of
25 parameters?

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1 MR. FOUT: Greg Fout for the Applicant.
2 I'm not sure what the frequency is on each
3 individual well. I believe each well may have a
4 different frequency. Some could be weekly and some
5 could be quarterly and I'm not sure what the
6 frequencies are. Their analets are for the
7 constituents of concern to their agreed-to order
8 with the State of Ohio, primarily what's involved in
9 the plume and I believe it also includes the RAD.

10 JUDGE LAM: So as of now the Applicant
11 is getting the free benefit from the Department of
12 Energy in monitoring the gases diffusion plant as of
13 now.

14 MR. FOUT: At this point in time, yes
15 sir.

16 JUDGE McDADE: Did I understand
17 incorrectly that not only at this time but the
18 procedure would be that the Department of Energy
19 would continue to have the responsibility for
20 monitoring the groundwater?

21 MR. FOUT: Yes, it's their
22 responsibility to monitor groundwater. Yes sir.

23 JUDGE McDADE: Now there was testimony
24 about what was anticipated that if there were a
25 problem the Department of Energy would notify USEC.

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1 USEC would notify the NRC. Although that's
2 anticipated, is it required under your contract with
3 the Department of Energy? Do they have an
4 obligation to report to you and then you an
5 obligation to report to the NRC?

6 MR. FOUT: Under the conditions of the
7 lease, yes.

8 JUDGE McDADE: Under the conditions of
9 the lease, yes, the Department of Energy has an
10 obligation to report the results of their
11 groundwater monitoring to you and under the terms of
12 the license you have an obligation to report any
13 contamination to the NRC?

14 MR. FOUT: Yes, that's correct. And if
15 we were to -- There are certain chemicals and
16 material that if we bring on the premises we're
17 obligated to report to DOE also. So there's a
18 reporting requirement back and forth between the two
19 of us.

20 JUDGE McDADE: And you are obligated to
21 report to them. So they would then be in a position
22 to know what to monitor for.

23 MR. FOUT: That's correct.

24 JUDGE WARDWELL: Back to the staff, in
25 your review of all the baseline conditions that

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1 exist there, specifically the locations of the
2 monitoring wells, in your professional opinion, do
3 you believe that if there was some type of
4 unforeseen condition within the ACP that created a
5 potential release to the groundwater from any
6 activity that occurred in there that there would be
7 a sufficient well network around the ACP process
8 buildings and the feed and product areas to at least
9 initiate some type of monitoring to determine
10 whether or not there's an indication that it's been
11 released to the groundwater?

12 MR. STRIBLEY: This is Todd Stribley.
13 The initial review on that focused more on the types
14 of releases that could occur, not necessarily a
15 release directly to the groundwater. Because of the
16 way the plant would be operating there wasn't --

17 JUDGE WARDWELL: I will correct you on
18 that. I'm not concerned about trying to determine
19 whether there would be a release to the groundwater.
20 My question geared more towards what is the existing
21 network of monitoring wells around the ACP plant and
22 is it sufficient enough in your opinion that if, in
23 fact, there was a potential for that ACP would at
24 least have some tool to go in and look at initially
25 to find out where there's indication and to verify

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1 that there hasn't been the release we don't expect
2 to occur?

3 MR. STRIBLEY: Yes. The short answer
4 is, yes, we believe there are sufficient monitoring
5 wells there.

6 JUDGE WARDWELL: Thank you. On page 14
7 of the pre-file testimony on the answer 19, you talk
8 about "these guidance documents are generally
9 applicable to monitoring routine releases" and this
10 is Dr. Eckols again. I assume what you mean by
11 that, by "routine releases," you mean those licensed
12 discharge points for both air and water releases.
13 Is that correct?

14 DR. ECKOLS: Yes.

15 JUDGE WARDWELL: The regular NPDS
16 permits for any release to Scioto River.

17 DR. ECKOLS: Yes, and they would come
18 under existing NPDS.

19 JUDGE McDADE: I'm sorry, Dr. They
20 would come existing?

21 DR. ECKOLS: NPDS permits for non-
22 radiological releases on the existing outfall.

23 JUDGE WARDWELL: And just for
24 completeness, on pages 17 to 19 on the pre-file
25 testimony, the relationship between DOE and ACP

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1 monitoring programs is described in Chapter 9 of the
2 application and it goes on to talk about many
3 sections that are involved there. Did any of these
4 sections talk about the relationship between the DOE
5 and ACP monitoring programs in regards to
6 groundwater monitoring?

7 DR. ECKOLS: There is a discussion, I
8 can't see where, that the Applicant discusses
9 existing DOE and GDP monitoring systems and how they
10 share information.

11 JUDGE McDADE: Dr. Eckols, do you think
12 this would be in the application or in the safety
13 evaluation report or the environmental impact
14 statement. Do you know?

15 DR. ECKOLS: It was in their license
16 application, I believe, in the environmental report.
17 I can check on that and get back to you.

18 JUDGE McDADE: That would be good.
19 Thank you, Dr. Echols.

20 JUDGE LAM: Now while this is somewhat
21 in the holding pattern, let me ask a question that
22 may help me or the Board together to make our
23 decision here. Now my understanding of the NEPA
24 requirement is the staff is obligated to take a hard
25 look. In its duty the staff has prepared an

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1 environmental impact statement. Assuming all the
2 environmental issues that have been identified by
3 the Board were not resolved to our satisfaction,
4 that's a big assumption, what should the Board do in
5 terms of fulfilling our responsibility here in
6 ruling on the license? I mean, the staff has done
7 its work in taking a hard look as counsel had
8 repeatedly indicated. We have in our record what
9 the staff had done. The Board has raised numerous
10 questions in the environmental arena and assuming
11 that we're not satisfied with the staff's or the
12 Applicant's answer, what is our duty as you see it?

13 MS. BUPP: Again, I think that's a legal
14 question as to what the Board is empowered to do as
15 part of this uncontested hearing and what the Board
16 can do in its proposed findings of fact and
17 conclusions of law for this hearing and that's not
18 something that the staff can really answer.

19 JUDGE LAM: Right. Your technical
20 expert would not be able to answer that question.

21 MS. BUPP: Yes. No, they can't.

22 JUDGE LAM: Okay. Would you be able to
23 answer that question, Staff Counsel?

24 MS. BUPP: I could give an answer now or
25 I could give a better prepared answer tomorrow when

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1 we address all the legal issues.

2 JUDGE LAM: Sure and I will certainly
3 entertain it now.

4 JUDGE WARDWELL: I would rather wait.

5 JUDGE McDADE: Yes. Two to one.

6 JUDGE LAM: Two to one. Okay. I'll
7 defer to the majority.

8 JUDGE McDADE: You will get a much
9 better answer and it will be cohesive with the other
10 ones I think.

11 JUDGE WARDWELL: In that regard, staff,
12 is it your understanding that the reason why we're
13 sitting here and going through some of these
14 discussions now is both related to the EIS analysis
15 but also in regards to a safety topic related to
16 environmental monitoring because I know that people
17 use the phrase "environmental issues" but they
18 usually mean it in regards to the EIS. There are
19 environmental impacts that are potential safety
20 issues and that we're really covering both. It's
21 HTE-3 and it's HTS-9 that we're discussing here.
22 Has that been your assumption all along?

23 DR. ECKOLS: You do refer to accident
24 analysis in the offsite which would be what is the
25 environmental consequence onsite and the safety was

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1 more from what is the consequence onsite to workers
2 to clean up that sort of thing.

3 JUDGE WARDWELL: Yes.

4 DR. ECKOLS: You sort of have a foot on
5 each side of that issues. To get back to the
6 earlier question, in Section 615 of the final
7 environmental impact statement, groundwater
8 monitoring, the last paragraph, this goes to water
9 shared and this evidently this is one aspect that
10 does not, the statement, and this comes from Chapter
11 9 of the Applicant's license application.

12 JUDGE WARDWELL: Which is also what I
13 was referring to when I was referring to pages 17
14 through 19 of your pre-file testimony.

15 DR. ECKOLS: Yes. And the statement in
16 the environmental impact statement is "groundwater
17 monitoring data are reported as part of DOE's annual
18 environmental report for the DOE reservation. All
19 groundwater monitoring conducted on the site is
20 under the control of the DOE. United States
21 Enrichment Corporation does not conduct a separate
22 groundwater monitoring program." So they do rely on
23 the information coming and reported to them on that
24 program. And that is consistent to what was stated
25 by the Applicant earlier.

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1 JUDGE WARDWELL: Thank you. To USEC in
2 regards to your pre-file testimony, and I'm looking
3 in regards to some discussion on page 4 of your pre-
4 file testimony talking generally about sewer lines
5 and storm water lines and besides pipelines from
6 those particular systems and the one we've talked
7 about already in regards to the liquid effluent
8 control system that has the PVC pipelines going out
9 to the tanks, but besides those two systems, are
10 there any other underground tanks or other systems
11 that are buried in the ground that would contain or
12 transport any fluid that would have radioactivity in
13 it on a regular operational basis?

14 MR. FOUT: Greg Fout for the Applicant.
15 No sir.

16 JUDGE WARDWELL: Thank you. And because
17 of that, is it fair to assess that you have no plans
18 to attempt to detect inadvertent releases because of
19 the lack of that source but yet there are particular
20 tools available if needed to in the future to
21 implement to help you with any assessment of that?

22 MR. FOUT: Greg Fout for the Applicant.
23 Yes sir.

24 JUDGE WARDWELL: In regards to the tanks
25 from the liquid effluent control system on page ,

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1 the answer to Question 9 talked about the monitoring
2 that you would do using level gauges and something
3 in the neighborhood of that and what I was wondering
4 about is how effective level gauges would be if they
5 were just small weeps or seeps or which ever term
6 you want to use in regards to those tanks leaking?
7 Would those level gauges be particularly effective?

8 MR. FOUT: Greg Fout for the Applicant.

9 I would like to reiterate that the tanks are
10 utilized as hold-up capacity in the event of an
11 abnormal situation where we had a spill or a leak
12 and they would provide that hold-up. They're not
13 liquid storage tanks per se. In that context, the
14 gauges are calibrated. For example, for a one inch
15 indication on the gauge it would equate to three
16 gallons of liquid in the tank.

17 In the event that we had a circumstance
18 that we were in the process of mitigating, there may
19 be a liquid level in those tanks. To the extent
20 that we would pump that as a result of that
21 situation, the operations on a per shift basis at
22 this point, it's a 12 hour shift, would go out and
23 take a reading on that gauge and log that in their
24 operator rounds and, yes, we feel that that is
25 sensitive enough to indicate whether or not we had a

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1 loss of liquid in that interim period where we would
2 have to investigate to determine the cause of that
3 loss.

4 JUDGE WARDWELL: You also discuss this,
5 I think, in regards to Answer 10 and again for
6 Question 11 and I assume you give the same response.

7 MR. FOUT: That's correct, sir.

8 JUDGE WARDWELL: The only action item
9 that -- Those are the answers to my questions and we
10 have one action item left after having resolved one
11 and that is in regards to the sediments in the
12 holding pond. So with that, I'm finished.

13 JUDGE McDADE: Judge Lam. Would this be
14 a good time to take a break?

15 MS. BUPP: Sure. For?

16 JUDGE McDADE: Five minutes. I was
17 proposing to break for the day.

18 (Several speaking at once.)

19 JUDGE McDADE: I like the long look.

20 MS. BUPP: Breaking for the day is fine.

21 (Laughter.)

22 JUDGE McDADE: If not required.

23 MR. O'NEILL: It's fine with us, Your
24 Honor. Is it your intent to address the holding
25 pond issue then tomorrow?

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1 JUDGE McDADE: Yes.

2 MR. O'NEILL: Okay. Thank you.

3 JUDGE WARDWELL: Yes, just to get the
4 answer on.

5 MR. O'NEILL: Sure.

6 JUDGE WARDWELL: And I would like to say
7 that in regards to all this, both this panel and the
8 ones earlier today and those yesterday, that I do
9 appreciate the responsiveness. We did have a little
10 bit of a backup in repeating something that we may
11 have wanted to make we confirmed of a knowledge base
12 that we had. But I know you can't resist in all
13 cases and the rest was very responsive and we
14 appreciate your cooperation. It allowed us to get
15 through quite a bit today in my opinion, much more
16 than I expected.

17 JUDGE McDADE: With regard to the
18 schedule for tomorrow, Judge Wardwell and I have
19 been having a debate as to what time to start
20 tomorrow. He had suggested 6:00 a.m. I had
21 suggested 12:00 noon.

22 (Laughter.)

23 JUDGE McDADE: Trying to resolve this.
24 Question. If we were to start tomorrow at 9:00
25 a.m., would that pose any problems for the staff,

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1 Mr. Bupp?

2 MS. BUPP: It wouldn't pose any major
3 problems. I think we would appreciate the extra
4 hour in the morning just to make sure that we have
5 everything, all of the information and all of the
6 action items taken care of.

7 JUDGE LAM: You have my vote.

8 JUDGE WARDWELL: So said.

9 JUDGE McDADE: Okay. You don't vote
10 that.

11 MR. SILVERMAN: We do not veto 10:00
12 a.m.

13 JUDGE McDADE: Then we will plan on
14 starting tomorrow at 10:00 a.m. EDT. Again, Judge
15 Wardwell was trying to change things to standard
16 time. But we're going to stick with Eastern
17 Daylight Time 10:00 a.m. See you all in the
18 morning. Thank you.

19 MS. BUPP: Thank you.

20 MR. SILVERMAN: And we will begin with
21 HTE-1? Let's confirm.

22 JUDGE WARDWELL: Yes. What's next? I
23 hadn't been looking over my notes for HTE-5. I had
24 a lot of liquid effluent control questions under
25 this and I would have to look at that to make sure.

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1 Hang on. Let me just --

2 JUDGE McDADE: With regard to that,
3 tomorrow morning with regard to 5, originally Mr.
4 Blevin and Mr. Hammer had been identified as
5 witnesses on 5. They're also anticipated as
6 witnesses on numbers 4 and 6 as well. So they will
7 be here in the event we have additional questions.
8 With regard to USEC, Mr. Miner I think has been
9 sewed to the seat there and he's going to be there
10 tomorrow. Would Mr. Fout be here tomorrow in any
11 event?

12 MR. FOUT: Greg Fout. Yes sir, I will.

13 JUDGE McDADE: Okay. So why don't we
14 take a break now? But the hope is we'll start with
15 Environmental No. 1, the purpose of the -- We may
16 have some additional questions with regard to liquid
17 effluent control. But we should know that. I
18 assume the schedule we're looking on is to continue
19 with those three issues for the taking of testimony
20 and then to take up any remaining legal issues after
21 that. Is that agreeable with the staff?

22 MS. BUPP: Yes, Your Honor.

23 JUDGE McDADE: USEC.

24 MR. SILVERMAN: And with the Applicant.

25 JUDGE McDADE: Okay. We're in recess

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1 until 10:00 a.m. tomorrow morning. Thank you. Off
2 the record.

3 (Whereupon, at 6:10 p.m., the above-
4 entitled matter was adjourned to recessed to
5 reconvene at 10:00 a.m. the next day.)

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CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: American Centrifuge Plant

Docket Number: 70-7004-ML

Location: Rockville, Maryland

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



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