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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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DIVISION OF WASTE MANAGEMENT AND
ENVIRONMENTAL PROTECTION
WASTE DETERMINATION STANDARD REVIEW PLAN
PUBLIC MEETING
Thursday, November 10, 2005

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The meeting came to order at 1:00 p.m. in the
Madison Ballroom of the Gaithersburg Hilton,
Gaithersburg, MD, Chip Cameron, Facilitator,
presiding.

APPEARANCES:

- Chip Cameron Facilitator
- Larry W. Camper DWMEP
- Anna Bradford DWMEP
- Scott Flanders DWMEP
- Ryan Whited DWMEP
- Mark Thaggard DWMEP

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

1
2 MR. CAMERON: Well, good afternoon,
3 everyone. My name is Chip Cameron, and I'm the
4 special counsel for Public Liaison at the Nuclear
5 Regulatory Commission, the NRC. It's my pleasure to
6 serve as your facilitator for today's meeting on the
7 Standard Review Plan for Incidental Waste.

8 My role generally is to try to help all of
9 you and the NRC staff to have a productive meeting
10 today. Some of the specific responsibilities along
11 those lines are to manage the time of the meetings so
12 that the NRC staff can get you the information that it
13 needs to get you, to make sure that all of you can
14 participate in the question, comment and discussion
15 sessions that we're going to have this afternoon and
16 to make sure that anything that's ambiguous is
17 clarified for all of you.

18 I just wanted to say a few things about
19 some meeting process issues before we get to the
20 substance of today's discussion. I'd like to talk
21 about the format for the meeting, go over some simple
22 ground rules that will help us to have an effective
23 meeting and to just briefly go over the agenda for you
24 before we get started.

25 In terms of format, you'll see from the

1 agenda that we're going to have some NRC presentations
2 to give you some context and background on this
3 subject. Then we have a session of clarifying
4 questions. We'd like to try to keep it at clarifying
5 questions to make sure you understand everything that
6 we're doing. Often a question is wrapped in a
7 comments and that's fine, but we don't want to really
8 get into discussion at that point.

9 We also have some people who have signed
10 up to give us some more formal comments of a few
11 minutes, and we want to give them that opportunity to
12 come here to give us some comments. To the extent
13 that we have time after that, and I think we will have
14 time, we thought it would be useful to open it up for
15 discussion of the topics.

16 Is that right, Larry? We're going to have
17 a discussion with you on that. So we look forward to
18 hear from you today. The staff is here to listen and
19 to provide any clarification and information for you
20 that you might need.

21 In terms of ground rules, it's real
22 simple. If you have a question or something to say,
23 if you just signal me, I'll bring you this cordless
24 microphone so you don't have to try to troop out to a
25 microphone. Please introduce yourself to us and give

1 us your affiliation if that's appropriate. I would
2 ask that only one person speak at a time for two
3 important reasons. One is so we can give our full
4 attention to whomever has the floor at the moment, but
5 also so that our court reporter, Eric Henderson, right
6 here can get a clean transcript so that he'll know who
7 is talking.

8 We are taking a transcript of the meeting
9 that will be available for people. The NRC staff will
10 tell you when that might be available in case you want
11 to use that to prepare the written comments that we're
12 going to be asking for on this subject. I would just
13 ask you to try to be succinct and concise in your
14 comments. That's difficult sometimes on complex and
15 controversial issues, but if you could sort of keep a
16 weather eye toward the time, that will help us to make
17 sure that we hear from as many of you as possible. As
18 usual, these subjects are controversial, and you're
19 going to hear some different opinions from the ones
20 that you hold on the issues, so we should all extend
21 courtesy to everybody and respect what they're going
22 to say.

23 The agenda is pretty simple. We're going
24 to have Larry Camper, who is the division director for
25 this project that is ongoing, give you some welcoming

1 remarks. Then we're going to go to Ann Bradford who
2 is the lead NRC staff on this effort, and she's going
3 to talk about two subjects, NRC roles and
4 responsibilities and then a standard review plan
5 overview.

6 Anna, you're going to do those both
7 together before we go to questions. Would you like
8 people to hold their questions until you get to the
9 end of the presentation? Okay.

10 If you could just make notes about
11 questions that you have, and then when we get to the
12 end of Anna's presentation, we'll open it up for
13 questions. After questions, we'll take a break and
14 we'll go to formal comments and a discussion of the
15 issues.

16 With that, I'll turn it over to Larry
17 Camper, the division director.

18 MR. CAMPER: Thank you, Chip.

19 Good afternoon, everyone. I should
20 mention that I am Larry Camper. I am the director of
21 the Division of Waste Management and Environmental
22 Protection with the U.S. Nuclear Regulatory
23 Commission. The responsibility for our agency in
24 terms of conducting these evaluations of waste
25 incidental to reprocessing does fall within my

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1 division.

2 I want to make a few comments just to sort
3 of set the stage for our discussion this afternoon,
4 and I'll turn it over to Anna as Chip pointed out.
5 Before I do that, I want to introduce the staff that
6 we do have here.

7 Anna Bradford, of course, is our senior
8 project manager for the Waste Incidental to
9 Reprocessing Determinations. Scott Flanders is my
10 deputy director. Scott has the Low Level Waste and
11 Environmental Program, and the waste determinations
12 fall within his side of the division. Ryan Whited is
13 the section chief of the Low Level Waste section, and
14 he is the first line supervisor directly responsible
15 for supervising activities associated with this
16 review. Last but not least is Mark Thaggard. Mark is
17 our section chief for the Performance Assessment
18 section, and these reviews involve a lot of Mark's
19 staff doing a lot of very complex and technical
20 reviews. These are the individuals that are closest
21 to this.

22 We have several other staff members with
23 us. I won't take the time to introduce every one of
24 them, but I see around the audience there's a number
25 of NRC staff and there's a number of DOE staff. On

1 breaks and so forth and so on, feel free to talk to
2 those folks as well. They have name tags on, and
3 perhaps they can also add some insight for you.

4 During the meeting today, we'll first of
5 course provide a purpose for while we're here, and
6 we're going to provide you with some background, an
7 overview of the standard review plan outline, and then
8 of course we'll afford an opportunity for public
9 comment. Basically speaking, what we're trying to do
10 of course is proceed toward the development of a
11 standard review plan, and this is a scoping meeting
12 for the development of that standard review plan.

13 A scoping meeting means really just that.
14 We have an open slate right now. We know a good idea
15 of what we believe needs to be addressed in the
16 standard review plan in terms of the technical review
17 and the areas to be addressed. But in a scoping
18 meeting, you're here to learn whether or not that's
19 the right scope, have we covered all the things we
20 should be covering and is it about right. This is an
21 early opportunity for all of you here to provide the
22 staff with some insight into the approach we're going
23 to lay out in some detail today in Anna's remarks.

24 Really, the purpose is to get input from
25 you. You're going to hear a lot of information about

1 what these waste incidental to reprocessing
2 determinations are, how they came to be, what is the
3 legislation that brought it to the doorstep of NRC's
4 responsibility and what is our role. In all of that,
5 the purpose is to give you some context.

6 As I look around the room, I realize that
7 some of you are acutely familiar with this project,
8 some of you are somewhat familiar with the project,
9 and some of you are getting up to speed I suspect.
10 What we're trying to do is provide you with a
11 background to understand the need for the standard
12 review plan and the purpose of the standard review
13 plan, what we're trying to achieve.

14 Back in October of last year, there was
15 some legislation passed that brought this
16 responsibility for waste determinations to the NRC.
17 Anna will cover that legislation in some detail, so I
18 won't belabor it in my brief remarks. Basically, what
19 it says is that the Department of Energy now must come
20 to the Nuclear Regulatory Commission and have its
21 determinations that are associated with waste
22 incidental to reprocessing or non-high level waste
23 determinations evaluated by our agency, and it also
24 imparts some responsibilities to us in terms of
25 coordination with the states of Idaho and South

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1 Carolina and some ongoing monitoring activities.
2 Again, Anna will cover that in detail.

3 So we are developing this standard review
4 plan to address those technical activities. Now, I
5 say technical activities because this standard review
6 plan is a bit unique as compared to a lot of other
7 standard review plans in that it addresses not only
8 the technical reviews that we will do of the
9 submissions to us by DOE but would also be used as the
10 regulatory vehicle for describing, at least in broad
11 terms, how we intend to carry out some of our
12 monitoring responsibilities that the legislation also
13 imparted upon us. Again, we'll go into that in quite
14 a bit of detail.

15 The SRP is very early as I said, that we
16 have not put any pen to paper yet, other than to
17 identify the outline that Anna will share with you.
18 A scoping meeting should be like that at this stage,
19 so it's quite open and we are quite interested in your
20 views.

21 The last point that I would make is sort
22 of a repeat of what Chip said briefly. We're here
23 today to get your input on the SRP. We're not here to
24 debate whether or not where it should or should not
25 exist. We're not here to debate its legality. We are

1 here and we need to spend our time and energy on the
2 maximum benefit that you can gain from today, for
3 those of you who want to provide comments to the NRC,
4 which is to focus upon the standard review plan, focus
5 upon the outline that Anna will share with you and to
6 focus upon the dialogue that you hear from your
7 friends and colleagues around the audience, so that we
8 may take away from this a maximum gain in terms of
9 hearing your thoughts about what the standard review
10 plan should look like. We can't solve any legal views
11 that might be different or legal actions taken in
12 different courts or legal actions that were put aside
13 or anything of that nature here today. It's just not
14 the forum to do it. We couldn't solve it in this
15 forum if we tried to. What we can do is capitalize
16 upon your input, and that's what we're here to do.

17 With that, I think I'll have Anna go ahead
18 and give us the overview. Thank you.

19 MS. BRADFORD: Good afternoon. As Larry
20 said, my name is Anna Bradford, and I'm the senior
21 project manager for Incidental Waste Reviews for the
22 NRC. I want to repeat what Chip and Larry said and
23 just welcome you to this meeting because we really do
24 appreciate your participation and your input.

25 What I'm going to talk about today is the

1 background of incidental waste, also known as waste
2 incidental to reprocessing or WIR; the related
3 legislation that was passed last year; recent NRC
4 activities with respect to waste determinations; and
5 then I'm going to do an overview of the types of
6 topics that we think should be included in the
7 standard review plan that we're currently developing,
8 and this is the area that we're requesting your
9 comments on.

10 First, to provide some context to the
11 whole discussion, I'd like to go over some background
12 information. The idea behind incidental waste is that
13 management of certain waste can be based on the risk
14 that it poses to human health and the environment
15 rather than based on the origin of the waste. So for
16 waste that results from the reprocessing of spent
17 fuel, some of that requires disposal and a geologic
18 repository to manage the risks that it poses and some
19 of it does not. DOE uses what's called waste
20 determinations to evaluate whether certain waste
21 requires disposal on a geologic repository. A waste
22 determination is a document that assess whether the
23 waste can meet certain criteria that we're going to
24 talk about in a few minutes.

25 Some examples of potential waste

1 incidental to reprocessing are pumps that are in the
2 high-level waste tanks, waste that is removed from
3 those tanks and disposed of elsewhere or waste that
4 remains in the tanks and is disposed of in place.

5 WIR is not high-level waste that is being
6 managed as low-level waste; it is in fact low-level
7 waste or, in some cases for DOE, transuranic or TRU
8 waste. Potential WIR is located at Hanford out in
9 Washington state, at Idaho National Laboratory, at the
10 Savannah River site in South Carolina and at West
11 Valley in New York state.

12 The history of WIR goes all the way back
13 to 1969 when the NRC published a draft policy
14 statement in the form of a proposed Appendix D to our
15 10 CFR, Part 50. That appendix had to do with the
16 siting of reprocessing facilities. But the criteria
17 for what constitutes WIR was really issued in 1993
18 when the NRC denied a petition for rulemaking
19 regarding the Hanford tanks, and those criteria were
20 then forwarded by letter to DOE, and they're listed
21 here on this slide. Those are that the waste will be
22 processed to remove key radionuclides to the maximum
23 extent technically and economically practical, that
24 the waste would be incorporated into a solid, physical
25 form at concentrations not exceeding Class C

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1 concentration, and the waste would be managed so that
2 safety requirements comparable to the performance
3 objectives in 10 CFR 61 subpart C would be satisfied.
4 10 CFR 61, that is our regulations for the disposal of
5 low-level waste, and the performance objectives in
6 Subpart C include provisions for the protection of the
7 public, the worker, the intruder and also provides for
8 site stability.

9 In 1999, DOE included similar criteria in
10 its radioactive waste management program as described
11 in DOE Order 435.1 with some differences. For
12 example, 435.1 allows for alternate requirements for
13 waste classification.

14 In 2000, during our review of a WIR
15 determination for the Savannah River tanks, the
16 commissioners dropped that second criteria regarding
17 concentration because they decided that concentration
18 was really not a good measure of risks and that
19 meeting criteria 1, which was removal to the extent
20 practical, and criteria 3, meeting the performance
21 objectives, would be adequate for protecting public
22 health and safety.

23 In 2002, those were the two criteria that
24 the NRC included in its West Valley policy statement
25 for the decommissioning of that site. Most recently,

1 legislation was passed that sets criteria for DOE to
2 use for determining whether waste is incidental in
3 South Carolina and Idaho. The legislation also gave
4 the NRC new responsibilities in this area, and I'm
5 going to talk about that in more detail in a little
6 bit. Because of legislation wording, sometimes these
7 types of determinations are called non-high level
8 waste determinations rather than WIR determinations,
9 so you'll hear both of those terms when we're talking
10 about these kinds of activities.

11 In the past, the DOE has asked us to
12 provide technical advice and consultation on their WIR
13 methodology and conclusions for some of their WIR
14 determinations. It's important to note that we do not
15 have any regulatory authority or oversight of DOE's
16 WIR determinations, and we only provided these reviews
17 when we were requested by DOE to do so. DOE is the
18 one responsible for making the WIR determinations and
19 we're providing technical advice for those
20 determinations.

21 The WIR determinations involve
22 demonstrating compliance with the WIR criteria and
23 usually include a performance assessment. A PA is a
24 detailed model of a site or of a disposal facility
25 that allows you to assess the doses that may result

1 from the waste that's there.

2 During our reviews, the NRC assessed the
3 WIR determinations for the soundness of the technical
4 assumptions, the analysis and the conclusions, and
5 we've completed four of these reviews so far. One was
6 for waste removed from the tanks at Hanford, and we
7 completed that in 1997. One was for closure of the
8 tanks at Savannah River, and that was completed in
9 2000. Then we've done two recently for INL 1 for
10 waste removed from the tanks and disposed of actually
11 off site, and that was in 2002 and then for tank
12 closure in 2003.

13 In general, our reviews have concluded
14 that DOE methodologies could meet the performance
15 objectives of 10 CFR 61, Subpart C, and therefore that
16 they were protective of public health and safety,
17 although in some cases we did provide recommendations
18 to DOE. For example, we may have recommended that
19 they sample the waste as they're removing to make sure
20 that any inventory estimates that they had made were
21 accurate.

22 This slide shows the major steps of our
23 past reviews. I want to emphasize, this is the
24 process we've used previously and it's not what we
25 envision using in the future, but I did want to go

1 over this.

2 What would happen to that first block up
3 in the left-hand corner is DOE would request a review.
4 We would then have to work with the DOE staff to
5 develop a draft memorandum of understanding which
6 would describe the work we would be doing and an
7 interagency agreement. The interagency agreement was
8 used to provide funding from DOE to NRC because these
9 reviews were performed on a reimbursable basis.

10 The staff would then have to send the
11 draft MOU and IA up to our commissioners for approval.
12 Once they approved it and both agencies signed the
13 interagency agreement and the MOU, DOE would then
14 submit its draft WIR determination. The NRC staff
15 would review that submittal, the determination, and
16 any supporting information that came with it and
17 usually issue what we call a request for additional
18 information, which is essentially a list of questions
19 for which we need responses from DOE before we could
20 complete our review.

21 DOE would respond to those RAIs.
22 Sometimes they would revise their determination in
23 response to the comments that we received, and they
24 would submit that information to us and we would
25 review that. We would then develop what we call a

1 technical evaluation report or TER. That TER would
2 also be sent up to our commissioners for approval
3 before we sent it to DOE. Once the commission gave us
4 their comments or their approval in what we call a
5 staff requirements memorandum, or SRM, we would then
6 issue the final TER to DOE.

7 As we mentioned earlier, legislation was
8 passed in October 2004 regarding waste determinations.
9 This legislation was originally introduced by Senator
10 Lindsay Graham of South Carolina and would have
11 allowed a process similar to the WIR process to
12 proceed at the Savannah River site only.

13 During the development of this
14 legislation, we provided input by responding to two
15 letters that we received from Congress that requested
16 or views on incidental waste. In October 2004, the
17 president signed the National Defense Authorization
18 Act for fiscal year 2005, or the NDAA, and the details
19 of which I'll discuss in the next two slides.

20 The NDAA requires DOE to consult with NRC
21 on its non-high level waste determinations for South
22 Carolina and Idaho. As I mentioned earlier, our
23 previous WIR determinations were conducted when DOE
24 decided they wanted our input. This legislation now
25 requires them to come to us for these two sites.

1 The NDAA itself sets the criteria to be
2 used for evaluating this waste. These criteria are
3 somewhat similar to the ones that the NRC had been
4 using previously, and those are listed here on this
5 slide, with the first being that the waste does not
6 require disposal in a deep geologic repository, the
7 waste has had high radioactive radionuclides removed
8 to the maximum extent practical, and if the waste is
9 Class C or less, its disposal must meet the
10 performance objectives of subpart C, and the if the
11 waste exceeds Class C, it must still meet those
12 performance objectives that DOE must perform some
13 additional consultation with the NRC for that waste.

14 It's important to note here that the NDAA
15 does not set a criterion that states that if Class C
16 cannot be met, then this waste cannot be determined to
17 be non-high level waste. If it exceeds Class C
18 concentrations, it just requires DOE to perform some
19 additional consultation with the NRC.

20 Another important part about the NDAA is
21 that it requires us in coordination with the state to
22 monitor DOE's disposal actions of this waste to assess
23 the compliance with the performance objectives of
24 subpart C, and if we find noncompliance, we have to
25 issue a report to Congress, to the state and to DOE.

1 This monitoring is a completely new activity for the
2 NRC, and although we are monitoring DOE, we still do
3 not have any regulatory authority over them. It's
4 important to note that the NDAA applies only to South
5 Carolina and Idaho; it does not apply to Hanford and
6 West Valley, and it also does not apply to waste being
7 shipped out of those two states.

8 The NDAA also specifies that DOE will
9 reimburse NRC for our related activities for fiscal
10 year 2005, and thereafter we have to request
11 appropriation through our normal budget process.
12 Right now, because the FY06 budget has not been passed
13 and we're still on a continuing resolution, we're
14 actually still working under that reimbursable
15 agreement even though we are into FY06. The NDAA also
16 requires a one-year study by the National Academy of
17 Sciences of DOE's plans for the disposal of waste that
18 exceeds Class C concentrations. That committee has
19 held several meetings, and they issued an interim
20 report back in August.

21 The next several slides cover the current
22 status of our activities, both programmatically and
23 technically. As shown here, we developed a paper for
24 our commissioners, which is what we call a SECY paper,
25 that describes in detail the staff's plan for

1 implementing the new responsibilities under this
2 legislation. Essentially, we believe the technical
3 approach to these reviews will be similar to the
4 technical approach we've used for our previous WIR
5 reviews, except we will be evaluating to the criteria of
6 the NDAA.

7 That paper was sent up to the commission
8 in April 2005. We received the SRM back from the
9 commission in June of 2005. In that SRM the
10 commissioners approve our plans with a few comments.
11 For example, one of their comments was that the NRC
12 staff should take the time necessary to perform our
13 reviews to help ensure public health and safety.

14 The Division of Waste Management has
15 established a new section that will perform this
16 incidental waste work as well as other already ongoing
17 low-level waste activities. As Larry mentioned, we've
18 begun to develop a standard review plan to guide our
19 reviews and help provide consistency to our reviews.
20 I'll go into much more detail about that in a few
21 slides.

22 Since the passage of the NDAA, we've met
23 with representatives of both South Carolina and Idaho
24 to talk about roles and responsibilities. We've
25 talked about schedules and how we can work together

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1 efficiently. We keep the states informed of meetings
2 we're having with DOE so that they can participate,
3 and they have called in to many of those meetings.

4 We've also established an interagency
5 agreement with DOE because we are working in that
6 reimbursable basis for FY05, and we're now working
7 with DOE to draft a memorandum of understanding that
8 will cover all of these related activities. That MOU
9 will need to be approved by our commissioners before
10 we can sign it. We're also interacting with the NAS
11 committee as they conduct their study. We've given
12 four presentations to the committee so far, focusing
13 on past reviews we've done as well as our role under
14 this new legislation.

15 This next slide shows the process we use
16 for our reviews under the NDAA. As you can see, it's
17 much more simplified than that previous flowchart that
18 I showed you. There are two main differences. The
19 first is that we will no longer need to develop an MOU
20 and an IA for each review because we're now developing
21 this MOU that will cover all of our reviews, so we can
22 take those steps out. The second big difference is
23 that we do not plan to get commission approval for
24 each technical evaluation report that we issue in the
25 future. Because these reviews are becoming more

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1 frequent and we wanted the SRP to guide our reviews,
2 we didn't feel it was necessary or efficient to get
3 commissioner approval of all of these reviews.

4 Just to go through this process quickly,
5 it's similar to the last. DOE would submit the draft
6 waste determination, we would review it, issue a
7 request for additional information. DOE would then
8 respond to that RAI. We would review their responses
9 and any new information and then issue our TER. Two
10 additions to the process would be these last two sets
11 here. With the state, we would monitor DOE and then
12 need to issue a noncompliance report if the
13 noncompliant finding was established.

14 This slide talks about the status of all
15 the technical reviews we have going on. In February,
16 Savannah River submitted the first draft waste
17 determination under the NDAA, and this was for salt
18 waste treatment and on-site disposal in a facility
19 called the Saltstone Disposal Facility. That was
20 submitted in February. We issued our request for
21 additional information in May. That consisted of 80
22 questions covering things like sensitivity and
23 uncertainty analysis and inventory estimates.

24 DOE responded to that RAI in two parts on
25 June 30th and July 15th. Following those responses,

1 we met with DOE in two open meetings to talk about the
2 responses, and we also asked for some additional
3 information supporting the responses to the RAIs that
4 they had given us for we needed some additional
5 detail. DOE provided the last piece of that
6 information on September 30th, and we're now working
7 to finish up our technical evaluation report.

8 In September, DOE had submitted two other
9 draft waste determinations under NDAA, one for closure
10 of tanks 18 and 19 at the Savannah River site and the
11 other for closure of tanks at the Idaho National
12 Laboratory.

13 Back in October of 2004, as required by
14 their tri-party agreement, Hanford submitted a
15 document for Tank C-106 called, in short, a basis for
16 exception document, which evaluates whether DOE has
17 removed as much waste as they can from that tank.

18 We issued RAIs back in January of 2005,
19 and DOE responded to those this past August. Also in
20 August, DOE submitted sort of the second part of that
21 review, which is a portion of the performance
22 assessment for the single-shell tanks there in
23 Hanford.

24 Also in September, DOE transmitted a
25 predecisional draft environmental impact statement for

1 West Valley. This EIS includes some alternatives in
2 which the tanks have closed in place. But it's
3 important to know that our role at West Valley is a
4 little bit different. That is a site that has an NRC
5 license that is currently in abeyance, and we have
6 responsibilities under another piece of legislation,
7 which is the West Valley Demonstration Project Act.
8 So we're actually reviewing this draft EIS as one of
9 the cooperating agencies under the National
10 Environmental Policy Act.

11 Having covered all that background, I'm
12 now going to move on to the SRP itself. The SRP is an
13 internal guidance document that will be used by NRC
14 staff during our reviews of waste determinations. The
15 NRC often uses SRPs for other types of reviews we
16 perform, for example decommissioning reviews, so this
17 is the type of document that we're very familiar with.

18 The SRP will describe the types of
19 information that should be assessed by the staff
20 during their reviews. This will provide consistency
21 across different reviews as well as across different
22 reviewers. We want to be sure we're always looking at
23 the right information no matter who's looking at it or
24 what they type of determination is. Although the SRP
25 is not explicitly meant for use by DOE, they may use

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1 it to help understand what it is we want to see and
2 what it is we need to evaluate.

3 This slide shows the platform for
4 completing SRP as well as the schedules that we're
5 trying to work to. After today's meeting and in the
6 closure of the public comment period for scoping,
7 we'll review all the comments we received and we'll
8 prepare a draft SRP. In the spring of 2006, we plan
9 to give a presentation to our Advisory Committee on
10 Nuclear Waste, which is a panel of experts on
11 waste-related issues. So the presentation will give
12 an overview of what we've included in our draft SRP
13 and let us get feedback from that committee on what
14 they think about the draft.

15 The SRP will then be issued for public
16 comment. After the public comment period closes and
17 we review all the comments that we receive, we'll
18 issue the final SRP probably very late in 2006 or
19 possibly early 2007. Obviously, given the already
20 ongoing activities that I discussed, we'll probably be
21 completing some waste determination reviews prior to
22 completion of this SRP. We're comfortable doing that
23 because we have experience in conducting these
24 reviews, and we're applying that experience to the
25 reviews that we're performing right now.

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1 The next several slides give an idea of
2 what we're thinking needs to be included in the SRP.
3 To start with, the SRP will need to have information,
4 things like an introduction, the background for the
5 SRP. Within the background we're thinking we'll need
6 to have a section of how to use this SRP, the process
7 for updating SRP as well as an overview of the
8 structure of the document. There will also be some
9 sections on the introduction to incidental waste in
10 the NDAA as well as our role in waste determinations.

11 The next section will probably cover some
12 site specific and general information. The first
13 thing listed here is a site specific system
14 description. This would be information regarding the
15 on-site system, such as a tank farm or a disposal
16 facility, and it should include the system being
17 analyzed by the waste determination as well as any
18 other relevant systems or equipment. Then it would
19 discuss which criteria are applicable, for example,
20 the NDAA or the 435, and then probably discuss any
21 waste determinations that have already been conducted
22 for that site.

23 So we're thinking that the next three
24 sections of the SRP will give guidance that is
25 specific to the set of criteria being evaluated.

1 There would be a section for the West Valley policy
2 statement, a section for Order 435.1, and then as our
3 talk about in a minute on the next slide, for the
4 NDAA.

5 For the policy statement, the SRP would
6 discuss how to assess these two criteria, the waste
7 has been processed to remove key radionuclides to the
8 maximum extent technically and economically practical
9 and then whether the performance objectives can be
10 met.

11 For DOE Order 435.1, similarly we'll
12 discuss how to assess same criteria for the key
13 radionuclides for the removal to the maximum extent
14 technically and economically practical, whether the
15 waste exceeds the Class C concentration limits and
16 whether the performance of the objectives can be met.
17 And, of course, it will also include guidance for
18 reviewing whether the NDAA criteria can be met, and
19 the four criteria are listed here. Those are whether
20 it requires disposal in a geologic repository, how to
21 assess whether high radioactive radionuclides have
22 been removed to the maximum extent practical,
23 concentration limits in terms of whether the waste
24 does or does not exceed Class C concentration limits
25 just for purposes of us knowing if additional

1 consultation needs to be performed for that waste and
2 then whether or not the performance objectives can be
3 met. As you've probably noticed, a lot of the
4 sections repeat the same information or it seems like
5 they would, but I think we would reference back to
6 other sections to avoid repeating the same information
7 multiple times.

8 The next section of the SRP would cover
9 the review of the modeling approach. So far we
10 believe this section should cover the topics listed on
11 this slide, which include the source term development
12 such as waste form or the inventory, climate and
13 infiltration, the engineer barriers such as a cap or
14 vaults, the hydrology for the site, exposure
15 scenarios, pathways and the receptor groups that are
16 evaluated in the performance assessment, the
17 conceptual models used for the site as well as the
18 specific computer codes and models used to implement
19 that conceptual model, and then the parameter values
20 that are input into those models, things like the
21 values for the hydraulic conductivity. Then there
22 would be probably be a section on evaluation of the
23 model results, including sensitivity and uncertainty
24 analysis. Then lastly, we have ALARA analyses, which
25 is as low as reasonably achievable, which is always

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1 our goal for all doses. All these factors are
2 important to developing a model to estimate the doses
3 that may result from the waste. Those doses are then
4 compared to the performance objective.

5 The next slide shows that the next four
6 sections we're thinking would show how to assess
7 whether these performance objectives have been met.
8 They're called out specifically here: the protection
9 of the general population, protection of individuals
10 from inadvertent intrusion, protection of individuals
11 during operations and then site stability. Again,
12 obviously, these are closely related to the other
13 sections that talk about the same material.

14 The last two sections we think the SRP
15 should include are shown on this slide. The first is
16 a section on quality assurance. Because we're basing
17 our findings in large part on information that DOE
18 provides to us, we just want to make sure there are
19 adequate controls in place, that that data is correct
20 and it's high quality and it hasn't had any errors
21 introduced into it.

22 As I noted earlier, we're required, in
23 coordination with the state, to monitor DOE's disposal
24 actions. Because we think the findings of our waste
25 determination review will heavily influence what we

1 think we need to monitor, we've included as section on
2 monitoring in the SRP. The subsections we have here
3 are things like the monitoring approach, which may
4 include environmental monitoring or performance
5 monitoring, a section on how monitoring would we show
6 that the performance objectives can be met, and then
7 sort of how and when noncompliance reports would be
8 issued.

9 The last several slides I went over show
10 what we're currently thinking needs to be included in
11 the SRP, and this is what we wanted input from
12 everybody here today about what you think should be
13 included in the SRP. You can provide verbal comments
14 during the meeting. I think also in your packet
15 there's a form you can use if you want to give written
16 comments and just drop it off with one of us on your
17 way out. That would be fine too. We're also taking
18 written comments until November 25th, and the mailing
19 address as well as my email address is on here if
20 you'd like to use those.

21 The last slide just shows some of the
22 references that I talked about today, that SECY paper
23 about our new responsibilities, the commission's
24 response in the SRM, the individual commission vote
25 sheets, which will show you what each individual

1 commissioner thought about our proposal for
2 implementing the NDAA and then those two letters we
3 wrote to Congress. To make it easier to find
4 information related to specific sites, we've
5 established these docket numbers. You can go to our
6 website, search on these numbers and related documents
7 should come up very quickly.

8 We've covered a lot of information in
9 today's presentation. I appreciate your patience, and
10 we look forward to hearing your comments. Thank you.

11 MR. CAMERON: Thank you very much, Anna.

12 Anna gave you a pretty comprehensive
13 overview of not only the process and background on
14 this but also the NRC's initial thoughts on what
15 should be in the substance of the SRP. We have plenty
16 of time for questions. Perhaps we should deal with
17 the process questions first.

18 Are there any questions on the process
19 that Anna talked about, the NRC review process, how we
20 interact with DOE, anything like that?

21 MR. MARTKER: My name is Mike MARTKER.
22 I'm a reporter with Weapons Complex Monitor, and I
23 just had one quick question about the cost of the
24 reviews. Are there any estimated costs as to how much
25 they'll be under this somewhat new way of conducting

1 them?

2 MS. BRADFORD: We haven't yet finished a
3 review, we're very close to the first one, so I don't
4 have an estimate. I can't right now go back and say,
5 well, this review cost this much. The DOE has put
6 several hundred thousand dollars in the interagency
7 agreement.

8 Does that answer your question? Our
9 previous reviews we've performed cost maybe, I'm
10 guessing, between \$200,000 and \$300,000.

11 MR. CAMERON: That cost includes the NRC
12 staff time?

13 MS. BRADFORD: That is everything. That
14 cost is everything, for the entire review.

15 MR. CAMERON: I think that's a good
16 guideline.

17 Are there other process questions like
18 that before we get into questions about the outline
19 and the SRP that Anna went over? How about questions
20 on the standard review plan outline that she talked
21 about?

22 MR. NILES: Thank you. My name is Ken
23 Miles. I'm with the state of Oregon. I have three
24 questions for you.

25 First off, the documents you referenced in

1 your last slide, all those all available on the NRC
2 website?

3 MS. BRADFORD: Yes, they are. They are
4 all available.

5 MR. NILES: In the slide where you talk
6 about the modeling approach, will there be a
7 consistent modeling approach at each site or will you
8 be relying on the different modeling approaches used
9 site by site?

10 MS. BRADFORD: We think the factors listed
11 on that slide should be included in the models for all
12 sites unless for some reason you wouldn't need to
13 consider one of those. But those topics are pretty
14 broad. I think those would need to be included in the
15 models for all sites.

16 MR. NILES: But will you be relying on
17 those site-specific models rather than trying to
18 incorporate one consistent modeling style?

19 MS. BRADFORD: Will we be relying on DOE's
20 model?

21 MR. NILES: Yes.

22 MS. BRADFORD: Yes, although in many cases
23 during our reviews, we will develop our own
24 performance assessment model to try to see if we would
25 get similar results and to help risk inform our

1 reviews so we can focus on those areas that are
2 important. We also develop our own as a sort of
3 double check.

4 MR. NILES: For my last question, the
5 invitation letter alludes to it, but I'm still not
6 quite clear as to the reason Hanford and West Valley
7 are included in your work.

8 MS. BRADFORD: Why they are included?

9 MR. NILES: Why they are, yes.

10 MS. BRADFORD: We felt that the technical
11 approach and the technical review are all very similar
12 in terms of how do you review these criteria, what do
13 you need to assess and what types of conclusions do
14 you need to come to. Because we are expected to do
15 similar reviews for both of those sites, we thought it
16 would be most efficient to include it all in one
17 document.

18 MR. NILES: If I could just add a comment,
19 that there was quite a legislative battle to make sure
20 that Hanford was not included in the legislation.

21 MS. BRADFORD: This document is really
22 internal guidance for the staff, the technical staff
23 that is conducting its review. In Hanford, I know
24 it's in the tri-party they are required to have NRC
25 review some of their activities; for example, if they

1 can't remove as much waste out of their tank as they
2 need to. So it would seem to us that we will be asked
3 to do these types of reviews, and so it makes sense to
4 include it.

5 This is not a regulatory document in any
6 way. This does not prescribe any requirements for
7 DOE. It isn't really a regulatory issue, it's really
8 just how do we conduct these technical reviews.

9 MR. CAMERON: Scott Flanders?

10 MR. FLANDERS: My name is Scott Flanders.
11 If I could just add a little bit to Anna's comments.
12 Part of the reason for including West Valley and the
13 Hanford sites and in the SRP was to be somewhat
14 comprehensive.

15 The first part Anna mentioned earlier
16 relative to West Valley, we have a very specific role
17 with the policy statement that outlines the areas that
18 we're supposed to look at as it relates to West
19 Valley.

20 Under the tri-party agreement that's
21 established between the Department of Energy, the EPA
22 and the state of Washington, there are cases where the
23 NRC has been included in that agreement to evaluate
24 certain situations. For example, if they can't
25 demonstrate that they removed this specific amount of

1 waste from their tanks, then DOE under the tri-party
2 agreement is asking the NRC for the review of whether
3 or not they've removed to the extent practical.

4 The inclusion of those are not to in any
5 way make any assumptions as to whether or not the
6 Department of Energy intends to use DOE Order 435.1.
7 for the Hanford site. It's relative to the activities
8 and responsibilities that we have been asked to do in
9 the past, so it's an opportunity to include all of
10 this technical aspects because they're all related to
11 the technical standpoints. You can see that by the
12 criteria. So it's not included as any particular
13 assumption as to whether the Department of Energy will
14 make any decisions to use DOE Order 435.1. We don't
15 have any knowledge of that. That's strictly the
16 department's decision relative to that. So we
17 wouldn't want to read into that if there's any
18 assumptions relative to that visit.

19 MR. CAMERON: Okay. Geoff?

20 MR. FETTUS: Hi. Geoff Fettus with the
21 National Resources Defense Council. I have some
22 clarifying questions.

23 The idea of this SRP would be to set up
24 what's the equivalent of the docket for each with the
25 determinations that you get. Right now you've already

1 sort of set up your own sort of catalog of what you've
2 got from each site so far for let's say the Saltstone
3 stuff, right? So the idea now is to go get a sort of
4 more formalized process where they have to actually
5 punch these holes going down.

6 Is that accurate?

7 MR. FLANDERS: There are a couple of
8 things. The SRP and the establishment of the dockets
9 is very separate things. We establish what we call
10 project numbers for each of the activities so that
11 it's an easy way for members of the public to see
12 which documents have been submitted relative to this
13 topic of waste determinations for those specific
14 sites. We established those project numbers so that
15 people could have an easy way to look specifically at
16 sites. Some folks may be interested only in West
17 Valley, some only in Hanford and some in Savannah
18 River, etc. That's the purpose of the project
19 numbers. The purpose of the SRP is to guide and
20 ensure consistency amongst the NRC staff.

21 MR. FETTUS: I understand that. But the
22 SRP is really to be applied in each project level, and
23 each project will have to meet the SRP criteria going
24 down the list, right?

25 MR. FLANDERS: Two things. For example,

1 for Idaho and Savannah River, it's clear in terms of
2 the requirements under the NDAA in terms of the need
3 for DOE to consult. That criteria is clear and
4 established. The other site is West Valley. We have
5 the West Valley Policy Act. That criteria is clear
6 and established, so they would have to speak to that.
7 Hanford is a little bit unique in that the decisions
8 around whether or not, as I said earlier, DOE --

9 MR. FETTUS: I'm familiar.

10 MR. FLANDERS: -- decides to close at
11 435.1 is uncertain. If DOE comes in, because Hanford
12 is not a part of the NDAA, and asks us to do a waste
13 determination review for the Hanford site, we would
14 look for them to identify which criteria because,
15 remember, for Hanford we're still in the role that we
16 were in before, where it's a case-by-case situation
17 for them to come in. If they pick a particular
18 criteria, whether it be the criteria related to 435.1
19 or NDAA, or even the West Valley Policy Act, we will
20 evaluate it against that criteria.

21 MR. FETTUS: Right, I understand that. So
22 going down the list of these criteria that you have in
23 your sort of draft outline of the SRP, it's not clear
24 to me. I'm most interested in 5.0 and the modeling
25 approach. What of that is actually going to be

1 accessible by the public? By that I actually mean the
2 models themselves, the parameters used and the use of
3 the models to actually see how the agencies are
4 getting to their conclusions?

5 MR. FLANDERS: To the extent information
6 is provided to the NRC from the Department of Energy,
7 that information will be publicly available. The
8 Department of Energy typically does not submit their
9 model to us. Typically, they submit the results of
10 their model. We evaluate that, and we ask questions
11 to the extent we need to evaluate that. We develop
12 our own independent models to help inform which areas
13 we believe may drive the risk and to help us analyze
14 which areas we want to focus our attention on. Those
15 are more or less tools.

16 MR. FETTUS: Are those models publicly
17 available?

18 MR. FLANDERS: Those models are not
19 publicly available. Those are more or less tools the
20 staff is using to help guide their review. In our
21 discussions, our technical evaluation reports and the
22 DOE reports, we actually discussed our activities in
23 terms of how we did that evaluation.

24 MR. FETTUS: Could I strongly urge you to
25 make them publicly available?

1 MR. FLANDERS: We'll take that under
2 consideration.

3 MR. CAMERON: Geoff, correct me if I'm
4 wrong, but I think that the general thrust of Geoff's
5 question and concern is whether the public is going to
6 be able to look at a relatively transparent process
7 about how you apply the SRP, including application of
8 the model so that they can see that it's not just, so
9 called, a black box.

10 MR. FETTUS: I'll submit my comments in
11 writing.

12 MR. CAMERON: All right. Thank you.

13 Other questions? Let's go over to Judy
14 Johnsrud.

15 DR. JOHNSRUD: Judith Johnsrud, the Sierra
16 Club. I had something -- advisory committee on low
17 --level waste.

18 Will DOE's Yucca Mountain materials -- the
19 vast amount that form a basis for DOE modeling -- be
20 the sole source and you accept it as DOE presents only
21 the results to you? Do I have straight what you are
22 saying?

23 MR. FLANDERS: I want to make sure I
24 understand that question, so if I haven't understood
25 it correctly, please correct me. Your first question

1 is whether or not what we're looking at has anything
2 to do with the materials relating to be disposed of at
3 Yucca Mountain? Is that part of your question?

4 DR. JOHNSRUD: Well, yes. DOE's done
5 extensive modeling there.

6 MR. FLANDERS: This activity and the
7 models they use for Yucca Mountain and what DOE uses
8 for Yucca Mountain is separate from this project.

9 DR. JOHNSRUD: So no reference to Yucca
10 Mountain work?

11 MR. FLANDERS: Today we haven't had any
12 specific references to Yucca Mountain from the
13 Department of Energy or any of the tools that they use
14 to model for Yucca Mountain. Actually, what we're
15 seeing from the Department of Energy are models
16 specific to the different sites and the waste streams
17 at the sites. They would provide us not only with the
18 results of their models, but all the assumptions and
19 the processes they went about to develop that. We
20 would evaluate those assumptions and analyze those
21 results to see if we reach a conclusion as to whether
22 or not they can actually meet the performance
23 objectives.

24 DR. JOHNSRUD: If you get conclusions that
25 don't seem to match the results NRC's coming to, is

1 there any way for you to have access to the basis of
2 the modeling done by DOE?

3 MR. FLANDERS: Absolutely. For example,
4 in the current review that we're looking at, the salt
5 waste determination review, we've actually received
6 close to a hundred references, if not more, from the
7 Department of Energy, which provides the basis for
8 their assumptions and the technical work that goes
9 into the bases for those assumptions that we actually
10 analyzed. A lot of that was driven by questions that
11 we had relative to those bases and assumptions so that
12 we could get some understanding of what they were and
13 whether or not from a technical standpoint those were
14 things that we would agree with. So we do look at the
15 detail, underlying references, and not just the
16 results.

17 MR. CAMERON: Thank you.

18 MR. PEAKE: Hello. I am Tom Peake with
19 EPA's oversight program. I have a question about the
20 contents of the SRP. Would the SRP address at what
21 point, if any, that treating of high-level waste can
22 create TRU or low-level waste? Is there going to be
23 anything in the SRP related to changing the
24 determination from the high-level waste to
25 specifically TRU or low-level waste? Is that clear?

1 MR. FLANDERS: Let me see if I understand
2 the question. You said the waste determination is to
3 evaluate whether or not that material -- for example,
4 if there's waste left in the tanks -- can satisfy the
5 criteria that would allow it to be disposed of as
6 low-level waste. That's part of the evaluation; is
7 that in fact material that can be disposed of as
8 low-level waste.

9 MR. CAMERON: Does that answer your
10 question?

11 MR. PEAKE: Not exactly.

12 MR. CAMERON: Do you want to try to
13 clarify it with a follow up and see if we can get it?

14 MR. PEAKE: I guess the issue may be more
15 applicable in the future for Hanford than it is with
16 the two sites. Since high-level waste is kind of a
17 process of definition and not necessarily
18 concentration, would the SRP itself have any
19 commentary on the 435 process, where you are doing the
20 convert where you can say, all right, this was
21 high-level waste, but now, through DOE's treatment
22 process, it's no longer high-level waste and it can be
23 considered TRU or low-level waste. You're basically
24 saying, yes, what they have done has changed the
25 definition of the waste.

1 MS. BRADFORD: I think the response to
2 that is that I think DOE in most cases would say they
3 have not determined that this is high-level waste.
4 They manage it as high-level waste because of where it
5 came from, but it's been mixed with other waste such
6 as decontamination solution and things like that, so
7 they're managing it as high-level waste. But this
8 process is what tells them if in fact it is high-level
9 waste or low-level waste. So it's not a question of
10 it was high level and how you're changing it and
11 saying it's low level. It was not determined, but
12 they were treating it as high-level waste to be
13 conservative. Now they are trying to determine if this
14 high level or is it low level.

15 MR. PEAKE: What in your section 3 or 4
16 would be addressing that aspect?

17 MS. BRADFORD: Just meeting those criteria
18 that are specified. If you can meet those, that is
19 what tells you if it is in fact low-level waste.

20 MR. CAMERON: Did we do a little better?

21 MS. PASTINA: I'm Barbara Pastina with the
22 National Academy of Sciences. The question is, if the
23 NRC determines that the waste stream does not meet the
24 criteria for on-site disposal, then DOE would have to
25 submit an Order 435.1 that it is TRU waste?

1 MR. FLANDERS: The NRC is strictly to
2 evaluate or consult with the Department of Energy as
3 to whether or not they can satisfy the criteria to
4 dispose of it as low-level waste. From our
5 consultation and our look at it, if we reach a
6 conclusion that it can't be disposed of as low-level
7 waste, then the decisions in terms of how they manage
8 it and what they do with it makes it strictly that of
9 the Department of Energy. We're providing a
10 consultative type role that lays out specific criteria
11 by which we are to evaluate, and that's a decision
12 that the Department of Energy would have to make as to
13 how they would manage it, whether they would manage it
14 as TRU waste or high-level waste. That would be a
15 decision the department would make. We wouldn't make
16 that determination.

17 MR. CAMERON: Thank you. We may have time
18 later on to follow up on this if we need to.

19 We were scheduled to take a break at 2:30.
20 As I mentioned, we had a few people who wanted to make
21 some more formal comments or might make some more
22 formal comments to us. Since we're ahead of time, I
23 thought we should try to perhaps work off some of
24 these formal comments, and then when we do get to the
25 break, take a break and come back and have a more

1 general discussion on this.

2 Robert Meisenheimer, do you want to
3 comment from there or do you want to come up front?

4 MR. MEISENHEIMER: It's not fair to take
5 me first.

6 MR. CAMERON: Okay, that's what I was
7 warned about; don't take Robert first, and I did it.
8 I'm sorry.

9 MR. MEISENHEIMER: I am Robert
10 Meisenheimer. I am really a member of the public.
11 I'm from the Savannah River site's Citizens Advisory
12 Board, which is a public group that advises the
13 Department of Energy on matters pertaining to health
14 and waste management and the environment. We have a
15 very big interest in the tank closure. I know you've
16 been down there. In fact, I might say I might be the
17 only Washington National fan in the state of South
18 Carolina. We have an interest in what you're doing.

19 I'd like to start out by taking one of
20 your comments in your policy, where you say these
21 reviews will be risk informed and performance based.
22 Now, perhaps I'm a little bit too old to understand
23 all the subtleties of those terms, but I'm not sure I
24 understand exactly what risk and performance based
25 means. I hope I think it means that you're going to

1 use performance measurements and assessments in the
2 evaluation, and you're going to be looking at the
3 end-term risk and how that affects the public health.

4 I think Anna a little bit alluded to this
5 in her opening statements when you're talking about
6 the SRP. I really felt good when I heard that. I
7 believe that's what risk informed and performance
8 based is. We're not going to be looking at Curie
9 limits or something like that for concentrations, but
10 you're going to be looking at the risk to public
11 health.

12 Is that a fair briefing on that in the
13 scope of your review? I think that's good. If it
14 wasn't, we were going to suggest that it hardly
15 endorse that approach?

16 I think we've got some other thoughts that
17 we would like to propose for your consideration. You
18 shouldn't just look at the risks to the individuals in
19 the various categories that you have, but I think it's
20 good to compare the risks that you come up with, with
21 the risks of other potential options that might be
22 there.

23 The end objective should be the minimum
24 risk to the public. Risk benefit analyses should be
25 used. If the tanks are not closed, what are the

1 risks? In fact, you're also aware that there might be
2 a risk in that if the tanks are not closed for a
3 substantial period of time, you know the tank space
4 and those kind of considerations. These are all risks
5 that I think should be factored in to how you look at
6 the risk benefit and the risk benefit analyses.

7 Also, when I say we, I'm talking about our
8 citizens board and that has nothing to do with
9 Savannah River. We are just as interested in the
10 public health and environment as any ideological group
11 there is, but we don't have an ax to grind. We're
12 here to protect and look out for the health of the
13 public.

14 I think monitoring should be instituted to
15 check or confirm the validity of the models. After
16 it's done, make sure you just don't leave it, but put
17 checks and confirmation so down stream after the
18 process starts we can confirm that those models are
19 working like you thought they were going to work, that
20 we detect any problems with the models and the
21 predictions, and if there are problems, that fixes can
22 be done.

23 I think you ought to require an update of
24 the performance assessment as you learn more data and
25 as the process starts and require a periodic joint

1 review. I don't know what the period of time would
2 be -- three years, five years, whatever -- of
3 monitoring results for predicted performance and
4 include all the interested parties. By that I mean
5 the regulators in South Carolina and the public. I
6 know if there's a citizens board, we'd like to be part
7 of that.

8 Finally, I think you should consider a
9 contingency plan in your review that if the
10 performance assessment down the road is deemed
11 inaccurate, at least there's a possible path outlined
12 or thought of for what you're going to do to address
13 that problem. I think this way we're going to get a
14 package that not only leads to a solution, but it
15 confirms and monitors to make sure that solution is
16 effective.

17 MR. CAMERON: Thank you very much,
18 Mr. Meisenheimer. I know that staff is in the
19 listening mode and you don't want to go into
20 commenting on suggestions, but Mr. Meisenheimer did
21 make an assumption about what we meant risk informed
22 and performance based.

23 Do you have anything to say about whether
24 his assumption is correct in terms of what we mean?

25 MR. CAMPER: Yes. First of all, thanks

1 for your comments. Before I make a general
2 observation about the concept of the term risk
3 informed and performance oriented, your points get at
4 the essence of how that will come to bear at the
5 Savannah River site or at the other site.

6 In the broader context, risk informed,
7 performance oriented is a regulatory approach that our
8 agency has. It's not just germane to what we're
9 discussing today; it's a regulatory approach across
10 the board. What it means in general terms is
11 something like the following. Rather than have a
12 overly prescriptive regulatory program that tells the
13 licensee or the applicant everything they have to do
14 and how they have to do it, what it means in general
15 terms is that you will have a regulatory program that
16 applies the appropriate amount of regulatory burden
17 for the risk involved. That risk varies dramatically
18 across the spectrum of activities that we license.

19 At one end of the spectrum, for example,
20 you could have a high-level waste repository or a
21 nuclear power plant or a gamma radiator facility. It
22 would require a certain level of regulatory burden and
23 presence because of the potential risks involved. At
24 the other end of the spectrum you may have someone
25 using very low-activity materials -- tritium,

1 Carbon-14, for example, in a research laboratory. And
2 the level of risks from those activities is remarkably
3 different and, therefore, calls for a different
4 regulatory regime.

5 Performance oriented means, as I said,
6 you provide the licensee or the applicant with your
7 expectations. You provide guidance as to how to meet
8 those expectations -- an SRP is a form of that type of
9 guidance -- but you don't tell them precisely how they
10 have to do it. Rather, you let them describe to you
11 how they intend to do it and determine if, in fact, it
12 meets the objectives of the regulation, or in the case
13 of the discussion at hand, the performance objectives
14 of CFR 61.

15 That's what it means in general terms.
16 Some of your comments certainly apply in terms of
17 what's happening in this particular activity.

18 MR. MEISENHEIMER: Thank you, because,
19 obviously, I didn't have exactly that determination.

20 MR. CAMERON: We have to get you on the
21 transcript, Mr. Meisenheimer.

22 MR. MEISENHEIMER: I just want to thank
23 you. That's not exactly what I had thought you meant
24 by that. I understand it completely now, but it leads
25 me to say that we would really suggest and urge you to

1 use the risk-based approach, that you're not just
2 looking at a concentration or a Curie but you're
3 looking at the risk to the public health and to
4 individuals. That's what I thought you meant. You
5 did put it in a different way, and I'm just urging and
6 advising, please continue to do that.

7 MR. CAMERON: Thank you very much.

8 We're going to go to Mr. Brice Smith.

9 DR. SMITH: Hello. My name is Brice
10 Smith. I'm a senior scientist at the Institute for
11 Energy and Environmental Research. I have just a
12 couple of shorter comments, and they both relate to
13 specific pieces of information that I think should be
14 part of the standard review plan.

15 As one of the slides said, the SRP will
16 describe the types of information that may be assessed
17 by NRC staff. You mentioned that you typically do not
18 receive the full models from DOE and that you will
19 conduct your own independent modeling.

20 With respect to tank closure activities
21 and the review of these activities, there are two
22 specific instances where there are very large,
23 outstanding uncertainties, and the scientific
24 underpinnings of the DOE's assumptions should be more
25 carefully reviewed by the NRC.

1 One review in relation to the waste
2 determinations, the DOE acknowledges that there will
3 be no mixing or very limited mixing of the tank fields
4 with the grout and that you will therefore result in
5 a highly inhomogeneous distribution within the tank.
6 Experiments conducted in the late 1990s found very
7 large differences between the various layers of grout
8 with the high concentration layer having five times
9 the concentration of the bottom layer and 85 times the
10 concentration of the top layer.

11 This is one particular experiment done in
12 an open model system. The experimental evidence that
13 supports DOE's assumptions about waste mixing and
14 about the inhomogeneities that they expect in more
15 complicated tanks, particularly the cool tanks that
16 will have the fins and other materials inside the
17 tanks, needs to be carefully reviewed by the NRC in
18 their review of the performance assessments that go
19 along with tank closure.

20 The other issue will be with respect to
21 grout variability. The NAS report has been mentioned,
22 and I think there's just one quote that should be read
23 into the record. This is from the August 5th interim
24 report from the National Research Council.

25 It says, "As previously mentioned, DOE's

1 assumptions about the long-term performance of the
2 tank fill materials, especially smart grout, have not
3 been verified with experimental tests or even
4 documented analytic reasoning. To lend confidence to
5 the assumption used in the performance assessment, DOE
6 should further evaluate grout formulation and
7 techniques and conduct studies of the near and
8 long-term performance of the grout by laboratory and
9 field testing of the tank fill materials."

10 In your slides you have reviews of the
11 methodology, reviews of the assumptions and some
12 independent modeling. But to that I would suggest
13 that the full database that supports DOE's assumptions
14 and that supports all modeling parameters should be
15 turned over to the NRC for review, particularly in
16 light of the fact that the National Research Council
17 has revealed such large uncertainties.

18 One more quote that can be said from the
19 interim report is, "Despite requests, DOE has not
20 presented evidence of long-term performance tests or
21 modeling on grout to support these durability
22 assumptions. Therefore, the committee cannot assess
23 the 1,000 and 10,000-year assumptions of physical and
24 chemical durability of smart grout."

25 I think what has been revealed by this

1 should lead to a very specific requirement in the
2 standard review plan for the NRC to have oversight of
3 these issues. I will end there.

4 MR. CAMERON: Thank you very much for
5 those comments.

6 Geoff, do you have some comments?

7 MR. FETTUS: Thank you. Geoff Fettus from
8 the National Resources Defense Council. I'll just
9 echo some of Dr. Smith's comments, but with a little
10 more specificity on some process issues.

11 I'd like to encourage you in the strongest
12 possible terms, as we all know, this has been an issue
13 fraught with enormous legal, political and technical
14 controversy. One of your greatest contributions can
15 be as transparent and open to the public a process as
16 possible. Prior notice to all parties of all open
17 meetings would be extraordinarily well received and
18 should be done. By this I could mean everything from
19 an email notice. Almost all of the interested parties
20 on all sides of this issue have access to email.
21 While I would encourage you to use all general forms
22 of public notice, I think some small concerted effort
23 on the NRC's part to have greater public notice of
24 their meetings prior to their occasion would be well-
25 advised.

1 I'd also like to echo Dr. Smith's concerns
2 regarding availability of the underlying data and
3 assumptions. Many members of the public, for varying
4 reasons, on all sides of these issues have a level of
5 distrust of this process. To some great extent that
6 could be managed in a positive manner by making sure
7 that all the assumptions and variabilities, especially
8 with the modeling, are publicly available. That's
9 DOE's model as well as any confirmatory models that
10 the NRC might do. I'm talking about everything here
11 in terms of the variability: soil porosity, grout
12 variability, hydrologic conductivity. Can these be
13 reproduced? Can they be tested? I mean, it's basic
14 science 101. I would use great caution and encourage
15 you to be very clear and very transparent about any
16 use of the branch position on technical averaging that
17 has also been the subject of some great controversy as
18 well.

19 To finish up, the SRP has the potential to
20 be a very positive document for this process that's
21 been so fraught with legal difficulty. If it is used
22 as an active lever to bring the public in and to make
23 this confirmatory or non-confirmatory data available,
24 that would be a very positive step on the NRC's part.

25 MR. CAMERON: Thank you.

1 Dr. Johnsrud just wanted to say something,
2 and then we're going to go to Mark Gilbertson.

3 DR. JOHNSRUD: Thank you.

4 To take you back quite a distance, you
5 recall that the philosophy of NRC in the past was
6 essentially redundancy of safeguards and defense in
7 depth. That philosophy was abandoned, I've forgotten
8 how many years ago now, in favor of performance-based
9 risk informed.

10 I would suggest that risk informed raises
11 a substantial problem with regard to the reality of
12 risk assessment across the board. This is not
13 particular to the NRC but quite widely there are
14 questions about the adequacy of risk assessments.

15 There's a certainty, at least in my mind,
16 about the notion of redundancy of safeguards. From
17 what I've heard thus far, I am not hearing any
18 indication of there being much, if any, redundancy
19 built into the system for disposals. The same
20 question I think can be asked about defense in depth.
21 If and when some portion of the
22 disposal -- schema -- should fail, what alternatives,
23 what other defenses are there to prevent releases,
24 contaminations that were not intended.

25 I would urge that that old-fashioned, out

1 of date -- after all, initially, redundancy of
2 safeguards and defensive depth were based on the
3 newness of the commercial reactors 30 years ago.
4 Well, this is a newness of waste management that is
5 being proposed. Therefore, do please go back to
6 thinking in those terms of the past philosophy as
7 well.

8 MR. CAMERON: Thank you, Judy.

9 Mark?

10 MR. GILBERTSON: Hello. My name is Mark
11 Gilbertson. I'm with the Department of Energy and am
12 responsible for the program that manages these, and
13 we're here listen to all of you here today because we
14 welcome this partnership with the NRC in a
15 consultative kind of role. It's the department that
16 has difficult decisions that it needs to make in these
17 particular areas, and these decisions that we have to
18 make are important for the department, for the public
19 and for the country in general. So we welcome this
20 kind of interaction that we're having here.

21 As was mentioned, we've already provided
22 three draft determinations to the NRC. You may not be
23 aware of it, but there are thousands of pages of
24 documents already available on these issues. I think
25 one of the reasons why we welcome this kind of process

1 is to ensure that there is transparency to the process
2 overall, and that the information that we gathered
3 over years of time at these individual sites -- I
4 mean, this isn't a one time deal that we've done to
5 help support this information. It's information that
6 we've literally gathered over decades to address these
7 important issues and is presented in a manner that is
8 transparent to the public as we make these difficult
9 decisions.

10 We're looking forward to working with NRC
11 and the public and to be involved with you in the
12 development of the guidance as a tool to better
13 understand how this should be reviewed and how we can
14 communicate things better. They're difficult
15 decisions and important decisions that the country has
16 to make, so that's why we're here to listen.

17 MR. CAMERON: Thank you, Mark.

18 Larry Camper?

19 MR. CAMPER: Let me make one comment on
20 the oversight and transparency point. One of the
21 points that the commission has made clear to the staff
22 on this particular initiative is that they want the
23 process to be as transparent as possible. We
24 developed an implementation plan and presented it to
25 the commission in terms of how we would carry out our

1 responsibilities under the NDAA, and the commission
2 endorsed that implementation plan with two comments.

3 One of the things that the commission has
4 made clear -- in public meetings, for example in the
5 annual waste briefing earlier in the year, in
6 February -- is that they want this process to be as
7 transparent as possible.

8 Now, I will tell you that there has been
9 a healthy tension between the two agencies on this
10 issue. I say health tension. On one hand, DOE has a
11 tremendous job to do and they're working diligently to
12 get it done, and they have an aggressive schedule, and
13 they want to keep things moving. On the other hand,
14 we've made it very clear we want all the meetings and
15 interactions with them to be public or the majority of
16 them to be public if not all of them. That does
17 create a healthy tension, but that's okay. We have on
18 several times iterated the need to have the
19 transparency that you're alluding to, and the DOE
20 understands that.

21 What we've tried to do is keep our
22 meetings open to the public and find the expedient and
23 efficient way to notify them because sometimes there's
24 a need for the staffs to meet and then meet again
25 shortly thereafter while a particular issue is being

1 worked further. So let me assure you that the staff,
2 on behalf of the commission, has transparency on its
3 mind.

4 The other thing that the commission has
5 made very clear to the staff when it responded to our
6 SECY was to take the time that is necessary to do
7 thorough reviews. I assume you probably had a chance
8 to look at the submittals the DOE has provided or
9 RAIs. The first set of RAIs, request for additional
10 information, that went back was something on the order
11 of 80 questions. A lot of the questions,
12 interestingly enough, get at one of the points you
13 were making, that is the validity of the assumptions
14 and the data to support those assumptions.
15 Particularly, when you make assumptions for periods of
16 performances as long as we're talking about here, you
17 really have to have information to back up those
18 assumptions.

19 I think if you've looked carefully -- and
20 I'm sure you have -- at those RAIs, you've found that
21 many of them dealt with that variation that you have
22 on your minds. So we hear you and it's on our minds
23 as well.

24 MR. CAMERON: That may be a useful
25 methodology to look at those reviews and state where

1 you think they might be lacking in terms of that

2 MR. FETTUS: This is Geoff Fettus. I
3 don't want to go through what we have or haven't seen
4 in the RAIs yet. They are voluminous. Some of them
5 are very helpful and some of them are less so. Since
6 we've got Mark here and the NRC, maybe we could just
7 agree now to get the models and have them publicly
8 available since we're talking about transparency and
9 these assumptions. We've got the DOE here, we've got
10 the NRC and we've got some members of the public.

11 MR. CAMERON: I think that that's
12 obviously on the plate now, and it may be useful to
13 address that after we take a break and let Larry and
14 Mark talk about that.

15 MR. FLANDERS: As I said earlier, we'll
16 take that under consideration. I think there's a
17 number of things that have to be considered in terms
18 of the proprietary nature of some of these models.
19 There's several things that have to be taken into
20 consideration before we could make that kind of a
21 decision. So I don't know that we can necessarily
22 make it today in this forum, but we will take it under
23 consideration recognizing our commitment to be
24 transparent and open as we can. So we'll take that
25 under consideration.

1 MR. CAMERON: We're going to go right over
2 here and then we're going to take a break. When we
3 come back, if you have some questions that you want to
4 ask, comments to further clarify, if you want to
5 repeat what you've just said about we can make a
6 decision on the models now, that will be fine, but we
7 may have a chance to caucus about that and to just
8 have a further discussion. I don't think we want to
9 run this just to run it on, but we'll come back and
10 have some further discussion.

11 Let me just take two quick comments right
12 now because there will be plenty of time when we come
13 back.

14 MS. PASTINA: Barbara Pastina, NAS. Since
15 the NDAA 3116 was passed, what is your experience with
16 the interaction with the states of Idaho and South
17 Carolina, and what mechanisms are available for the
18 states to provide input other than to a public comment
19 period?

20 MR. FLANDERS: That's a good question.
21 We've actually had quite a bit of dialogue with the
22 state of South Carolina and with the state of Idaho
23 but most with South Carolina since that's the first
24 waste determination that we started looking at. The
25 interactions have been very positive.

1 We interact with the state quite
2 frequently. We discuss our reviews, technical and are
3 potentially monitoring with the state. We dialogue
4 with them in a manner that's different than just
5 providing comments during a public comment period. We
6 discuss with the state of South Carolina our thoughts
7 about our request for additional information, their
8 thoughts on particular issues. So we have that
9 dialogue and interaction with the state of South
10 Carolina. We see them as a different stakeholder than
11 just a general member of the public.

12 Actually, we just had a meeting with the
13 state of Idaho to talk about our process for
14 interaction with them as well just yesterday, so we
15 continue that dialogue with the states because they
16 have a very different role than the general public.

17 MR. CAMERON: Let's go to the only
18 Washington Nationals fan in South Carolina.

19 MR. MEISENHEIMER: Maybe not the only one,
20 but it's certainly the best one.

21 Doctor, I don't know your name.

22 DR. JOHNSRUD: Dr. Johnsrud.

23 MR. MEISENHEIMER: Dr. Johnsrud. Your
24 comments really struck home and made me realize I'd
25 left something out. They were really on target. I

1 left something out when I was talking about risk based
2 and performance based.

3 When you're looking at the risks to the
4 public, be sure you include the fact that that tank
5 farm area is inaccessible. It's a boundary. It's a
6 control government for an indefinite period of time,
7 and there will be an engineer barrier. That's part of
8 the whole risk and performance based. I'm sure you're
9 aware of it. It's in the determination, and we're
10 just encouraging that that be considered.

11 MR. CAMERON: Thank you. Thank all of
12 you.

13 Let's come back in 15 minutes, 10 minutes
14 to 3, and we can take up where we left off. Thank
15 you.

16 (Whereupon, the foregoing matter went off
17 the record at 2:38 p.m. and went back on
18 the record at 2:55 p.m.)

19 MR. CAMERON: If we could take our seats,
20 we're going to get started again.

21 Welcome back, everybody. One of the
22 things that Larry thought it might be useful to do is
23 to just have perhaps a further discussion of the use
24 of risk-informed at the NRC, which, as Ryan pointed to
25 be, not applies to a specific site but how the NRC

1 staff devotes its resources to particular parts of an
2 application. Dr. Johnsrud talked about defense in
3 depth and perhaps we can also put a little bit of a
4 clarification on that.

5 I'll turn it over to Larry or Ryan.

6 MR. WHITED: Larry talked about risk-informed
7 performance-based regulations kind of as it applies to
8 a site, but it also applies to how we conduct our
9 reviews. For example, when we're looking at the
10 performance assessment analysis, the Saltstone
11 determination that just came in, we try to focus the
12 review on the parameters that most impact the outcome
13 or the risk in the end. Those might be physical
14 properties like grout durability or they might be
15 properties like hydraulic conductivity.

16 When we're looking through the analysis
17 we're trying to figure out what are those assumptions
18 that most impact the conclusion, and then we focus our
19 review on trying to verify or substantiate the
20 validity of those assumptions. It certainly doesn't
21 imply that we are curtailing our review in any way.
22 If you look at the request for additional information
23 for the Saltstone review and the technical evaluation
24 report that's going to come out in a month or so,
25 you'll see that we conduct a very rigorous technical

1 review. Risk informing is an concept that helps us
2 focus on those aspects of the review that are most
3 important to risks.

4 MR. CAMERON: Thank you, Ryan.

5 Larry, do you want to add anything on
6 that, anything about defensive depth?

7 MR. CAMPER: The concept of defense in
8 depth and redundancy is a concept that is historically
9 and typically applied to an operational nuclear
10 facility, what's commonly a nuclear power plant. Not
11 only that, but there are performance parameters that
12 we look at as we review the various techniques that
13 are being used by DOE as they remediate or stabilize
14 these tanks for the long period of performance that do
15 have a redundancy in nature. So it's not that we've
16 abandoned the concept, but rather we're applying it as
17 it relates to the specific evaluation.

18
19 The other point I want to make in terms of
20 risk is one of the key things that drives a risk
21 assessment to this particular activity is the extent
22 to which key radionuclides or risk-driving
23 radionuclides - things such as technetium for example,
24 highly soluble -- have been removed from the waste as
25 it's being remediated.

1 One of the points we've made very clear to
2 DOE is whatever remediation technology you choose to
3 use -- let's call it A -- you need to also point out
4 technologies B, C and D didn't work or wasn't the best
5 for removing those high-risk radionuclides to the
6 maximum extent practical. It's just a few words to
7 try to clarify risks as it relates to what we're doing
8 here.

9 Ryan's point is well made. What you're
10 really trying to do when you're risk informed is focus
11 your attention where there is the highest risk and
12 expend less of your regulatory energy on lower or
13 non-risk activities. That is really where you get the
14 biggest gain for the time expended in any regulatory
15 review.

16 MR. CAMERON: Scott?

17 MR. FLANDERS: Just to add to Larry's
18 comments, a general philosophy as the agency looks to
19 become more risk informed in our regulatory program is
20 that it's not at the expense of considerations of
21 defense in depth and redundancy. I think those are
22 aspects that are factored in and considered as we
23 help inform our programs in the way that Larry and
24 Ryan described it, in an effort to try to focus our
25 resources, so that in areas where you have significant

1 redundancy and defensive depth, maybe that's an area
2 that you might not necessarily have to focus as much
3 as another area that may be important to safety but
4 may not have as much redundancy for defensive depth.
5 Risk informing the process is not necessarily
6 abandoning the concept of defensive depth and
7 redundancy.

8 MR. CAMERON: Okay. Thanks, Scott.

9 Are there other questions that have arisen
10 after you've listened to the comments, questions for
11 Anna on anything that she presented? Yes?

12 MR. LITTLETON: Brian Littleton with the
13 EPA. I have a question regarding the draft outline
14 for the SRP. There's protection of the general public
15 and protection of individuals. Is there any
16 consideration that's going to be given to the
17 protection of the ecological impacts or environmental
18 impacts, and is there any type of review that will be
19 done on those issues?

20 MR. FLANDERS: Regarding the NRC's role,
21 as Anna outlined, we have specific responsibility to
22 consult with the Department of Energy on their waste
23 determinations. Part of the process for any co-agency
24 is to consider the environmental impacts of your
25 actions. Department of Energy I believe has written

1 EIS's for each of the sites that look at the
2 ecological impact of what they're proposing to do. I
3 think that's been addressed by the Department of
4 Energy.

5 In terms of an environmental impact type
6 of assessment here, it's not included. But in terms
7 of looking at the dose to the public and the potential
8 impacts of the environment on the engineered systems,
9 that is considered part of what we do as well.

10 MR. CAMERON: So the environmental
11 evaluations here are part of the DOE responsibility,
12 and ours is more limited than that.

13 Do you want to follow up with that, Brian?

14 MR. LITTLETON: Just real quick. Where
15 does the environmental impact as a NEPA process
16 interject itself with respect to the standard review
17 plan? Is it before or is it after?

18 MR. FLANDERS: I'll give a moment on that.
19 I think it's probably more appropriate for the
20 Department of Energy to kind of talk about their NEPA
21 process. But my understanding is that they've
22 actually completed environmental impact statements for
23 each of the sites as it looks at their waste disposal
24 plans, which would include their closure of the tank
25 farms, which is part of what we're looking at here.

1 That's a separate and independent process from this,
2 so the standard review plan is not necessarily linked
3 to that NEPA process.

4 MR. CAMERON: We don't have to put DOE on
5 the spot. If you want to talk about that with Brian,
6 you can do it off line.

7 MS. PASTINA: How is the NRC planning to
8 evaluate whether DOE has removed high radionuclides to
9 the maximum extent practical?

10 MR. CAMERON: Anna or Scott?

11 MR. FLANDERS: In looking at the removal
12 of highly radioactive radionuclides to the extent
13 practical, I think one of the first things is trying
14 to establish some kind of definition for what a highly
15 radioactive radionuclide means. From the NRC's
16 perspective and looking at that, we think those are
17 the things that most drive the risk. So we identify
18 what we think are those radionuclides that most drive
19 the risk, and then we certainly look at their
20 technologies in terms of the technical aspects around
21 removal of the radionuclides, what technologies are
22 available, how they've been employed, what kind of
23 removal efficiency they've had. We look at that.

24 We also look at a number of other factors
25 related to the risk of the activities. We look at the

1 economics, the cost associated with further removal
2 and balance that against the risk reduction. There
3 are a number of factors that go into looking at
4 whether or not they've removed highly radioactive
5 radionuclides to the extent practical. We're going to
6 outline our analysis in the standard review plan in
7 more detail, but there's a number of
8 factors -- technical, economics, et cetera -- in terms
9 of whether or not they removed as much as possible,
10 along with other risk consideration, both to the
11 public and to workers as well.

12 MR. CAMERON: Thank you, Scott.

13 MR. NILES: Just to follow up on that.
14 Can you mention at all where dilution would be an
15 acceptable form of removal of highly radioactive
16 materials?

17 MR. FLANDERS: Can you elaborate a little
18 bit more?

19 MR. NILES: It was mentioned earlier that
20 some of the tanks that DOE have are managed as if they
21 have high-level radioactive waste because there's been
22 a lot of different things added and waste materials
23 transferred over the years.

24 I guess the concern we have -- and
25 certainly a concern we have that prompted us to get

1 involved in litigation two years ago -- was that
2 rather than wholeheartedly going after a heel, for
3 example, that there might be an attempt to use
4 dilution to get down below a certain risk category or
5 a certain waste concentration.

6 I just wanted to see if you folks
7 envisioned at all which solution might be an
8 acceptable form?

9 MR. FLANDERS: As I outlined before, one
10 of the things that we do look at is the technology and
11 have they employed it and try to remove as much of the
12 waste as they can. That's certainly an aspect that
13 you look at first. I think as it relates to Hanford,
14 that's one of the things in the tri-party agreement.

15 Before you get to the issue of grouting or
16 mixing it with any grout for concentration averaging,
17 one of the things in the tri-party agreement is when
18 they establish a number in terms of the bulk of waste
19 that they have to try to remove -- I think it's about
20 99.9 percent of the waste or something -- if they
21 can't reach that, there's a clause that's invoked
22 where they have to come to the NRC and ask the
23 question have they removed everything to the extent
24 technically and economically practical, are there
25 technologies that they can use, have they used them

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1 and can they employ them. and if there are other
2 technologies, are there economic factors as to the
3 reason why they haven't been employed, and there's an
4 assessment as to whether from a technical and economic
5 standpoint they try to remove as much of the waste as
6 they can.

7 That's done before you get into the issue
8 of now mixing the waste with the grout to examine
9 particular concentrations. There's a first step in
10 that that's critical in terms of examining whether or
11 not they remove the waste to the extent practical.

12 MR. NILES: Just to follow up
13 specifically, can you envision the scenario of which
14 dilution would be an acceptable form of waste
15 treatment?

16 MR. FLANDERS: Right now, I'm trying to
17 think of a situation. I wouldn't necessarily want to
18 say that I could envision a situation where dilution
19 would be the solution for waste management. I think
20 certainly with the rigor in which we look at it, we
21 take the consideration in terms of have they removed
22 it to the extent practical, the technology. The issue
23 of concentration averaging is one that's very complex,
24 and we're going to talk about the guidance in there in
25 terms of how much credit you can take for

1 concentration averaging.

2 But certainly in terms of looking at the
3 analysis, we really try to understand the physical
4 system, and if you really can't achieve a lot of
5 mixing, it's difficult for us to conceive where you
6 could take a lot of credit for this concentration
7 averaging. I can't necessarily envision dilution as
8 an object.

9 MR. CAMERON: Thanks, Scott, for that
10 perspective.

11 DR. JOHNSRUD: I don't wish to talk too
12 much here. Could we go back, please, Scott, to what
13 you said about the removal of a certain portion of the
14 radionuclides that are highest hazard to biological
15 organisms, presumably?

16 How do DOE and NRC incorporate the risks,
17 the management, the disposition, the costs, all the
18 factors relates to those, that are removed from the
19 tanks, that are separated out? They don't just
20 disappear. Is there any "holistic" methodology that
21 you use to assure that they in turn are being handled
22 in a manner that is adequate?

23 I'm sort of thinking as someone who has
24 gone through the problems associated with the
25 proposals for deregulation of low-level waste because

1 they're very expensive to handle and it's hard to
2 dispose of. So here too is a question of depth which
3 is removed and which is no longer part of the mission
4 that you are tasked with.

5 MR. FLANDERS: Let me attempt to answer
6 that now and look to others if they want to jump in.
7 Let me try to address that relative to the fact of the
8 waste that's coming out of the tank.

9 Based on our understanding of DOE's
10 activities, the waste that's coming out of the tank is
11 waste that's going to be vitrified, this high-level
12 waste. The majority of the waste that comes out of
13 the tank is going to be high-level waste. There is a
14 fraction of the waste that they would consider to be
15 low-activity waste.

16 For example, the first case we're looking
17 at for the Savannah River site is the salt waste
18 determination. As part of that process, in order for
19 them to dispose of that low-activity fraction on site,
20 they have to go through this same process. For that
21 low-activity fraction we look at have they removed the
22 highly radioactive radionuclides to the extent
23 practical so that waste is coming out of the tank. To
24 the extent that the disposed level is on site, it's
25 examined similar to the waste that would be left in a

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1 tank. The other waste is high-level waste and is to
2 be vitrified and disposed of at a permanent geologic
3 repository.

4 From the standpoint of looking at it
5 holistically, I think that we do to the extent that it
6 falls within our purview, and the areas of the waste
7 streams that don't have specific processes in terms of
8 how they are to be dispositioned. I hope that answers
9 your question.

10 MR. CAMERON: Did that do it for you?

11 DR. JOHNSRUD: It left open a lot of the
12 question, but, yes.

13 MR. CAMERON: Thank you, Scott.

14 Does anybody else have anything that they
15 want to say? Yes?

16 MR. GRIEVES: My name is John Grieves.
17 I'm representing myself. These are comments, not
18 questions.

19 A lot of people talked about transparency,
20 which that's what this meeting is about, and that's
21 good. There are two things that haven't totally been
22 mentioned. One is our monitoring topic. I see you
23 have it in the standard review plan, and I've asked
24 you to think about what does that mean.

25 Under the West Valley Demonstration Act,

1 monitoring has had a role for 25 years, and my
2 observation is it's worked well. I think people
3 understand what monitoring is there. I understand
4 what it is. If you mean something different from
5 that, then, transparency, you need to explain what
6 that is, why it's different and what you're going to
7 do with it. It's a comment.

8 The second follow on is guidance
9 documents. There's been some discussion here that
10 there's been guidance documents put in place for
11 25 years, and, frankly, I know there's a lot of wisdom
12 in those guidance documents. Maybe they aren't
13 directly applicable. For example, the performance
14 assessment document, NUREG 1573, took years to
15 develop. Mark Thaggard worked on that. John Starmer
16 sitting here in the audience worked on that initially.
17 There's a lot of wisdom in that document. To what
18 extent are you going to utilize those documents and
19 make that transparent?

20 MR. GREEVES: Those are just a couple of
21 things I needed to pass along. I appreciate what
22 you're doing. It's useful guidance. I just wanted to
23 mention these two items and ask you to make
24 transparent where you are on them, and I think you'll
25 be helping all the stakeholders in the process.

1 Thanks for coming today.

2 MR. CAMERON: Great. Thank you, John.

3 Anna?

4 MS. BRADFORD: I just wanted to point
5 out -- and you're right, I didn't specifically say it
6 during the presentation -- that we absolutely would
7 use all the information in documents that are already
8 developed, especially things like NUREG 1573.
9 Information that we've learned from those documents or
10 even just directly referenced those documents, we're
11 not ignoring anything that we've done previously. I
12 just wanted to make that clear.

13 MR. CAMERON: Great. Thank you.

14 MR. PICIUOO: Paul Piciuoo with New York
15 State Energy Authority. I just want to follow up a
16 little bit on one of John's comments and maybe turn it
17 into a question. He talked about the monitoring
18 aspect. When I think about a tank being left, it
19 would have to be monitored for a long period of time
20 or the site where it is, which might be a very
21 different kind of monitoring than what was done in
22 West Valley.

23 In the monitoring are you talking about
24 people coming to the site or actually doing
25 environmental monitoring? Maybe you could explain a

1 little bit more. Thank you.

2 MR. CAMERON: What is the nature of the
3 monitoring that you think you're going to use?

4 MR. CAMPER: Well, Paul, I think you've
5 actually touched upon one of the two things that I
6 probably find most challenging about our work. With
7 regard to John's comment and then Anna's follow up,
8 one of the things I would reiterate on the SRP list,
9 we have done four of these determination reviews in
10 the past. It is a good thing that we had done that
11 work in the past, and it's a good thing that we have
12 the technical staff available to us that we do because
13 when this legislation was enacted last fall, there was
14 an immediate need to proceed to review determinations
15 on a very intense schedule that the Department of
16 Energy has mapped out for itself and has communicated
17 to the state of South Carolina. So clearly we could
18 not have proceeded as rapidly as we did if we did not
19 have that history, if we did not have those reviews
20 and if we did not have some of the guidance that John
21 cited; 1573, for example, being a very good document.

22 Having said that, a couple of challenges
23 that I see in all this is this issue of monitoring and
24 of assessing compliance. We don't have the classic
25 relationship with the Department of Energy that we

1 normally had with one of our licensees, as Anna
2 pointed out in her comments. We don't have regulatory
3 authority with the Department of Energy, so the
4 legislation envisioned a consultant approach, but it
5 also clearly, in our view, is a quality assurance
6 aspect. It's an aspect that ensures that are not only
7 are the technical reviews done but there is this
8 monitoring.

9 So what is my point? The monitoring will
10 involve ongoing, environmental monitoring, which you
11 might expect classically. And certainly depending
12 upon the specific determination, one of the points
13 that Anna made was that we'll talk about monitoring in
14 this document. We can talk about environmental
15 monitoring and the kinds of things you would expect,
16 whether it would be ground water, or whatever, in
17 general terms. But having said that, there's also
18 going to be site-specific issues that affect
19 monitoring and each determination, frankly, will be
20 different. Envision the environment of Savannah River
21 as compared to the environment in Idaho. You can
22 readily see, for example, hydrology, for instance.

23 So there will be general monitoring
24 considerations and then there will be site-specific
25 monitoring considerations. In the SRP we'll address

1 general monitoring conditions environmental in nature,
2 and there will also be some discussion about how those
3 monitoring activities will be structured. Typically
4 what that means is, in this case, DOE will identify
5 the kinds of monitoring activities it's going to carry
6 out, and we will look to see what needs to be done to
7 evaluate or have an awareness of those environmental
8 monitoring results and what indicators might warrant
9 further on-site evaluation if so indicated. Some of
10 them we can get under the general terms of the SRP and
11 some of the monitoring will be detailed as a result of
12 a particular determination.

13 MR. FLANDERS: In terms of one of Paul's
14 questions about the monitoring process, when you're
15 dealing with a system that's appropriately engineered,
16 you're not going to see any physical evidence in the
17 near term. Some of the assumptions that went into the
18 modeling, to the extent that there needs to be
19 additional examination of an uncertainty with those
20 particular parameters that are most significant to
21 risk, those are some monitoring activities that we
22 would envision. There might be a specific assumption
23 that's in the performance assessment that's a risk in
24 our mind and may be something that we may want to
25 monitor so that we can ensure that that assumption is

1 accurate.

2 In our view we see kind of two parts of
3 monitoring, which is the classical environmental
4 monitoring and then there's the monitoring which will
5 help inform us of the assumptions that were made in
6 the performance assessment.

7 MR. CAMERON: Scott, you welcome comments
8 on people's suggestions on monitoring.

9 MR. FLANDERS: Yes, absolutely.

10 MR. CAMERON: While we're on the subject
11 of monitoring, does anybody else want to say anything
12 about monitoring?

13 MS. PASTINA: Is there going to be some
14 sort of guidance on the choice of points of compliance
15 or you're assessing what DOE's proposing as points of
16 compliance for the monitoring?

17 MR. CAMERON: Scott?

18 MR. FLANDERS: As part of our analysis,
19 that's something that we look at in terms of the
20 points of compliance. We're actually doing that as
21 part of our review process.

22 MR. THAGGARD: That's correct.

23 MR. CAMERON: Thanks, Scott. Thanks,
24 Mark.

25 Any other subjects that people want to

1 address while we're here?

2 MR. GILBERTSON: A couple of key things
3 about the monitoring in general. I think it had been
4 mentioned by the NRC folks before that there's a lot
5 of monitoring that goes on at our sites, and states
6 have an important kind of role in this overall
7 perspective. I think what is important here to keep
8 in mind is that the monitoring that we're kind of
9 talking about here is it's hard to meet performance
10 objectives for these kind of materials. I think that
11 narrows it a little bit because I think when Scott
12 talks about environmental monitoring -- and we have
13 EPA people in the room -- that means a whole lot
14 different thing to the EPA people than it does to the
15 NRC people. They need to kind of focus on what we're
16 talking about, which is more about performance
17 objectives.

18 MR. CAMERON: Right.

19 MR. FLANDERS: Thank you, Mark. That's a
20 very good clarification and what other aspects
21 relative to margin that Mark pointed out in
22 relationship with the state. It's clear to me in the
23 legislation that NRC is monitoring in consultation
24 with the states. The states have a specific role in
25 terms of regulatory requirements around monitoring and

1 oversight of the sites. What we will try to do is
2 coordinate with them and leverage as much of their
3 monitoring activities as possible. It is good. It
4 relates to the performance objective which is
5 different than I think the scope of the state's
6 environmental monitoring.

7 MR. CAMERON: Great. Any other burning
8 issues out there or smoldering or whatever?

9 The staff I know is going to be here after
10 the meeting for a while for informal discussions.

11 Larry, do you want to close us out, or
12 Scott?

13 MR. CAMPER: Before we close, I guess
14 there's a question I would ask. Anna went through a
15 general outline of the contents of the SRP. Now,
16 we've heard some very good points here today with
17 regard to monitoring and with regard to some
18 historical documents that are there. We've tried to
19 clarify the role that we're bringing to bear for those
20 particular historical documents. We've heard a number
21 of issues and concerns about the role of risks in this
22 process.

23 I guess the question that I want to make
24 sure that we ask is, is there some topic that either
25 Anna didn't mention in terms of the general contents

1 of the document, the outline of the document, or is
2 there something that hasn't surfaced yet in the
3 dialogue today that we want to make sure we don't
4 overlook? Is there some concept or some particular
5 area, technical or philosophical, that hasn't been
6 addressed yet?

7 MR. CAMERON: Anybody on that? Keep that
8 in mind when you think about your written comments.
9 We covered a lot of ground it seems in the SRP, but is
10 there something that we didn't think of?

11 MR. CAMPER: We are accepting written
12 comments until when, Anna? What's the date?

13 MS. BRADFORD: November 25th.

14 MR. CAMPER: November 25. We are
15 accepting written comments.

16 MR. CAMERON: Transcripts will be
17 available for people to look at.

18 MR. CAMPER: Sure. We're going to review
19 the transcript. We'll make that transcript available.
20 In any of these meetings like this, we always go back
21 and go over the transcript literally line by line to
22 try to pick out the nuggets, if you will, of advice or
23 ideas or concepts that were raised. We try to make
24 sure we factor those in. At some point the document
25 will go out -- I think in the spring of next

1 year -- for public comment, so there will be an
2 opportunity to see it in its written form.

3 Anna's pointing out that the transcript
4 may not be available prior to closure of the public
5 comment period. It just depends on how long it takes
6 for the transcript to be produced. If nothing else,
7 it would be available to you to look back and reflect
8 upon as you then see the written document when it's
9 published for comment. You can take a look to see
10 whether or not a particular concept was adequately
11 addressed when it was aired.

12 MR. CAMERON: When you do make the
13 transcript available, you put it on the Web where
14 people can go in or will they have to go in the ADAMS?

15 MS. BRADFORD: The ADAMS.

16 MR. CAMPER: Bill mentioned ADAMS. A
17 document of that type would be in ADAMS.

18 MS. MARTIN: I'm sorry. I just missed the
19 date. When are you expecting to issue the draft SRP?

20 MR. CAMPER: Spring of '06. The draft
21 will be out in the spring of '06.

22 MR. CAMERON: Any other schedule
23 questions?

24 I would just thank all of you. You
25 followed the guidelines very well. A lot of you came

1 a long way. Thank you.

2 Larry, Scott, any final words?

3 MR. CAMPER: Well, the final word would be
4 thank you for coming and thank you for the input.
5 This is an important part of the process, and we will
6 seriously go back and review the transcript and listen
7 to everything that we heard today. We thank you for
8 your input.

9 (Whereupon, at 3:29 p.m., the foregoing
10 matter was adjourned.)

11

12