

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: PERIODIC BRIEFING BY ADVISORY COMMITTEE
ON NUCLEAR WASTE (ACNW)

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2 NUCLEAR REGULATORY COMMISSION

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4 PERIODIC BRIEFING BY ADVISORY COMMITTEE
5 ON NUCLEAR WASTE (ACNW)

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7 PUBLIC MEETING

8 * * *

9 Nuclear Regulatory Commission
10 One White Flint North
11 Rockville, Maryland

12
13 Thursday, April 27, 1989
14

15 The Commission met in open session, pursuant to
16 notice, at 10:00 a.m., the Honorable LANDO W. ZECH, JR.,
17 Chairman of the Commission, presiding.
18

19 COMMISSIONERS PRESENT:

20 LANDO W. ZECH, JR., Chairman of the Commission
21 THOMAS M. ROBERTS, Member of the Commission
22 KENNETH C. ROGERS, Member of the Commission
23 JAMES R. CURTISS, Member of the Commission
24
25

1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 SAMUEL J. CHILK, Secretary

3 STUART TREBY, General Counsel's Office

4

5

6 FOR THE ADVISORY COMMITTEE ON NUCLEAR WASTE

7 DR. DADE W. MOELLER, Chairman, ACNW

8 DR. MARTIN J. STEINDLER, ACNW

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P R O C E E D I N G S

(10:02 a.m.)

CHAIRMAN ZECH: Good morning, ladies and gentlemen.

Commissioner Carr will not be with us this morning. He has advised me that he will read the transcript carefully. His staff is here, I note.

Today the Commission is meeting with the Advisory Committee on Nuclear Waste. The Advisory Committee on Nuclear Waste was formally established in June of 1988, to advise the Commission on various nuclear waste management issues.

As noted in the meeting agenda, the Commission will be briefed this morning on three issues: Greater-than-Class-C waste, high-level waste management, and the West Valley Demonstration Project, and then we'll conclude by having the Advisory Committee on Nuclear Waste give us their views on the future activities that are planned.

This is an information meeting, and no Commission vote is expected during this meeting. Do any of my fellow Commissioners have any comments they wish to make before we begin?

(No response.)

If not, Dr. Moeller, you may proceed.

DR. MOELLER: Thank you, Mr. Chairman.

1 Before I begin, I would like to make several
2 preliminary comments. First of all, as with you, we're
3 missing one of our members. Clifford Smith is not with us
4 today -- he called to express his regrets -- and it's due
5 to illness in his family.

6 Secondly, we recognize, Mr. Chairman, that
7 perhaps this is the last formal meeting we will have with
8 you as Chairman of the Nuclear Regulatory Commission, and
9 we will always remember that the committee was formed
10 while you were the leader, and we're very appreciate of
11 the support and encouragement that you and your fellow
12 Commissioners have provided to us, particularly during
13 this first year when we were learning how to do things.

14 CHAIRMAN ZECH: Well, thank you very much. I
15 feel confident that we, my colleagues and I, made the
16 right decision when we established the Advisory Committee
17 on Nuclear Waste. It's already giving us a lot of good
18 advice, and I'm sure that you'll continue to do that in
19 the future, and thank you for your kind thoughts.

20 DR. MOELLER: Well, thank you. I also want to
21 mention in terms of communications with the Commissioners,
22 that we have very much enjoyed the meetings that we've
23 been able to have with the technical assistants, and we
24 hope that those can continue and that you will use that as
25 an additional avenue of communication with us. These

1 meetings, we believe, have been very helpful.

2 CHAIRMAN ZECH: Well, we're pleased to hear
3 that, and I've had the same thought from my own people,
4 and I can assure you that that certainly seems to be a
5 very valuable system, and certainly intend to continue
6 because it is providing very good background and advice
7 for all of us on the Commission, and also it's important
8 for our technical assistants to be brought up-to-date by
9 the Advisory Committee on Nuclear Waste in a personal sort
10 of way, and we appreciate the time you spend with our
11 people. I think it's a very good method and a very good
12 way to keep all of us informed. We appreciate it very
13 much.

14 DR. MOELLER: Yes, sir.

15 Well, we are, of course, in the midst of our
16 ninth meeting, and I thought I would just briefly review
17 -- not review, but name the topics that we are
18 considering. One item we are reviewing, and we will plan
19 to provide you comments on it, is the proposed statement
20 being prepared by the staff to update the waste confidence
21 decision.

22 We are looking at the proposed technical
23 position on post-closure seals. We will be looking at the
24 licensing support system. I doubt if we will send you any
25 comments on that, since that was done, of course, by

1 negotiated rulemaking.

2 We are also scheduled to look once, again, at
3 below regulatory concern, the policy statement there, and
4 I'm hoping that this will then conclude that, that the
5 letter we send you this month will be our last on that,
6 and we're also looking at the disposal of mixed waste.

7 Most importantly, of course, at this meeting
8 we're continuing to review with the Division of High-Level
9 Waste Management, their review of DOE's SCP and their
10 preparation of the site characterization analysis report.

11 In anticipation of that and in preparing to
12 complete our business on it by the deadline of the end of
13 June, we held a working group meeting on this on April the
14 19th, and we have scheduled two additional full committee
15 meetings between now and June the 30th. These are two
16 meetings in addition to the one we had already scheduled
17 for June the 28th through the 30th.

18 So, our goal is to complete our review and to
19 have everything finished up by the deadline that has -- or
20 the target date that has been indicated to us.

21 In terms of reviewing that and attempting to be
22 sure that we provide an independent point of view on it,
23 we have been exploring several topics through a mechanism
24 of using our consultants as reviewers, as independent
25 reviewers and, as you know, the Division of High-Level

1 Waste has set up, or it's organized with team leaders to
2 review geology, tectonics, et cetera, hydrology pertaining
3 to the proposed Yucca Mountain Repository, and we plan to
4 divide, or to take those separate reports and assign them
5 to individual consultants, as I say, for in-depth reviews.
6 And this will provide us a little more confidence that we
7 are doing our job.

8 We, as a committee, can review them
9 superficially or in-depth, to some degree, but we'll feel
10 better doing it this way.

11 We also plan to take the design acceptability
12 analysis for the exploratory shaft facility and assign
13 that to one or two consultants, to read in-depth and to
14 comment to us on it.

15 A third item that we're doing in reviewing the
16 High-Level Waste Repository is that we have taken the
17 first of -- and I know you realize there are 106, I
18 believe, study plans -- well, we've taken one of those
19 study plans as sort of a pilot project, and we have
20 reviewed it in-depth to see, you know, how it might go and
21 what we could learn from it.

22 The one we took was one on measuring groundwater
23 flow time, and we found a couple of interesting things, in
24 going into that. First of all, we found that we, as a
25 committee, or I suppose no one, can review a single study

1 plan unto itself. They are closely inter-tied, and so you
2 have to look at -- as Commissioner Rogers constantly tells
3 us, look at a systems approach -- you have to look not
4 only at that study plan, but all the others that it's tied
5 into.

6 We also found that in this one study plan, some
7 interesting observations, in that the study plan had been
8 written perhaps three years or so ago, and the author of
9 this study plan, the principal author, was present at our
10 meeting, and he could fill us in on all the developments
11 that had occurred since it was written.

12 So, there's a lot more to it, again, than what
13 is the written word. And, of course, what we're
14 constantly seeking in our reviews of the study plans will
15 be, are they geared to provide the data that we need for
16 performance assessment or whatever. So, we're really
17 zeroing in on that.

18 Now, it took us a full day to do one study plan
19 such as we did, so there's no way, of course, that we can
20 review all 106, so what we plan to do, or at least one
21 approach that we might take, is that Dr. Steindler, for
22 example, has identified a number of key technical issues
23 that we really need to address in our review.

24 Well, we may use his list and then select out
25 which study plans address those particular technical

1 issues, and select and review those in our work. So,
2 that, I thought I would share with you, as what we're
3 doing on that.

4 As a fourth item, although this is entirely in
5 the discussion stages, we simply, in sharing our thoughts
6 with you, wanted to mention that we have been considering
7 the methodology of applying risk analysis to the
8 Repository, and we're considering whether it might be
9 useful to do what I would call a "scoping study" PRA of
10 the Yucca Mountain site.

11 There has already, of course, been other scoping
12 studies performed, such as one on environmental pathway
13 analysis, and we thought that there may be benefit in such
14 an approach. And our primary reason for doing that would
15 be to identify or confirm what are the key parameters, and
16 also to constantly seek out, if we can, any fatal flaws in
17 the current proposal.

18 A fifth item is several new developments in
19 dealing -- in interacting with the staff on the Yucca
20 Mountain plans -- this is the NRC staff, of course. In
21 the way of pathway analyses, they have brought to our
22 attention information that indicates a potential for the
23 release of Carbon 14. And, so, in other words, there
24 could be a gaseous -- and we were familiar with this, but
25 they are now getting down to specifics -- that the gaseous

1 pathway may be of significance. Well, we plan to get into
2 that more.

3 Again, we reviewed, last week and at this
4 meeting, the technical position on post-closure seals. In
5 that technical position, they consider the gaseous pathway
6 and its importance and, of course, we need to get into it
7 and find out what is the source term -- you know, how
8 significant is it -- and how rapid would the release be,
9 and so forth. So, we wanted to share that with you.

10 A second new development is that -- is the
11 question of whether the shafts are -- the exploratory
12 shafts -- are really located where they will provide
13 representative data on the Yucca Mountain unsaturated
14 zone. Of course, you don't want to collect too many
15 samples, you don't want to collect too few, but you would
16 like for the ones that you do collect to truly be
17 representative of the conditions down there. So, the
18 staff is looking into that, and we plan to follow that and
19 work with them on it.

20 One other item related to our work in reviewing
21 the Yucca Mountain facility is our interaction with the
22 Technical Review Board, which has been -- they are
23 appointed by the President, and appointed to advise DOE on
24 the progress and on their own work on this facility.

25 Well, one of the questions raised by the Nuclear

1 Waste Technical Review Board, at one of its recent
2 meetings -- I believe this was perhaps a meeting of one of
3 their -- what I would call one of their subcommittees
4 rather than the full committee -- but they asked if, in
5 excavating the exploratory shaft facility, and
6 particularly in excavating the drifts out from the shaft,
7 whether the drifts were aimed in the right direction and
8 whether they were going to be excavated in far enough
9 distance -- at a far enough distance, to really provide
10 all of the information that's needed. And we have never
11 looked into this, so we found the information quite
12 valuable to us.

13 Now, George Lear attended the first meeting -- a
14 member of your staff, of course, and our liaison with the
15 staff -- attended the first meeting of the Technical
16 Review Board, and Mel Carter, Melvin Carter, who is one of
17 our consultants, is a member of that Technical Review
18 Board.

19 We have found that the ties that are being
20 provided by this liaison are very valuable, and we simply
21 wanted -- we wanted to share that with you.

22 As another item, we have, of course, been
23 thinking about the quality assurance programs underlying
24 the development of the Repository, and we have noted, and
25 it's been reported to us, that some 15 to 20 percent of

1 the costs of many of the data-gathering operations are due
2 to, or done in compliance with, quality assurance
3 provisions.

4 While some people might say, "Well, this is a
5 tremendous expense, and maybe it's unwarranted", we
6 believe that this -- well, we know the program is
7 necessary, and we believe it's far too early to reach any
8 judgment on that. We, again, plan to watch it as it moves
9 along, and try to keep abreast of it.

10 Another item that is constantly in our minds is
11 the degree to which the NRC staff needs to develop an
12 independent capability for modeling the Repository site.
13 We know that they need to be able to do it independently,
14 but also if they attempt to totally develop from ground
15 zero, so to speak, the models all the way through from
16 beginning to end, that is a tremendous task.

17 We believe that independence can be maintained
18 without developing totally new models. We don't have all
19 the answers, but we're certainly interacting with the
20 staff, to assist them and to keep up with what they are
21 doing and to assist in any way that we can.

22 It does appear that DOE, in response to the
23 objection raised by the staff on the draft, consultation
24 draft SCP, has expanded its horizons to include alternate
25 conceptual models for the Yucca Mountain site.

1 As a final comment on this opening portion which
2 I'm directing to our review of the SCP SCA, I would offer
3 the following comment, and we do it not as criticism of
4 the NRC staff -- above all, I'll say later that we think
5 they're doing a very good job -- but one item that we want
6 to just simply share with you is that they offered their
7 objections and their comments and questions and so forth,
8 on the consultation draft SCP.

9 Well, then, DOE, of course, in response to that,
10 attempted to address each of these concerns. In some
11 cases, it was simply changing a paragraph; in other cases,
12 it might consist of inserting ten new pages.

13 Well, now, the NRC staff, in reviewing these
14 revisions, is coming up, in some cases, or they could come
15 up, with an increased number of concerns rather than a
16 reduced number. And having both of us formerly been
17 members of the ACRS and we watch the list of unresolved
18 safety issues, and we recall how instead of being resolved
19 they seem to grow in number, we simply want to flag this
20 -- and the staff is well aware of it -- that, obviously,
21 they want to raise all legitimate concerns, but we hope
22 that the number can be kept to a manageable size.

23 And I, personally, felt, with five objections on
24 the consultation draft, you know, that was good. It was a
25 clear-cut message. They didn't give them 138 concerns,

1 they gave them five objections, plus additional concerns,
2 but they clearly categorized what is important. DOE knew
3 what they considered to be important, and we're sure it
4 was extremely helpful to them and a very good job on the
5 part of the staff.

6 I think, with those remarks, I will conclude
7 this first section, and we're certainly open to questions
8 or comments.

9 CHAIRMAN ZECH: Are there any questions from my
10 colleagues, on the high-level waste presentation?
11 Commissioner Roberts?

12 COMMISSIONER ROBERTS: No.

13 CHAIRMAN ZECH: Commissioner Rogers?

14 COMMISSIONER ROGERS: Yes. How long would you
15 think a PRA would take to do for the Yucca Mountain site?

16 DR. MOELLER: I can't answer that and -- even as
17 to how long it would be, but I'm told that a scoping study
18 PRA versus a full-fledged one would be not on the back of
19 an envelope, but it certainly is manageable. I would have
20 to ask someone more informed on it, perhaps someone on the
21 NRC staff. We do not have that answer, but we understand
22 certainly a few months, I guess you could do it, depending
23 -- and we've asked our own supporting staff to look into
24 what has been done in the past. What is the backlog of
25 information on this, and we have not completed that, but

1 the time required would depend upon how has been done in
2 the past.

3 COMMISSIONER ROGERS: Do you have any reason--
4 has any specific reason come up for you to doubt whether
5 the choice of the locations of the exploratory shafts is
6 the best, or is this a more general desire to just look at
7 everything from a fundamental point of view?

8 DR. STEINDLER: I think the latter rather than
9 the former.

10 COMMISSIONER ROGERS: Nothing specific which
11 would suggest that this is an important thing to --

12 DR. STEINDLER: Nothing specific that we raised.
13 The original objections raised by the staff we understood,
14 and that's been taken care of.

15 DR. MOELLER: And those were very legitimate and
16 undoubtedly very constructive, the questions which were
17 raised, and the shafts were moved, of course, the
18 location.

19 COMMISSIONER ROGERS: Your suggestion that NRC
20 develop an independent modeling capability for the site,
21 is there any way you could elaborate on what you're
22 thinking about there, as to what that means? I know
23 you've said, well, they can't start from scratch and do
24 everything, but what are you thinking about there? Is it
25 to question the basic concept of a model, the starting

1 point of a model, or to fully exercise a model to see what
2 one can draw from it? Just how do you view that?

3 DR. MOELLER: Well, I'll comment briefly, and
4 then certainly Dr. Steindler can expand.

5 We believe, and the staff has said to us that
6 they believe that they need an independent capability for
7 assessing the adequacy of the site. In order to establish
8 the performance assessment of various components within
9 the facility, you need models, and you plug the data into
10 the various parameters and come out with information.

11 It's a tough area to handle because the staff
12 would like, I believe, to, as I say, independently
13 evaluate what DOE is claiming and, yet, what we're saying
14 is, if they try to develop a totally separate,
15 independent, completely different set of models, if they
16 came out with different answers, you would not know -- I
17 would not know -- whether it was imperfections in the
18 model or a true difference. Marty?

19 DR. STEINDLER: Let me try the answer in a
20 different way. Models address a number of fairly
21 fundamental issues. One of the important issues is rate
22 phenomena because the attempt is made to predict. Another
23 important issue is steady-state phenomena. That is, there
24 is enough time for some aspects of the behavior of the
25 system -- for example, geochemistry -- to reach what some

1 people think is steady-state.

2 Some of these phenomenon are very strongly
3 influencing the final determination of whether or not the
4 Repository will perform according to criteria. Some of
5 them are peripheral to that final determination.

6 Our view is that those models, those descriptors
7 of the real world that are necessary to -- that make an
8 important difference to the final answer of performance,
9 ought to be checked and arrived at from two, or perhaps
10 more, different systems. That's the independence that
11 we're looking for.

12 Whether it is possible to completely divorce an
13 independent model development from what has already been
14 done in the literature -- my personal view is, I doubt it.
15 Technical people should and do, obviously, know what the
16 rest of the world is doing, so as not to rediscover
17 wheels, but there is a big difference in taking somebody
18 else's model, plugging in some numbers that you think are
19 representative and then deciding whether or not your
20 answer is the same as the other chap's, and doing the
21 development of the algorithms on your own.

22 I think what the staff is looking for, and what
23 I think we would certainly agree with, is that the staff
24 needs to be able to say with some confidence that, yes,
25 we've looked at the description of the performance

1 assessment in the year 9,000, for example, and we think
2 it's based on a realistic picture of the world. They have
3 to do that independently, and that's the kind of thinking
4 that we're going through.

5 That's a little fuzzy because we haven't focused
6 --

7 COMMISSIONER ROGERS: Yes, I'm having a little
8 trouble getting a hold of that.

9 DR. STEINDLER: -- because we haven't focused in
10 on explicitly what the performance model really looks
11 like, and they tend to be very large and complicated.

12 COMMISSIONER ROGERS: The question would be, in
13 a sense, whether one -- whether you're talking about
14 looking at all the possible alternative models that might
15 be developed, or whether one is looking at the modeling
16 process via, say, what we do in a nuclear plant, a
17 vertical slice through one system, take everything from
18 start to finish with, say, one model, to see whether the
19 process, the modeling process, and the assumptions
20 involved in the development of the algorithms, and so on
21 and so forth, all seem to be sound, without trying to look
22 at the full range of possible starting point models. I'm
23 just trying to understand what your thinking is on this
24 because it looks to me like it's going to be very tricky
25 to try to not do the whole thing all over again, to

1 maintain a fully independent capability.

2 DR. STEINDLER: Well, let me give you one
3 example of where I might venture, at some risk I'm sure,
4 into the area of saying that it's probably not terribly
5 critical whether the model developed by DOE is
6 independently reviewed and checked against something
7 totally different from the NRC.

8 The behavior of the metallic exterior of the
9 waste form, for example, in the case of glass, is being
10 looked at in an experimental program in lots of different
11 places. The attempt is being made to predict -- to obtain
12 enough data to understand either the mechanism of
13 corrosion or to be able to predict from empirical
14 considerations, what the penetration rates and corrosion
15 rates are.

16 A narrow view of that system is sufficiently
17 easy to envelop so that two people looking at the very
18 same model can come to independently arrived at
19 assessments of whether or not that flies. That kind of
20 assessment, it seems to me, is not necessary to repeat on
21 an independent basis.

22 I have less of a warm feeling that such a thing
23 would not be necessary for somebody asking where do
24 nuclides and how do nuclides travel in geologic systems.
25 There, my personal view would be, gee, somebody really

1 ought to look at this in a fairly separate way.

2 The models that I'm aware of are moderately
3 convoluted and complex and, therefore, become a little
4 opaque. They are hard to see into, and you have to do an
5 awful lot of work to take them apart. That, I think,
6 would be something that the staff ought to be able to do
7 independently.

8 I don't know whether that helps.

9 COMMISSIONER ROGERS: Fine. Well, I think we
10 don't really have time to discuss all the ways it might be
11 done, but I wanted to get a feeling about your thinking on
12 it. Thank you very much.

13 CHAIRMAN ZECH: Commissioner Curtiss?

14 COMMISSIONER CURTISS: I have just two or three
15 more general questions. You touched upon the Nuclear Waste
16 Technical Review Board and, of course, since the ACNW last
17 briefed us in October, that Board is now fully
18 constituted, it's up and running.

19 You touched upon one issue involving the
20 direction of the drifts that the Nuclear Waste Technical
21 Review Board identified and that you found to be of some
22 interest.

23 I wonder if I could ask, more generally, now
24 that that Board has been established, how you see your
25 role vis-a-vis that independent establishment, just

1 generally and, more specifically, where issues come up
2 that the Nuclear Waste Technical Review Board identifies,
3 it looks to me like that one of maybe two, maybe more,
4 possible ways to approach those issues from our
5 standpoint, they could be of interest to the ACNW and we
6 could pursue those and devote the resources of the ACNW to
7 address those same issues that the Review Board is
8 addressing or, alternatively, in the interest of
9 conserving resources here and focusing more specifically
10 on things that might not be under review by the Waste
11 Technical Review Board, they may be issues that the Board
12 could take the lead on.

13 Do you have any thoughts on that relationship,
14 and where issues come up that are similar in both fora,
15 how you would approach those?

16 DR. MOELLER: We, of course, need to gain
17 experience on this. My initial reaction is that if the
18 Technical Review Board is exploring a subject area and if
19 we can maintain close liaison with them, we will, to a
20 large degree, depend upon and benefit by whatever they
21 uncover.

22 I believe it may be too early at the moment, at
23 least for me, to even know how they're going to operate,
24 and what sort of level of investigation they are going to
25 do. This thing about the drifts, the direction and

1 distance, which shows that they are capable of getting
2 into the most -- you know, it's a basic question, but
3 they're capable of getting into very detailed analyses of
4 what's going on.

5 Marty, do you have --

6 DR. STEINDLER: No.

7 DR. MOELLER: But we will maintain liaison, and
8 I hope -- we see them as an added resource. We do not see
9 them as competition. We see them as a lot of help.

10 COMMISSIONER CURTISS: Let me go back to the
11 site study plans. You indicated that after your first
12 pilot review of the groundwater study plan, that you have
13 taken a look at the entire list of 106 and, I take it,
14 tried to come up with a methodology for identifying sort
15 of the key issues, and then from that methodology,
16 identifying the number of site review plans that you--
17 site study plans that you would need to review. Do you
18 have a feel yet, based upon the issues that you've
19 identified, how many that might be?

20 DR. MOELLER: No, sir, and, in fact, I probably
21 was misleading in what I said. There have been several
22 issued to-date, and there's a schedule for two or three a
23 month for the next few months.

24 We're pretty much controlled by what is made
25 available to us, and when, as to what is available even

1 for us to review. I believe that the -- or the NRC staff
2 has, of course, reached a judgment on how many they plan
3 to review. Do you recall, was it 20 or so?

4 DR. STEINDLER: Twenty-something.

5 DR. MOELLER: Twenty, or some number like that.
6 We have not set a number on how many we can review, or
7 should review. And to repeat, we're governed by when they
8 come out and so forth.

9 COMMISSIONER CURTISS: When you use consultants
10 and contractors in that capacity, are you finding any
11 difficulty in coming up with consultants that aren't
12 involved in some other aspect of the program, don't have a
13 conflict?

14 DR. MOELLER: That was a problem, of course, and
15 continues to be a problem, but I believe we have a pretty
16 good team right now. It numbers about a half a dozen that
17 we're using regularly, and they have the time and they all
18 are independent, and we found them very useful. In fact,
19 I was just commenting this morning on the way over, that
20 we're operating somewhat differently from the ACRS, not
21 that that's good or bad, but what we do is, in drafting
22 our reports to you, every consultant has input into our
23 reports.

24 The final decision on exactly what it says is
25 Drs. Smith, Steindler and -- we make the decision, but our

1 consultants are serving as almost members of our
2 committee. They're very helpful to us in the input that
3 they provide.

4 COMMISSIONER CURTISS: Thank you.

5 CHAIRMAN ZECH: Just a comment first, and then
6 the question. The comment would be, you mentioned the
7 USIs and the problem of wiping them off the books and
8 getting them resolved.

9 We recently had, for your information, a
10 briefing by the staff on the unresolved safety issues, and
11 I think the Commission was very encouraged to see the
12 staff has made considerable progress in that regard.

13 As I recall the briefing, their intentions,
14 their goal is to complete the unresolved safety issues by
15 this calendar year, which would show, I think,
16 considerable effort in that regard. I thought you'd be
17 interested in knowing that, although you're not
18 necessarily involved in all the issues of the Advisory
19 Committee on Reactor Safeguards now, I recognize, but I
20 wanted to mention that because we are encouraged by the
21 progress you're making, and on the generic issues also.

22 A question, though. I visited the Yucca
23 Mountain site fairly recently, and it was a very valuable
24 visit for me. I'm aware that the State of Nevada has
25 voiced some concerns about the Yucca Mountain site

1 suitability because of recent geological faulting, active
2 volcanism, and the presence of mineral resources. Those
3 were brought to my attention during my visit.

4 Do you consider that the site characterization
5 plan addresses these issues adequately, or are there
6 ongoing -- is there ongoing work in this area? And do you
7 believe that this agency, the staff, our staff should ask
8 the Department of Energy for additional information on
9 these issues, or do you believe it's being addressed
10 adequately?

11 DR. MOELLER: I would hesitate to say
12 definitively, until we -- because the statutory SCP has
13 only been with us for a few months now, and we have not
14 had an opportunity to delve into each of those subjects.

15 I would say, in response -- and I hope it's a
16 partial answer to your question -- that we have had Nevada
17 in to appear before us. We believe that they have raised
18 a number of legitimate questions. We value their input,
19 and I'm sure the NRC staff values their input, and we
20 certainly are seriously considering every comment they
21 have, as we independently review the matter.

22 Marty, do you --

23 DR. STEINDLER: Yes. I was just going to
24 comment that the seismic -- for example, the seismic
25 discussion in the site characterization plan is fairly

1 extensive. It outlines a -- what appears to be a
2 reasonably close attention to the well-defined problems.

3 We view the issue of how to go about analyzing
4 that for sufficiency, as one that comes on us in two
5 stages, but the first stage is to get a look at the draft
6 response that the staff is making to that analysis. They
7 bring geologic resources to bear, obviously, to do that.
8 And once that's done and we begin to get some input from
9 the State of Nevada and our own sources, we would be able
10 to give you a much more coherent answer to the question.

11 CHAIRMAN ZECH: Well, thank you. I hope you
12 will follow those issues, though, because I think they are
13 very important issues to be resolved, and we would
14 appreciate your following those closely as you continue
15 your work on the Waste Repository.

16 DR. STEINDLER: Let me just add that the State
17 of Nevada, in their presentation, also made these very
18 same points to us. And because -- if for no other reason,
19 because they made those points, those will be points that
20 we will track, to the extent that we can.

21 CHAIRMAN ZECH: Very good. All right. Shall we
22 move to the next topic, Dr. Moeller?

23 DR. MOELLER: Yes, sir. The next topic is the
24 West Valley Demonstration Project, and you'll recall at
25 our meeting with you gentlemen on October the 27th of '88,

1 you explicitly asked that we keep up with West Valley,
2 look into it, and provide a report to you, which we did.

3 During our sixth meeting in January of this
4 year, we met with representatives from DOE and its
5 contractors and the State of New York's Energy Research
6 and Development Authority, and heard a very good review of
7 what's going on at West Valley.

8 And as you know, the procedure being applied
9 there is, they have the tanks of the high-level waste, and
10 they are taking the supernatant -- there is a sludge at
11 the bottom of the tanks, and liquid above -- and they're
12 passing the supernatant through ion exchange media,
13 removing the bulk of the cesium, radioactive cesium, from
14 those wastes, and then they are solidifying the
15 decontaminated supernatant using a cement approach.

16 We were encouraged by the report because they
17 had, I believe, already solidified 15,000, or some number
18 -- as I say that, it sounds so large I'm hesitant to be
19 sure whether it's correct -- but they had a very careful
20 quality control program, and whereas we had constantly
21 heard reports from the nuclear utilities where they had
22 solidified, or thought they had solidified, some low-level
23 waste or ion exchange resins and had all types of problems
24 with it, at West Valley, they had identified only two or
25 three or four -- you know, just a very few number -- of

1 the thousands of drums that had given them any problem
2 and, even there, these were identified as problems not
3 because the barrel had split open or the waste had
4 suddenly liquefied, they were identified more as a problem
5 in terms of looking back on the quality assurance program
6 that was followed in preparing the waste. So, we're very
7 encouraged by that.

8 Well, then they take, of course, the resin in
9 which the cesium has been removed, and then they take the
10 sludge, and the plan there is to make this into a
11 borosilicate glass. And as I recall, they had already
12 formed some 300 or more borosilicate glass canisters, so
13 they're moving ahead with that.

14 What we came out of the meeting with were the
15 two recommendations which we sent to you in a formal
16 report, and these were two areas that we believed needed
17 attention. The first was that the acceptance criteria for
18 the vitrified high-level waste, including the enumeration
19 of testing procedures to indicate conformance with these
20 criteria, need to be identified by DOE.

21 And I might say -- well, let me go ahead with
22 the second one -- that the public health and safety
23 criteria for the facilities and the land area that are
24 being decontaminated and perhaps ultimately released for
25 limited or some degree of public access, that those

1 criteria need to be identified or established.

2 We found, as a follow-up to this meeting, that
3 the staff, and particularly the EDO, on April the 17th,
4 sent to Mr. Fraley, our Executive Director, a very
5 detailed response, and pointed out that the Division of
6 High-Level Waste Management staff's position is that DOE
7 must ensure that the waste forms provided by any of the
8 waste producers, are acceptable for disposal in the
9 Repository.

10 And then he -- that was in response to the first
11 item or concern, and in the second one he pointed out
12 that an EIS will be prepared by New York and DOE, for the
13 cleaned up site, and that within it there would be data,
14 et cetera, on the release of the area back to the public
15 for, again, the degree to which it might be released to
16 the public.

17 Let me comment here, in the way of our sincere
18 appreciation and our compliments to Mr. Stello. Following
19 every meeting -- you know, we issue the action items and
20 so forth -- and following every meeting, we get a very
21 detailed response identifying what the staff is doing as a
22 follow-up to each of any concerns or whatnot that we have
23 identified, and the responses are positive. They are not
24 just that "we're thinking about it and going to get to it
25 in a year or so", they tell us exactly what they're doing,

1 and this has been extremely helpful, and it makes us feel
2 that what we're doing is productive.

3 CHAIRMAN ZECH: Well, we're very pleased to hear
4 that, I know.

5 DR. MOELLER: Marty, do you have any comments on
6 West Valley?

7 DR. STEINDLER: No, I don't think so.

8 COMMISSIONER ROGERS: When did you visit West
9 Valley?

10 DR. MOELLER: We have not visited. We plan --

11 COMMISSIONER ROGERS: Oh, you didn't.

12 DR. MOELLER: -- we're trying, we now say, this
13 fall. We certainly don't want to do it in the winter.

14 (Laughter.)

15 CHAIRMAN ZECH: Are there other questions?
16 Commissioner Roberts?

17 COMMISSIONER ROBERTS: No.

18 CHAIRMAN ZECH: Commissioner Rogers?

19 COMMISSIONER ROGERS: No.

20 CHAIRMAN ZECH: Commissioner Curtiss?

21 COMMISSIONER CURTISS: No.

22 CHAIRMAN ZECH: I have none. I'll be interested
23 -- I think the Commission will be particularly interested,
24 after your visit, to make sure you have the same views,
25 but we're pleased to hear that you think things are going

1 very well right now.

2 Shall we move to the next subject then?

3 DR. MOELLER: Dr. Steindler will talk about
4 greater-than-Class-C waste.

5 CHAIRMAN ZECH: All right.

6 DR. STEINDLER: This can be fairly brief. We've
7 looked at at least a portion of the greater-than-Class-C
8 issue. You can divide that greater-than-Class-C low-level
9 waste matter into, really, two parts. One of them is an
10 issue on rulemaking which is aimed at defining how this
11 waste is to be disposed of, and the other one is the
12 process of managing, right now, the unwanted source
13 material and the sundry other components that are
14 classified as greater-than-Class-C low-level waste.

15 You remember that the rulemaking issues really
16 started out around the topic of redefinition of high-level
17 waste, and the Commission elected to, instead of doing
18 that, address the disposal of greater-than-Class-C low-
19 level waste, and proposed to identify that that material
20 should be handled at least in a geologic disposal area, as
21 one option for handling it in that direction.

22 At the seventh meeting in February, of the
23 Advisory Committee, we looked at the proposed amendment to
24 10 CFR 61 that addressed this issue, and we wrote to you,
25 Mr. Chairman, our agreement with the general proposed

1 rule, and added two items. One, we added an item that we
2 suggested an explicit statement, wherever possible, that
3 the Department of Energy has a range of options, that they
4 understood that they have a range of options, rather than
5 giving them the impression that they have to dispose of
6 this material in a repository.

7 And with that, we also recommended that the
8 staff should begin to specify waste package performance
9 criteria and requirements for this greater-than-Class-C
10 waste, so that DOE could then reflect on what kind of an
11 appropriate way they would care to propose to the
12 Commission for the disposal of this material.

13 The staff response to our suggestion has been
14 excellent. They have revised the text and made emphasis
15 wherever possible. I think that issue is fairly clear and
16 has been resolved.

17 In addition, in the statement of consideration
18 that's proposed for the Federal Register, there was added
19 a comment that the staff is going to initiate an effort to
20 specify in much more detail, the waste form and packaging
21 performance criteria for this type of material, specific
22 for various kinds of greater-than-Class-C low-level waste.

23 We are aware of some of the concerns that DOE
24 has expressed, and we've read the documents that reported
25 this, about this particular rule, including some

1 reservations about projected waste volumes and the
2 uncertainty in those numbers, but we have not addressed
3 the issue any further than just reviewing the proposed
4 rule.

5 On the other hand, we understand that a more
6 pressing issue has been brought to your attention, and
7 that's concerning the process of disposing of the
8 increasing number of no longer needed sources.

9 Here, all we have done is maintain some kind of
10 cognizance of what the problem is, and we believe this to
11 be a -- what we would call a "non-technical" issue. This
12 is the issue that was involved in the derivation of a
13 process whereby the Department of Energy exercises the
14 responsibility that it has been given.

15 We think that the processes under study right
16 now, and the planning that's been done, should be
17 perfectly adequate to resolve this. We don't see any
18 particular advantage to the Commission, for us to address
19 this issue in one of our meetings and, unless you direct
20 otherwise, we probably will watch to see what's going on,
21 rather than get specifically involved.

22 So, in summary then, this greater-than-Class-C
23 low-level waste issue has been looked at from the
24 standpoint of the rulemaking. We've made some comments.
25 The staff has responded perfectly adequately to the

1 concerns we have.

2 We do look forward, however, in the not too
3 distant future, in receiving an indication from the staff
4 on what kind of a schedule they plan to follow in the
5 development of a waste -- essentially, the waste
6 acceptance criteria for greater-than-Class-C low-level
7 waste, and we do -- because we think it's important, we do
8 intend to track that process and interact with the staff,
9 to the extent that we can, as they develop these criteria.

10 And, as I say, we think that the safe storage
11 process between Department of Energy and the various
12 licensees should be resolvable by a perfectly sensible
13 process, and we see no reason to pursue it.

14 CHAIRMAN ZECH: All right. Thank you very much.

15 Any questions from my fellow Commissioners?
16 Commissioner Roberts?

17 COMMISSIONER ROBERTS: No.

18 CHAIRMAN ZECH: Commissioner Rogers?

19 COMMISSIONER ROGERS: Well, just on the changes
20 to the Federal Register notice that staff has made, and in
21 the letter that was sent to you, of February 24th, by Mr.
22 Stello, on final rulemaking on disposal of greater-than-
23 Class-C low-level radioactive waste, I just noted in
24 looking at that, that the -- in the background statement,
25 there is a final sentence -- I believe it's final,

1 although -- it's final on this page; whether it's final of
2 a paragraph -- the technical criteria to implement the
3 performance objectives and environmental standards would
4 be developed by the Commission, after DOE had selected a
5 specific disposal technology and decided to pursue
6 development of an intermediate facility, and whether you
7 think that there is sufficient guidance to DOE? That
8 leaves me to wonder whether we're waiting to say something
9 about what we expect, after they've already decided to do
10 something, and I'm just a little concerned about whether
11 there is sufficient guidance there, as to what
12 requirements NRC might leave on an intermediate disposal
13 facility, and whether you've looked at that question,
14 whether you think there is sufficient guidance.

15 DR. STEINDLER: Yes, we very briefly looked at
16 it. One of the reasons for my comment about the fact that
17 we're looking forward to a schedule from the staff is,
18 essentially, precisely because of that concern.

19 It is difficult to envision how planning for a
20 significant option can be made, without some kind of
21 guidance. There exists guidance currently, in 10 CFR 60.
22 It is not directly applicable to the kind of waste we're
23 talking about.

24 If the schedule of the staff for beginning this
25 process is sufficiently rapid, I think the problem will

1 resolve itself, but you're precisely correct.

2 COMMISSIONER ROGERS: I would ask you to just
3 try to follow that question, whether there is adequate
4 guidance, so that there isn't a holdup because people
5 can't move without somebody else having decided something
6 that won't be decided until the people move, you know.

7 DR. STEINDLER: Until somebody moves, right.
8 Exactly.

9 COMMISSIONER ROGERS: It's a circular problem.

10 DR. STEINDLER: Right.

11 COMMISSIONER ROGERS: Thank you.

12 CHAIRMAN ZECH: Commissioner Curtiss?

13 COMMISSIONER CURTISS: Just to pick up on that
14 same point and make sure I understand what you mean by the
15 development of waste acceptance criteria. When you say
16 that, do you mean not only the criteria for accepting the
17 waste in the form that it's accepted in, but criteria that
18 would go to the facility at which it is to be stored or
19 disposed?

20 DR. STEINDLER: Yes. We, as we appropriately
21 pointed out, should not assume that the Department would
22 be interested in immediately moving that waste to the
23 Repository, once it became available.

24 There are undoubtedly suitable options,
25 depending on the waste that's involved, that do not

1 involve the Repository. At this point, guidance on what
2 the criteria would be for the facility and its
3 performance, with whatever the waste form that you happen
4 to be interested in, are not very clear. It's that kind
5 of guidance now.

6 COMMISSIONER CURTISS: I gather one of the
7 problems in this area has been that there's been
8 considerable uncertainty over just how much greater-than-
9 Class-C waste is out there, and what the source will be,
10 particularly in the decommissioning area where a lot of
11 this greater-than-Class-C waste may be generated.

12 What's your view on the feasibility of
13 developing acceptance criteria at this stage, given the
14 uncertainty over the volumes and sources of the waste to
15 be generated?

16 DR. STEINDLER: My estimate would be that one
17 ought to be able to classify the greater-than-Class-C
18 waste composite inventory, into a number of classes, the
19 nuclides of which represent identifiable risks and, as a
20 consequence, if those classes of waste could be arrayed in
21 an appropriate way, you should be able to identify, even
22 without having a really close idea of how much material is
23 involved, what kind of protection one needs for a
24 particular, say, a neutron source.

25 You may not care whether you have one or a

1 hundred, but you do have some measure of what any
2 particular source -- encapsulation, for example, of the
3 waste package -- should look like.

4 COMMISSIONER CURTISS: It looked to me like that
5 is a difficulty with that kind of approach. Arraying the
6 risk of the various types of greater-than-Class-C waste
7 from high to low was essentially what the staff was
8 trying to do in its original rulemaking to define high-
9 level waste and, after six or eight years of working on
10 that, this proposal that we have now may reflect a view
11 about visibility as a technical matter of parsing at that
12 finally, and saying -- and classifying the waste in a way
13 where you would say "this is high-level waste and, by
14 definition, would have to go into a repository, and there
15 are intermediate and lower categories of waste that can go
16 elsewhere".

17 Is it your sense that the technical ranking of
18 the types of waste is something that could be pursued in a
19 manner along the lines of what was originally proposed in
20 the high-level waste definition rulemaking?

21 DR. STEINDLER: I'm not sure about how it was
22 originally proposed, but it's certainly my sense that I
23 haven't seen anything that prevents me, a priori, from
24 believing that that kind of risk analysis can be made,
25 depending on the knowledge of what's in the waste, no.

1 COMMISSIONER CURTISS: Have you had a chance to
2 take a look at DOE's views on this subject because I
3 gather they're talking about going back to the original
4 approach and trying to define what is and isn't high-
5 level waste, rather than simply saying in the absence of
6 another facility to dispose of the waste, it will all go
7 into the Repository.

8 DR. STEINDLER: I'm aware of the DOE position
9 only in its broad outlines. We've not had -- the
10 Committee has not addressed the issue by asking DOE to
11 come in and tell us about it, but we certainly can.

12 CHAIRMAN ZECH: I think your suggestions to the
13 staff regarding the range of options was certainly a
14 sensible one, and the staff incorporated, as you have told
15 us here this morning.

16 Do you have anything specific in mind as
17 regarding options, other than the geologic repository, for
18 acceptable storage of, or disposal of, greater-than-Class-
19 C waste?

20 DR. STEINDLER: No, not specific, and we've not
21 addressed that issue at all. It comes under the umbrella
22 heading of "greater confinement" in the common parlance,
23 and greater confinement can be almost anything you would
24 care to have between a repository --

25 CHAIRMAN ZECH: Do you know if anybody has

1 really seriously addressed what might be greater
2 confinement?

3 DR. STEINDLER: Oh, yes.

4 CHAIRMAN ZECH: Yes. There's a fair amount of
5 --

6 DR. STEINDLER: The Department, as far as I
7 know, has issued a number --

8 CHAIRMAN ZECH: A fair amount of effort has been
9 -- gone on in that regard.

10 DR. STEINDLER: Yes.

11 CHAIRMAN ZECH: I think the only thing that the
12 Commission, when we've discussed this in past meetings,
13 it's simply been our view that we need to come up with a
14 repository for greater-than-Class-C waste, but we've been
15 told that the amount of it is rather small, and it does
16 vary in its radiation levels, and it would seem that
17 storing it in the repository would certainly be a very
18 acceptable way to store it.

19 I think we'd be very amenable to keeping an open
20 mind about other options, but I do believe that the other
21 options should perhaps be weighed against the advantages
22 and disadvantage of storing it in the repository.

23 So, whereas I certainly agree with your
24 suggestion to keep an open mind to the range of options--
25 and I think it's appropriate that you've included that--

1 I do feel that the repository would certainly be an
2 acceptable, but I think we should look at the advantages
3 and disadvantages of the various options, before we make
4 any final decision.

5 We were briefed last month by the staff, on the
6 storage of surplus seal sources by the Department of
7 Energy, and have you had an opportunity to review that
8 proposal at all, yet?

9 DR. STEINDLER: Well, we're aware of the fact
10 that you've been briefed, but the proposal to store seal
11 sources that we've looked at -- I mean, the paper that
12 we've looked at was not so specific as to identify a
13 particular facility or, for that matter, a particular
14 source term.

15 CHAIRMAN ZECH: Well, I think your views on
16 that, when you get a chance, would be very useful to the
17 Commission.

18 Are there any other comments from my fellow
19 Commissioners? Commissioner Rogers?

20 COMMISSIONER ROGERS: Yes. I just wondered if
21 -- you just touched -- mentioned the words, but you didn't
22 say very much about mixed waste, and I don't want to open
23 up a whole new round of discussion, but I wonder if you've
24 been following the EPA-NRC progress there.

25 We understand that from, I think, your last

1 meeting with us or the meeting in October, that you
2 reported that NUMARC was preparing a report to be due in
3 January. Has that report come out, and have you had a
4 chance to look at it? Any thoughts on it, comments on it?

5 DR. MOELLER: I don't believe we've seen it.
6 Now, we are -- mixed waste is on the agenda for this
7 meeting. Several of us, informally, have been -- well,
8 we've been considering the matter for some months, and
9 several of us, informally, have asked whether, again, our
10 committee might serve a very useful purpose, by bringing
11 into one room industry and the staff, et cetera, DOE, and
12 just seeing if we couldn't get a -- you know, begin to
13 resolve the issue, begin to reach a consensus on it.

14 There are, of course, political -- a political
15 side to it, as you well know, in the dual jurisdiction or
16 responsibility, and most of the industry groups say "we
17 wish that NRC could handle it alone". I suppose there's
18 not a whole lot we could do there, but we certainly plan
19 -- we're going to discuss it at this meeting. We
20 certainly have it on the agenda for future meetings.

21 And while we're talking about West Valley, as
22 you had raised, Commissioner Rogers, there may be mixed
23 waste generated there.

24 And back on the greater-than-Class-C, of course,
25 we looked at it a year or so ago, and we were told the

1 same as Chairman Zech just said, that the volumes were
2 extremely small and, you know, it would only take up a
3 little, tiny corner of the repository, and just go ahead
4 with it, and that seemed like a reasonable option and,
5 yet, what DOE simply is asking is, don't require the
6 repository, let us have the other options.

7 And as we dig into it, we're finding -- as these
8 seal sources now have been brought up, we're finding
9 additional greater-than-Class-C waste. One thing we
10 really need to once, again, do is an inventory or a
11 projection of how much of this there's going to be.

12 Another comment on it is, when we were looking
13 at Yucca Mountain -- of course, the first repository is
14 limited by the Congress, to so-many -- 70,000, you know,
15 whatever metric tons of waste. Well, we're told that it's
16 quite possible that Yucca Mountain's capacity will not be
17 that large.

18 Well, if this is, indeed, the case, then it may
19 be more of a push to put greater-than-Class-C waste
20 elsewhere, or find greater confinement. And, of course,
21 we have reviewed the greater confinement strategies
22 because, as you know, many states have vetoed shallow, or
23 what we'd call shallow-land burial, and say, we want
24 greater confinement in concrete bunkers, et cetera.

25 So, there are -- there's any degree or any level

1 of confinement that you want. It can be provided and if,
2 indeed, it's a whole lot cheaper than a repository and if
3 it protects the public health and safety, then it should
4 be considered.

5 COMMISSIONER CURTISS: Let me jump back to mixed
6 waste, as long as the topic came up. One of the -- I
7 guess, one of the troubling things over the years, as I've
8 looked at that issue, is that it's unclear to me what we
9 get, in addition to the requirements that we impose under
10 our regulations, with the imposition of the subtitle (c)
11 requirements of RCRA for mixed waste, particularly where
12 the predominant hazard may be radioactive.

13 To put it differently, don't we essentially
14 achieve the objective, from a health and safety
15 standpoint, that RCRA would achieve by laying on the
16 requirements that we've laid on for low-level waste
17 facilities?

18 I guess I'd be very interested, as you look at
19 the question of how much progress we're making generally,
20 if you could focus from a technical standpoint on whether
21 you see the requirements that we have in place essentially
22 providing the kind of protection that we would get with
23 the addition of the RCRA requirements or, alternatively,
24 do we get an additional level of protection from the RCRA
25 requirements that would warrant going through the turmoil

1 that I think many of the states in the low-level waste
2 area are going through, that DOE's going through now on
3 the WIPP facility, and that we may go through in other
4 contexts, if we don't resolve it.

5 Thank you.

6 DR. STEINDLER: On a purely qualitative basis,
7 the advantage that we have in the radioactive business is
8 that our problem goes away, by decay, whose rates we can
9 identify fairly.

10 The final degradability of some of the material
11 that's come under the heading of mixed waste is not only
12 uncertain, but the rates are difficult to predict, and
13 it's in that sense that the protection that we afford
14 being time-dependent may be different, but to assess that
15 in a particular way is the question that you're asking,
16 and I think one could certainly address that by looking at
17 what's known on the disappearance of the hazard from the
18 chemical portion of the mixed waste.

19 COMMISSIONER CURTISS: Well, I'd be interested
20 in what you have to say on that. Thank you.

21 CHAIRMAN ZECH: Any other comments?

22 (No response.)

23 Well, let me, on behalf of the Commission, thank
24 you very much for a timely and informative briefing this
25 morning. The safe disposal of nuclear waste is a

1 significant public issue that requires the best efforts of
2 all of us involved, and as advisors to the Commission,
3 your role is a very important one.

4 I believe I speak on behalf of all of my
5 colleagues when I can say that we're very pleased with the
6 committee's efforts to-date, to keep up-to-date and to
7 keep abreast of the significant waste management issues.

8 I note that you are working very closely with
9 the NRC staff, and you're providing periodic
10 recommendations to the Commission prior to the Commission
11 making decisions, and that's very important. And I'd like
12 to also comment on what I sense anyway, I believe, and my
13 colleagues would join with me, as a positive and
14 constructive, helpful approach to your assignment as the
15 Advisory Committee on Nuclear Waste.

16 I think that attitude is very helpful to the
17 Commission, and I want to emphasize that. We appreciate
18 it very much. You have a very large task to perform for
19 us. Your advise is extremely important to us, and we
20 appreciate very much the way you're going about your
21 business.

22 I think it's important that we continue to meet
23 periodically with the committee in order to keep informed
24 about the thoughts you have, the recommendations you have,
25 the comments you have, so that we can, in time, make the

1 best decisions possible.

2 We thank you very much for your information this
3 morning and, again, for the constructive approach you're
4 taking to your duties on the Advisory Committee for
5 Nuclear Waste. We appreciate it very much.

6 Are there any other comments? Yes?

7 COMMISSIONER ROGERS: Just that I want to say
8 that I thought this was a very, very helpful briefing, and
9 that we covered an enormous amount of ground in a very
10 short time with great clarity, and I appreciate it very
11 much. I think that the committee is doing a superb job.

12 DR. MOELLER: Well, thank you, sir, the feeling
13 is mutual. We admire what you're doing.

14 CHAIRMAN ZECH: All right. Thank you very much.
15 Other comments?

16 (No response.)

17 Thank you, again. We stand adjourned.

18 (Whereupon, at 11:08 a.m., the meeting was
19 adjourned.)

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CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting
of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: PERIODIC BRIEFING BY ADVISORY COMMITTEE
ON NUCLEAR WASTE (ACNW)

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: APRIL 27, 1989

were transcribed by me. I further certify that said transcription
is accurate and complete, to the best of my ability, and that the
transcript is a true and accurate record of the foregoing events.



Reporter's name: Phyllis Young

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

January 26, 1989

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: WEST VALLEY DEMONSTRATION PROJECT

During its sixth meeting, January 23-24, 1989, the Advisory Committee on Nuclear Waste (ACNW) met with representatives of the U.S. Department of Energy (DOE), its contractors, and the New York State Energy Research and Development Authority for a review of the West Valley Demonstration Project. We discussed, among other concerns, the procedures that have been developed and are being applied in solidifying decontaminated supernatant low-level wastes and testing the melter for vitrification of the high-level wastes.

As a result of this review, the Committee concludes that the program is appropriately focused and that the results are favorable. Although there appears to be good communication between the DOE contractors and staff and the Nuclear Regulatory Commission (NRC) staff, there may be a need for additional input from the NRC staff in two areas:

1. Acceptance criteria for the vitrified high-level waste, including the enumeration of testing procedures to indicate conformance with these criteria, need to be identified by DOE for the waste producers, and these criteria, in turn, need to be reviewed by the NRC to determine if they are acceptable; and
2. Public health and safety criteria for the facilities and land areas being decontaminated and decommissioned as part of this project need to be established.

We plan to schedule a visit to the West Valley site within the next six months.

We trust these comments are responsive to your request.

Sincerely,

Dade W. Moeller
Dade W. Moeller
Chairman

January 26, 1989

References:

1. U. S. Department of Energy Report, DOE/NE/44139--15, "West Valley Demonstration Project Plan," January 1989
2. Letter dated August 3, 1988 from R. D. Hurt, U. S. Nuclear Regulatory Commission, to W. W. Bixby, U. S. Department of Energy, regarding comments on the revised West Valley Demonstration Project Plan



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

February 24, 1989

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: FINAL RULEMAKING ON 10 CFR PART 61 RELATIVE TO DISPOSAL OF
GREATER-THAN-CLASS-C LOW-LEVEL RADIOACTIVE WASTES

During its seventh meeting, February 21-23, 1989, the Advisory Committee on Nuclear Waste (ACNW) met with members of the Office of Nuclear Regulatory Research to discuss the proposed amendment to 10 CFR Part 61 relative to final rulemaking for disposal of greater-than-Class-C low-level radioactive wastes. A representative from the U.S. Department of Energy (DOE) participated in this meeting.

The NRC staff discussed the proposed rule (referenced), public comments on the rule, and the draft final rule. On the basis of these discussions, we recommend that the NRC staff:

- (1) Explicitly state that DOE can exercise a range of options in selecting methods for disposing of such wastes in NRC-licensed facilities; and
- (2) Specify the performance requirements for the waste package in order to assist DOE in selecting an appropriate option.

Subject to these qualifications, we agree with the rule as proposed.

Sincerely,

A handwritten signature in cursive script that reads "Dade W. Moeller".

Dade W. Moeller
Chairman

Reference:

Nuclear Regulatory Commission, Proposed Rule, 10 CFR Part 61, "Disposal of Radioactive Wastes," published in the Federal Register, Vol. 53, No. 96, Wednesday, May 18, 1988



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

January 25, 1989

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: ACTIVITIES OF ACNW CONCERNING HIGH-LEVEL WASTE MANAGEMENT

During its sixth meeting, January 23-24, 1989, the Advisory Committee on Nuclear Waste (ACNW) met with members of the NRC staff to review the activities of the Division of High-Level Waste Management (DHLWM). Emphasized in the discussions was the work of the Division with respect to the proposed High-Level Waste (HLW) Repository at Yucca Mountain and the role of the ACNW in this effort.

We found the discussions beneficial, and the NRC staff was fully responsive to our questions. We concluded that DHLWM has good leadership and their work is progressing well. We were particularly impressed by the efforts of the division director to keep the size of his staff modest and to monitor rather than duplicate the work of the U.S. Department of Energy (DOE).

In terms of the work of this Committee concerning the NRC staff's ongoing review of the Site Characterization Plan (SCP) and their preparation of the Site Characterization Analysis for the HLW repository, we have concluded that our resources would best be directed to the activities noted below and intend to proceed in this direction:

1. An evaluation of the several "Review Plans" completed or being developed by the NRC staff to be used as guidance for its reviews, e.g., the Review Plans for the SCP and for Performance Assessment,
2. An evaluation of DOE's responses to the five "Objections" cited by the NRC staff concerning the Consultation Draft SCP; any additional areas of disagreement resulting from DOE's responses to the "Point Papers," which were prepared by the NRC staff; any substantive concerns raised by the state of Nevada; and any additional areas noted by the ACNW as being of special interest.

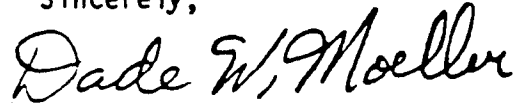
We also plan to review selected HLW rules, key NRC Technical Positions, and Regulatory Guides which are being developed within the NRC, as well as related plans and reports being developed by DOE. In addition, we plan to review relevant research under the direction of NRC, including the programs of the Center for Nuclear Waste Regulatory Analyses.

The Honorable Lando W. Zech, Jr. - 2 -

January 25, 1989

If there are additional areas important to the Commission on which you desire our input, we will be pleased to respond.

Sincerely,

A handwritten signature in cursive script that reads "Dade W. Moeller". The signature is written in dark ink and is positioned above the printed name and title.

Dade W. Moeller
Chairman