

BLUE RIBBON COMMISSION ON AMERICA'S
NUCLEAR FUTURE

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MEETING

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FRIDAY,
DECEMBER 2, 2011

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The Commission convened, at
9:30 a.m., in Salons F and G at the J.W.
Marriott Hotel, 1331 Pennsylvania Avenue,
N.W., Washington, D.C., Brent Scowcroft and
Lee Hamilton, Co-Chairs, presiding.

MEMBERS PRESENT:

LEE HAMILTON, Chair
BRENT SCOWCROFT, Chair
MARK H. AYERS
VICKY A. BAILEY
ALBERT CARNESALE

PETE V. DOMENICI
SUSAN EISENHOWER
CHUCK HAGEL
JONATHAN LASH
ALLISON MACFARLANE
RICHARD A. MESERVE
ERNIE MONIZ

PER PETERSON
PHIL SHARP

ALSO PRESENT:

TIM FRAZIER, Designated Federal Official

PUBLIC COMMENTERS:

GARY HOLLIS

BOB HALSTEAD

DAN BROWN

KARA COLTON

LINDA LEWISTON

ARJUN MAKHIJANI

RON JOHNSON

JUDY TREICHEL

ALEX PAVLAK

NORMAN MEADOW

KAREN MEADOW

EARL POTTER

KEVIN KAMPS

MICHAEL GLAAB

KATHERINE FUCHS

DOMINIQUE FRENCH

GEOFF FETTUS

C-O-N-T-E-N-T-S

Call to Order and Opening Remarks	7
Tim Frazier	
Designated Federal Official	
Opening Remarks	8
Lee Hamilton	
Co-Chair	
Comments from Commissioners	11
Per Peterson	11
Al Carnesale	14
Pete Domenici	15
Review of Public Comments and Proposed Resolution - Transportation and Storage Subcommittee	18
Dick Meserve	18
Subcommittee Co-Chairman	
Questions and Comments	45
Review of Public Comments and Proposed Resolution - Reactor and Fuel Cycle Subcommittee	64
Pete Domenici	64
Subcommittee Co-Chairman	
Per Peterson	66
Subcommittee Co-Chairman	
Questions and Comments	77

C-O-N-T-E-N-T-S (CONTINUED)

Review of Public Comments and Proposed Resolution - Disposal Subcommittee	86
Chuck Hagel Subcommittee Co-Chair	86
Jonathan Lash Subcommittee Co-Chair	88
Questions and Comments	101
Presentation of Recommendation of the Ad Hoc Subcommittee of Commingling of Wastes	110
Allison Macfarlane Subcommittee Chair	110
Questions and Comments	119
Public Comment	123
Gary Hollis Chairman Nye County Board of Commissioners	124
Bob Halstead Executive Director State of Nevada	127
Agency for Nuclear Projects	
Danny Brown Securad, Incorporated of Canada	132
Kara Colton Director	134
Nuclear Energy Program Energy Communities Alliance	

C-O-N-T-E-N-T-S (CONTINUED)

Public Comment (Continued)	
Linda Lewiston	140
Nuclear Energy Information Service of Illinois	
Arjun Makhijani	144
Ron Johnson	149
Assistant Secretary/Treasurer Prairie Island Indian Community State of Minnesota	
Judy Treichel	153
Nevada Nuclear Waste Task Force	
Alex Pavlak	156
An Unaffiliated Engineer	
Norman Meadow	161
Maryland Conservation Council	
Karen Meadow	165
Maryland Conservation Council	
Earl Potter	169
Former Senior Counsel and Senior Advisor to the WIPP Project	
Kevin Kamps	171
Beyond Nuclear	
Michael Glaab	176
Katherine Fuchs	181
Alliance for Nuclear Accountability	
Dominique French	186
Nuclear Information and Resource Service Also representing Diane D'Arrigo	

C-O-N-T-E-N-T-S (CONTINUED)

Public Comment (Continued)

Geoffrey Fettus

189

Senior Attorney

National Resources Defense Council

1
2
3
4
5
6
7
8
9
10
11
12
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14
15
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P-R-O-C-E-E-D-I-N-G-S

9:31 a.m.

MR. FRAZIER: Okay, if I could have everyone's attention, we are going to get started.

Commissioners, please return to your seat. The rest of you sit down.

I want to thank you all for coming today for this full Commission open meeting. We have most of the Commissioners here. Jonathan Lash is delayed, but he will be here as his flight gets in.

Today is an important day for us. We are going to hear from the Subcommittees as they review the comments and make perhaps suggestions on the Subcommittee reports, which will then roll into the final report.

So, with that -- by the way, my name is Tim Frazier. I am Designated Federal Officer.

If you are ready, Congressman Hamilton?

1 CHAIR HAMILTON: Good morning to
2 all of you, and thank you very much for coming
3 to our December 2nd meeting.

4 The purpose of this meeting of the
5 Blue Ribbon Commission on America's Nuclear
6 Future is twofold. First, we will begin with
7 a discussion of the recurring comments
8 received on the Draft Report and of proposed
9 responses from the relevant Subcommittees.

10 Second, this afternoon we will
11 receive the recommendation of the Ad Hoc
12 Committee that we established to look into the
13 issue of commingling of defense and commercial
14 wastes.

15 The presentation materials used
16 today will be posted on the Commission website
17 at www.brc.gov.

18 As always, we will end our meeting
19 by hearing from any member of the audience who
20 wishes to speak. A sign-up sheet for the
21 public comment period is available now. It
22 will close at 1:30 p.m. We have allowed more

1 than an hour for public comment and we look
2 forward to hearing what people have to say.

3 Speakers will be limited to no
4 more than five minutes, but, of course, the
5 amount of time allotted to each speaker will
6 depend on the number of people who wish to
7 speak.

8 Before we hear from our
9 Subcommittee Co-Chairs, I will take a moment
10 to thank the many thousands really of
11 individuals and organizations who provided
12 comment on the Commission's Draft Report over
13 the last several weeks. We received many very
14 helpful and very thoughtful comments, and we
15 appreciate the many hours that people have
16 dedicated to reviewing our work.

17 Of course, we cannot review every
18 one of those comments today, but we will use
19 this opportunity to respond to many of the
20 major themes that emerge from our review of
21 the body of public comment.

22 We should note that two of the

1 most commonly-heard messages in the public
2 comments fall outside the scope of the
3 Commission's review. The first is the view
4 expressed by many that the Commission should
5 take its recommendation about the need for
6 expeditiously developing a geologic repository
7 one step further and recommend that Yucca
8 Mountain be that repository.

9 But in keeping with the direction
10 we have received from the Secretary of Energy,
11 we have not rendered an opinion on the
12 suitability of the Yucca Mountain site or the
13 appropriateness of the request to withdraw the
14 license application for Yucca Mountain.

15 The second is the call for the
16 Commission to urge the shutdown of the
17 nation's nuclear power plants until a solution
18 to the waste issue at hand. As we have said
19 in past meetings, the Commission was not asked
20 to make recommendations regarding the future
21 use of nuclear power in the United States. We
22 will, therefore, not offer any judgment about

1 the appropriate role of nuclear power in the
2 nation's future energy supply mix.

3 As directed by the Secretary, we
4 have offered draft recommendations related to
5 DOE's ongoing nuclear energy R&D agenda, but
6 those recommendations do not call for or
7 presume a particular level of nuclear energy
8 generation in the United States.

9 We presently have more than 65,000
10 metric tons of spent fuel in storage across
11 the nation, and our Commission is committed to
12 developing a disposal strategy for that fuel
13 and other high-level wastes regardless of the
14 future trajectory of nuclear power in the
15 United States.

16 With that, by way of introduction,
17 I will open the floor to the Commissioners for
18 any statement or comment they wish to make
19 before we hear from the Subcommittee
20 Co-Chairs, if there are any such comments.

21 Yes, Per?

22 MEMBER PETERSON: Congressman

1 Hamilton, I would like to echo your statement
2 about appreciation for the input that we have
3 received from many different sources and
4 comments on our draft reports.

5 We did hold a series of meetings
6 in different parts of the country, in
7 particular, hearing from representatives from
8 state and local governments. I had the
9 opportunity to attend two of those meetings,
10 the ones in Atlanta and Denver. And then,
11 because we have the tremendous technology
12 today for broadcasting meetings, was able to
13 listen in on the others by phone.

14 And I just want to also express my
15 appreciation. An enormous amount of effort
16 went into those meetings by people bringing
17 additional insights and information to us.
18 And it was very helpful to me to be able to
19 attend and to listen to those meetings and, in
20 particular, to hear the perspectives from
21 state and local representatives about how to
22 manage the problems that we are faced with.

1 So, I think that the other people
2 that I would like to compliment at this point
3 is the staff of the Commission who put an
4 enormous amount of effort into reviewing these
5 comments and making sure that we were able to
6 see them as well and integrating them into a
7 set of themes that I think we will try to
8 present today.

9 But I just want to assure
10 everybody that this effort that has been
11 placed is very much appreciated by me and that
12 I think it is important and it has allowed us
13 to make some important additional changes in
14 our recommendations that will go into the
15 final report.

16 Thank you.

17 CHAIR HAMILTON: Thank you, Per,
18 for your comments. They're right on the mark,
19 of course.

20 These comments we received have
21 been gone over in very, very great detail by
22 staff and by some of the Commissioners. Most

1 of us I think have had a blizzard of emails on
2 them over a period of weeks. We very much
3 appreciate the effort that was made.

4 You're right, too, of course, to
5 compliment the staff. They have done a
6 wonderful job in going through all of that and
7 distilling it for us.

8 Al, did you have a comment?

9 MEMBER CARNESALE: I just wanted
10 to add briefly the comment you made about
11 Yucca Mountain, so that it is clear to all.
12 It is not only that we did not consider the
13 suitability of Yucca Mountain, we did not
14 consider the suitability of any sites.

15 CHAIR HAMILTON: That's true, yes.

16 MEMBER CARNESALE: We were
17 specifically charged not to be a site-
18 selection committee.

19 CHAIR HAMILTON: Yes.

20 MEMBER CARNESALE: And that
21 applies to any other potential site as well as
22 to Yucca Mountain. I think that is a useful

1 clarification.

2 CHAIR HAMILTON: It is, indeed.

3 Thank you very much.

4 Any further comments, General,
5 before we turn to the Subcommittee
6 recommendations?

7 I'm sorry, yes, Senator, Pete.

8 MEMBER DOMENICI: I want to state
9 for the entire Commission and the Co-Chairs,
10 I personally think the most important part of
11 the report, and the part that we have to be
12 most concerned about, is the role of the local
13 government and the state government and the
14 United States as they attempt to follow the
15 proposal we have before us.

16 That proposal says this is a
17 consensual arrangement. As I read it, we
18 start with the locality wanting it or we
19 aren't rolling the dice.

20 CHAIR HAMILTON: Yes.

21 MEMBER DOMENICI: But they start
22 it, but it is very important that we all

1 understand before we are finished just what
2 the relationship is thereafter.

3 CHAIR HAMILTON: Yes.

4 MEMBER DOMENICI: They state they
5 want it, and then how much authority does the
6 state have over them and it, and what is the
7 role of the federal government with them?
8 That is the most important thing because
9 everything else can rock along beautifully,
10 but if you get stymied there with a fight that
11 goes to court and then appealed and re-
12 appealed -- we have been part of it. And, of
13 course, we ended up with a wonderful
14 consensual agreement that you have seen in
15 WIPP, but it was preceded by many, many months
16 of absolute argument because nobody knew where
17 the rights and responsibilities were.

18 So, I hope, and I am asking now,
19 that when we get to the work here today that
20 is in this area of the municipality or the
21 local community versus the state versus the
22 federal government, that we pay attention

1 again to it if, for no other reason, than I
2 would like to have it discussed one more time
3 to make sure everybody knows out there what it
4 is.

5 Thank you, Mr. Chairman.

6 CHAIR HAMILTON: That is a very
7 important comment, Pete. And, of course, you
8 have a great deal of experience there, and
9 your State has kind of set the pattern as to
10 how things ought to be done here. We
11 appreciate your leadership.

12 Are there other comments?

13 (No response.)

14 Okay. We will move, then, to the
15 Subcommittee reports of the Co-Chairmen. They
16 will brief the Commission on the major
17 comments that they have received in their
18 areas of the Commission's investigation and
19 the proposes responses.

20 We will ask the Subcommittee
21 Co-Chairmen to speak from their seats, so we
22 can promote discussion.

1 The first one reporting will be
2 the Transportation and Storage Subcommittee.
3 That is Commissioners Meserve and Sharp. My
4 understanding, Dick, is that Phil is not able
5 to join us from Boston. Commissioner Sharp
6 has a serious health problem within his
7 family, not him, but within the family, and is
8 not able to be with us today.

9 So, Dick, the burden falls all on
10 you, and we thank you very much.

11 MEMBER MESERVE: Yes, we had hoped
12 that Phil would be able to join us by
13 telephone, but we have learned this morning
14 that proves to be impossible.

15 As Chairman Hamilton has
16 indicated, I am going to be briefing on the
17 Transportation and Storage Subcommittee. And
18 I've already destroyed the slides.

19 (Laughter.)

20 Could somebody give me a hand?

21 As I think you all know, the
22 Subcommittee report was issued publicly on May

1 31st. We received comments from a wide
2 variety of stakeholders, I mean I think the
3 full spectrum of stakeholders, on that report.

4 Of course, the conclusions that we
5 had drawn were also embodied in the full
6 Committee report that was issued on July 29th.
7 As you have indicated, there were thousands of
8 comments that were received on that, some of
9 which obviously reflect on the work and
10 jurisdiction of the Transportation and Storage
11 Subcommittee.

12 Also, as Per has indicated, there
13 were a variety of public meetings in which
14 substantial additional input was received.

15 I think that I would characterize
16 the overall thrust of the comments, a vast
17 preponderance of the comments were very
18 supportive of the main themes that were in our
19 draft report, although, obviously, we also
20 received some specific comments on individual
21 items that were suggested that we make
22 modifications. And we have reviewed those and

1 have suggested some changes.

2 The way we accomplished that
3 effort was that the Transportation and Storage
4 Committee had a conference call interaction,
5 and then substantial subsequent email
6 interaction, in order to start to move towards
7 a revision of the Draft Report that we had
8 prepared, which is a work that is still in
9 progress, but I think we have substantial
10 consensus within the group that constitutes
11 the Subcommittee as to our reaction to the
12 comments that we received.

13 This slide and the next one sort
14 of define a whole series of the specific items
15 that we had addressed. Rather than have me
16 sort of walk through each of those
17 individually right now, because I am going to
18 come back to them and discuss of them
19 individually, let's just jump to this slide,
20 and I am going to deal with each of the items
21 that were on the second and the third slides.

22 Of course, as our work of the

1 Commission was underway, the terrible events
2 in Japan occurred on March 11th with the
3 earthquake and tsunami and its impacts, in
4 particular, on the Fukushima Daiichi nuclear
5 plants.

6 As you will recall, we did have
7 some comment on that matter in our report as
8 to the need to learn the lessons from
9 Fukushima. We also recommended that the
10 National Academy of Sciences be invited to
11 advise on the full suite of lessons that arose
12 from Fukushima as some of the input on how the
13 U.S. should respond.

14 The premise for that
15 recommendation was, in part, the understanding
16 that we had in the United States that there
17 had been substantial impacts from the tsunami
18 on the spent-fuel pools, and that it was
19 believed that there had been a substantial
20 draindown event and damage to the fuel as a
21 result of that.

22 Now there are going to be huge

1 lessons and important lessons that are learned
2 from Fukushima, and it will take some time
3 until all of those lessons are revealed.

4 There is a lot of work and a lot of mysteries
5 that remain to be revealed. But most of them
6 don't relate to the part of the problem that
7 is the one that is within the scope of this
8 Commission.

9 There are some apparent lessons,
10 obvious lessons, I think that came out from
11 the experience that we did not understand what
12 was going on in the spent-fuel pools. That
13 was as the result of a lack of appropriate
14 instrumentation as to water levels and
15 temperature in the spent-fuel pools. The
16 Japanese, obviously, had very severe problems
17 in introducing makeup water into the spent-
18 fuel pools.

19 But, as we have learned in recent
20 months, they evidently were sufficiently
21 successful with doing that, that there was no
22 substantial damage to the fuel, and apparently

1 the water levels never dropped down below the
2 level of the fuel. So, the latest information
3 is that the impact of the Fukushima event on
4 spent-fuel pools is somewhat less than we
5 anticipated originally.

6 The NRC has evaluated this, and
7 they have, as an early action item, been
8 dealing with the need for increased
9 instrumentation. And before Fukushima, the
10 NRA, for terrorism-related reasons, had
11 substantial requirements to have redundant and
12 diverse ways in which to introduce makeup
13 water into spent-fuel pools. And those may
14 well be strengthened as a result of the
15 Fukushima accident.

16 But it is unclear at this moment
17 whether there is much more to be learned from
18 Fukushima with regard to spent-fuel pools
19 because of the fact that not much happened, as
20 it has been revealed.

21 There are issues that remain. One
22 of them, of course, is the issue of whether

1 fuel should be withdrawn from the pools and
2 put in dry storage. We have more densely-
3 packed fuel in spent-fuel pools in the United
4 States than is typical in Japanese spent-fuel
5 pools, which means there is greater heat load
6 and the possibility of danger arises. So,
7 there is an issue that is there about whether
8 fuel should be removed from the pools and put
9 into dry cask storage earlier than is
10 customarily the case.

11 Of course, the fuel as it comes
12 out of the reactor is very hot and would have
13 to go into a pool for some time anyway, but
14 the issue would be as to the older fuel,
15 whether it should be removed from pools.

16 That is an issue that the NRC has
17 identified that is one that is of further
18 consideration, but it is not clear whether
19 Fukushima is going to provide much input on
20 that issue.

21 We conclude that the NRC's
22 evaluation of the processes appear to be

1 appropriate with regard to this issue, and we
2 should reflect, have the reports be modified
3 to reflect the somewhat changed factual
4 circumstances.

5 We had also, as I mentioned,
6 recommended an Academy report that would be
7 undertaken in this area. I think that that
8 report may well still be appropriate, not so
9 much for this issue, but for the many other
10 issues that arise from Fukushima that it could
11 provide guidance. The timing of that, of
12 course, as we said in our original draft,
13 would depend on sufficient information being
14 available as to the accident progression. And
15 that is something that is still a matter that
16 is being revealed as we work.

17 But, in any event, so these are
18 the sorts of modifications that we suggest
19 making in the report. They don't change the
20 recommendations very much, but they do change
21 the factual story that surrounds Fukushima
22 somewhat from the way we had described it

1 because we have learned a lot more in the
2 months since we issued our Draft Report.

3 We did receive, also, some
4 comments that we should provide greater
5 specificity as to how the storage will be
6 handled, particularly as to what sort of
7 capacity would be necessary for the storage
8 facilities that we had recommended, how long
9 it would be there, and so forth.

10 And we concluded that this was an
11 area in which flexibility remains essential,
12 that a common theme of our report is a need to
13 adapt to circumstances, to take opportunities
14 as they arise and as they are needed, but that
15 to sort of lay down and imagine we can lay
16 down appropriately a complete roadmap as to
17 how exactly things should happen and when they
18 are going to happen and at what volumes is,
19 quite frankly, completely inconsistent with
20 the main theme of our report, which is one of
21 adapting and learning as one proceeds. So, on
22 this issue, we do not suggest that there be a

1 change that is made.

2 We had also made some comments
3 about the fact that there are a variety of
4 different waste management and storage
5 systems, particularly the casks, the size of
6 casks, and so forth, that are in use today,
7 and the diversity may well present some
8 challenges down the road because of possible
9 incompatibility of what people are doing with
10 what we eventually will need for storage or
11 disposal and transportation.

12 And so, there is a definite value
13 in discussion standardization. One of the
14 problems with defining it now is exactly how
15 we should standardize. What route we should
16 take is unclear, and we have emphasized
17 adaptability as being an important factor.

18 So, we have softened the report
19 somewhat to urge standardization, indicate
20 that it is a very desirable outcome, but
21 recognize that this is something that has got
22 to reach an accommodation of the interests of

1 the various stakeholders that are involved,
2 and urge that some mutual accommodation of an
3 appropriate track be something that is
4 resolved and addressed.

5 We also had received comments
6 where we had urged at various places that we
7 should move expeditiously to establish some
8 centralized storage locations, for example,
9 and that they should be done promptly. It
10 should be something to which attention was
11 given at an early stage.

12 And some of the commenters
13 apparently interpreted that language to
14 suggest that we should rush to do this and
15 that that might somehow compromise safety. It
16 is hard for me to imagine that anything that
17 occurs with spent fuel could be seen as
18 happening with undue haste. But we carefully
19 read that part of our report, and we fully
20 concur that safety has to be the highest
21 priority. We did not see our language as
22 suggesting anything different.

1 So, as to our Subcommittee report,
2 we didn't see the need for emphasis because we
3 reemphasize over and over the importance of
4 safety. But I think it is an issue as we go
5 forward in our Commission report to make sure
6 to be sensitive to this was an issue and there
7 was a possible misunderstanding. And we
8 should make sure that there is no
9 misunderstanding on the point that safety and
10 security are prime criteria.

11 We received a very large number of
12 comments on the case for hardened onsite
13 storage. Now, as you will recall, what we are
14 talking about there is that the way the system
15 operates now for dry cask storage, they go
16 into these massive, the limited amounts of
17 spent fuel, once it is of a certain age, goes
18 into these massive casks. Some of us have
19 visited sites, and I think maybe all of us
20 have visited sites and seen these massive
21 structures in which the spent fuel is stored.

22 And the suggestion is that there

1 should be an additional structure, heavily-
2 reinforced, sort of bunkered structure that is
3 put over those casks to provide additional
4 security from them in order to make them even
5 more immune to a possible terrorist attack.

6 And so, we received substantial --
7 there is a community for which this is a very
8 important issue; it is one we should be
9 sensitive to -- urging that we adopt or urged
10 the adaptation of this so-called HOSS approach
11 for the storage of fuel.

12 This is a matter in which there is
13 some factual dispute. There is concern
14 expressed by some that the addition of a
15 structure over the casks, in fact, could
16 increase risk because of the need for a flow
17 of air through the cask as the means, the
18 passive means, for assuring cooling and the
19 danger that you could have a collapse of the
20 structure that is subject to attack on top of
21 the cask, and it would disrupt the flow of the
22 air through the cask. And you would end up

1 with defeating part of the function for
2 cooling the cask with this structure.

3 Of course, there are other
4 sensitive issues as to the nature of how one
5 would attack these casks, what the
6 consequences of an attack would be, what the
7 tradeoffs would be in terms of costs and
8 benefits, and so forth.

9 We in our report have suggested
10 that there is an ongoing process within the
11 Nuclear Regulatory Commission to review this
12 and a whole series of other security issues
13 related to spent fuel. Some of us had the
14 benefit of a classified briefing on the work
15 that has been done specifically related to the
16 vulnerability of casks and how they would
17 fare, and what the consequences would be if
18 there were a terrorist attack.

19 We don't see ourselves as being in
20 the position where we have the capacity to
21 really second-guess that process. It is one
22 that is subject to evaluation. It is one

1 where there is a lot of classified work that
2 has been done and is being done.

3 And so, our suggestion for dealing
4 with that issue is to raise it as an issue, to
5 recognize that it is a matter that is under
6 evaluation at the NRC, and to suggest that
7 that process be allowed to complete its
8 process going forward, and determine how
9 exactly to deal with that issue.

10 We also received questions or
11 comments about the portions of our report that
12 dealt with the transportation system. On
13 reflection of this, this was a very prevalent
14 comment and there were concerns that we had
15 perhaps treated the transportation issue more
16 lightly than we should have.

17 And let me say that, on
18 reflection, the Transportation and Storage
19 Committee agrees with that comment, that we
20 had not perhaps dealt with this with the depth
21 that might be appropriate to the subject.

22 And let me say, in defense of the

1 Committee, that there was quite a
2 comprehensive recent study by the National
3 Academy of Sciences, the Going the Distance
4 Study, which had done a thorough evaluation of
5 the transportation issue. And, of course, the
6 record of transportation has been excellent so
7 far. That is not to say that one doesn't need
8 to continue to work at it, but it was
9 something where we had the benefit of a very
10 comprehensive evaluation that had been done,
11 and we basically referred to that in our
12 report.

13 But, on reflection on this
14 comment, we do believe that it is appropriate
15 that the report be expanded to encompass more
16 of the material that we have drawn from the
17 Academy report. And as we will come to in a
18 minute, we do propose, given the importance of
19 the transportation system and the overall
20 process, that there be a recommendation that
21 we add to our Commission report as one of the
22 prominent recommendations. We have seven

1 major recommendations today. None of them
2 deal with transportation.

3 And the proposal we will offer is
4 that the transportation which the Subcommittee
5 has come up with with regard to transportation
6 be one that the full Commission consider for
7 addition to the overall report of the
8 Commission.

9 We did receive some comments as
10 well that we should say some words about how
11 recycling and reprocessing should be included
12 as an element of the consolidated storage
13 facilities that we had urged being placed.
14 They noted that having the opportunity to have
15 such facilities be co-located could provide
16 some efficiencies and perhaps some security
17 advantages. It could be attractive to a
18 particular local community to have that
19 opportunity.

20 We see that, first of all, that
21 was beyond the jurisdiction of our
22 Subcommittee. But, beyond that, it is the

1 sort of issue that I think adaptability and
2 accommodation needs to be reached with the
3 local community and, of course, with the
4 broader issue that we deal with in our other
5 Subcommittee of about we should approach
6 reprocessing and recycling.

7 So, this is not an area where, let
8 me say, obviously, having recycling or
9 reprocessing co-located with a storage
10 facility is not essential for accomplishing
11 the storage mission. So, this was not an area
12 that we proposed that there be any change to
13 the report.

14 We did receive some comments on a
15 matter that is a narrow matter, but an
16 important one. That is that one of the
17 basically developments in the usage of nuclear
18 power in the United States is the process of
19 keeping the fuel in the reactor at power for
20 longer periods of time and so-called higher
21 burnup of the fuel. That changes the
22 character of the spent fuel and, therefore,

1 has impacts on the risks associated with
2 moving it about.

3 And as it turns out, the NRC
4 regulations, as they are currently written,
5 deal with burnup of certain levels that are
6 not yet up to the levels where, in fact, some
7 of the utilities are currently burning the
8 fuel. So, this is a current issue. It is one
9 that has to be dealt with as we move fuel from
10 reactor sites to either disposal or to a
11 storage site. And we do suggest that the
12 report should be modified to reflect the fact
13 that regulatory changes in this area are
14 needed.

15 Let me just say, parenthetically
16 -- and this is noted in the second bullet
17 there -- this is an issue that the NRC is
18 examining as part of a rather comprehensive
19 reexamination of how it is handling the
20 regulatory requirements surrounding spent
21 fuel.

22 We did receive some comments about

1 the issue of the stranded fuel dilemma was
2 overstated. As you recall, we have a number
3 and made the point that there are nine sites
4 in the United States that no longer have
5 operating reactors, but do continue to have
6 spent fuel that is present at the reactors.
7 And absent a centralized storage facility or
8 a disposal facility, that material is
9 condemned to stay there, perhaps for extended
10 periods of time.

11 And that is just one of the
12 arguments that we had made in support of the
13 notion that a centralized storage would be
14 something that we should consider,
15 particularly as we envision within a few
16 decades there are going to be a lot more sites
17 where the plants are going to be shut down and
18 there will be more and more fuel that is at
19 sites where there is nothing else going on.

20 One of the comments we had
21 suggested is that a proposal has been to deal
22 with this, that the DOE take title to the

1 fuel, but keeping it at the reactor sites.

2 This is a proposal that has been made.

3 We do not have the view that the
4 stranded fuel is an urgent safety risk. We
5 had said that in the report. We continue to
6 believe that it involves cost, prevents the
7 usage of land that could be put to other
8 beneficial uses. There is taxpayer liability
9 associated with it. And as I have noted, it
10 is a problem that is going to grow over time.

11 So, we do think this stranded fuel
12 is a problem and it is going to be a growing
13 problem, but we don't think that taking title
14 is the solution. It actually doesn't solve
15 anything. The fuel will stay right where it
16 is. And, in fact, it may well not affect the
17 liability at all because of the contractual
18 commitments associated with the obligation to
19 remove the fuel.

20 We also had received comments that
21 our discussion of cost for consolidated
22 storage was unclear or incorrect in some

1 respects. As you will recall, we had
2 indicated that was at least the possibility
3 that consolidated storage, in fact, could be
4 a cheaper path by which to proceed as a result
5 of the fact that, if we had fuel that is
6 remaining at shutdown reactor sites all over
7 the country, there is a very large security
8 cost that has to be met at each of those
9 sites. It is not a significant cost when it
10 is still an operating reactor because there
11 has to be a security force and security
12 capability that is there for the reactor, but
13 if all you are doing is guarding the fuel,
14 then the whole cost has to be borne by the
15 fuel. And so, there were some possible cost
16 advantages that would come from having a
17 consolidated storage.

18 But let me say that we did have a
19 paper that is available on our website that
20 went through all of the various cost studies
21 that have been made on this issue. We believe
22 that all of those studies could be subject to

1 some criticism. There are different
2 assumptions that are made, and some of them
3 could well be questioned.

4 But our main argument for
5 consolidated storage did not turn on the cost
6 issue. We saw other benefits that we have
7 discussed in both our Subcommittee report and
8 the Commission report about the benefits of
9 the overall system of having a consolidated
10 storage, cost being only one of the possible
11 benefits.

12 And moreover, a challenge to the
13 cost studies is somewhat in the idea that you
14 are going to go whole hog on a full-scale
15 storage facility right at the beginning, and
16 all of the costs are going to be associated
17 with that. This was an area where we have, in
18 fact, urged that there be the same sort of
19 flexibility and adaptability in learning-as-
20 you-go, building-as-you-go sort of approach.

21 So, we have proposed to keep the
22 main thrust of our report where it is, but to

1 add additional discussion of the cost findings
2 and the justifications for the consolidated
3 storage recommendation.

4 We had received some comments
5 about using existing DOE, Navy, and other
6 federal facilities for storage. That is one
7 that we saw as being outside the scope. As Al
8 has indicated in his comments, we are not a
9 siting Commission. So, we don't propose any
10 modification of that.

11 There was a suggestion that the
12 report was somewhat skimpy in its discussion
13 about how dry storage works, what types of
14 facilities are, and more descriptions of them
15 would be useful to a person who is not
16 familiar with them. And so, we have proposed
17 to add some further discussion, both the
18 horizontal and vertical storage systems, as
19 part of the report.

20 And then, there is this problem
21 that we have spent extensive time discussing,
22 about the fact that there is a linkage between

1 storage and disposal and a concern that, if we
2 establish a storage facility, it will end up
3 being a disposal facility or being effectively
4 a de facto disposal facility because we might
5 never have a disposal facility.

6 I think that this is something
7 that we have weighed very heavily, the entire
8 Commission has weighed very heavily in our
9 discussions previously, as you know. I think
10 that we have emphasized over and over again
11 that we do not think that storage and disposal
12 should be seen as alternatives to each other,
13 that proceeding to establish appropriate
14 disposal facilities is something that is
15 essential, regardless of how we proceed with
16 disposal.

17 And so, we don't see this as an
18 area where we need to add to the report, but,
19 again, I think we do need to make sure that we
20 emphasize in our final report the fact that
21 disposal has got to be done, it is an
22 important issue, and we need to proceed with

1 that, regardless of how we deal with the
2 storage issue.

3 Now I had mentioned earlier that
4 we had received a large number of comments
5 about the inadequacy of our discussion of
6 transportation, and which I have acknowledged
7 was somewhat the result of the fact that we
8 were very highly-dependent on the quite
9 comprehensive study by the Academy's Going the
10 Distance Report, issued just a few years ago.

11 But we fully agree with the
12 comments that preparing for, planning for,
13 working out the arrangements that are
14 necessary in order to accomplish the
15 transportation function effectively in a way
16 that meets the public acceptance is an
17 enormously-important issue, and it is
18 something that you need to be thinking of.
19 You don't think of this just as an add-on.
20 This is something you need to think up from
21 the very beginning, as you are contemplating
22 disposal.

1 And so, as a result of that, we
2 have suggested that we consider a new
3 recommendation on transportation that be
4 incorporated in our main report. This is
5 drawn from the Subcommittee report. And let
6 me just read it.

7 "Prompt initiation of programs to
8 prepare for future large-scale transport of
9 spent nuclear fuel and high-level waste
10 consolidated storage and disposal facilities,
11 including implementing transportation-related
12 recommendations issued by the National
13 Academies in 2006, undertaking planning
14 activities with potentially-affected states
15 and tribes, and providing funding and
16 technical assistance for related activities."

17 That is a proposal that we make to
18 you, and this probably isn't the right forum
19 in which to do the precise editing of the
20 language, but you can see the general thrust
21 that we are proposing as something for your
22 consideration for the Commission report.

1 Mr. Co-Chairmen, that completes my
2 summary of the work of the Transportation and
3 Storage Committee.

4 Let me invite any of the other
5 members of the Committee who would like to add
6 some thoughts to correct or supplement my
7 comments.

8 CHAIR HAMILTON: Dick, let me
9 thank you and Phil for the very careful way
10 you have gone through these comments and
11 reacted to them, and given us a quite
12 comprehensive report. Thank you very much.

13 So, the question really is on the
14 recommendation, and I will ask the
15 Commissioners if they have any objection to
16 this recommendation, understanding, as he
17 said, that maybe the precise wording of it
18 might be altered.

19 Dick, one of the things I noticed
20 is the word "safety" does not appear in that
21 language. I wondered if you said "prompt
22 initiation of programs to prepare for future

1 safe large-scale transport". I'm sure it is
2 included in the recommendations, but I think
3 using the word "safe" might be helpful. Is
4 that all right?

5 MEMBER MESERVE: That is certainly
6 consistent with our intention.

7 CHAIR HAMILTON: Yes. Okay.

8 Any other comments? Let's see,
9 Pete and then Per.

10 MEMBER DOMENICI: Who pays for
11 this?

12 MEMBER MESERVE: There actually is
13 funding that is already part of the nuclear
14 waste disposal act for the federal government
15 to pay for this work that is being part of the
16 elements for being successful in transport.
17 And so, it is part of existing statute, and I
18 think my presumption would be that this would
19 be something that would carry over to any
20 amendment of that statute that would occur in
21 the future.

22 MEMBER DOMENICI: I would hope we

1 would make that clear.

2 MEMBER MESERVE: It is in the text
3 that we have in our report on the draft. We
4 didn't incorporate that in the recommendation,
5 but the surrounding text does make that point.

6 MEMBER DOMENICI: My second
7 question is similar. Who is charged by this
8 language with doing this kind of --

9 MEMBER MESERVE: This is a partial
10 sentence here, obviously. The idea is that
11 this new entity that we propose to be
12 created --

13 MEMBER DOMENICI: The corporation?

14 MEMBER MESERVE: -- the
15 corporation would have responsibility,
16 incident to its accomplishing its role on
17 storage and disposal, to have the
18 responsibility as well to make sure that
19 transportation is done appropriately. So,
20 this would be something, as I see it, would be
21 something that the new corporation would be.

22 This is a fragment of a sentence

1 here, I now see as I look at it, that is put
2 on the slide. And so, it doesn't capture the
3 context in which we have it in the Draft
4 Report.

5 CHAIR HAMILTON: Per, and then
6 Vicky. Per?

7 MEMBER PETERSON: Thanks.

8 I also have not had the
9 opportunity to read the Transportation and
10 Storage Subcommittee report because I am not
11 on that Subcommittee. I do think it is
12 important to assure that it is integrated with
13 the other recommendations.

14 In particular, before starting
15 large-scale transportation, it is important to
16 perform it at smaller scale. This is one of
17 the additional arguments for moving spent fuel
18 from shutdown reactor sites, because that
19 provides the opportunity at smaller scale to
20 demonstrate safe operation and learn from
21 experience.

22 I also would like to go back and

1 reemphasize that to address the taxpayer
2 liability, the courts have made it very clear
3 that the only way to perform on the contracts
4 is to begin to move the fuel from the sites,
5 that taking title at the sites will not end
6 the taxpayer liability.

7 And that is another reason why I
8 think it is important for us to move towards
9 removing spent fuel from shutdown reactor
10 sites, because it addresses taxpayer liability
11 and it gives experience at small scale that
12 then could be applied, which I think in many
13 respects may be even more important than
14 having further studies about how to do this
15 safely, but to get the experience at smaller
16 scale.

17 MEMBER MESERVE: I fully agree.
18 That is an element that is emphasized in our
19 report. It is part of the benefit of doing
20 storage, is that you develop experience that
21 is going to be relevant as you get to a
22 larger-scale operation for disposal.

1 CHAIR HAMILTON: Vicky?

2 MEMBER BAILEY: Dick, I just
3 simply want to be supportive of the proposed
4 new key recommendation on transportation. It
5 is something that we heard at the regional
6 meetings, and it was articulated very well by
7 someone actually from my own State of Indiana.

8 But to the extent that this is a
9 major concern, and the issue of route
10 selection and the fact that we should give
11 states ample lead time, is why we have raised
12 this to the level of a recommendation. The
13 condition of railroads across the country,
14 inspection of those railroads I think is very
15 key. Just like the interstate highway, the
16 railroads will be very key to the
17 transportation system for nuclear waste. So,
18 I am extremely supportive of this
19 recommendation.

20 CHAIR HAMILTON: Allison?

21 MEMBER MACFARLANE: Can we move
22 off of the transportation issue now and talk

1 about the whole report? I have a comment on
2 another --

3 CHAIR HAMILTON: Sure.

4 MEMBER MACFARLANE: -- part of the
5 Transportation and Storage report.

6 But, first, let me say that I am
7 really glad to see all the hard work that is
8 gone into revising the transportation and
9 storage report.

10 Let me echo Per's comments earlier
11 on that the found these regional meetings
12 really useful and Vicky as well. I found them
13 incredibly useful, too. It was really good to
14 get the feedback in person and to have some
15 discussions more informally with folks on
16 these issues. I think it really helped
17 clarify what some of the issues were, and
18 certainly the transportation issue was one
19 that came up at a couple of the meetings that
20 I attended.

21 And I would like to also applaud
22 all the members of the public and all the

1 people who commented and took the time to make
2 these thoughtful comments.

3 Let me say that, in attending
4 these meetings, one of the comments that I
5 heard over and over was about this issue that
6 you talked early on about, Dick, on de-
7 densification of the spent-fuel pools. This
8 was a significant issue for a number of
9 people.

10 I understood it as separate from
11 this overall HOSS concept. It seemed to be
12 part of the HOSS concept, but there was sort
13 of a separate discussion around this issue.

14 And given that there is a recent
15 Royal Society report looking at the nuclear
16 fuel cycle, they made a specific
17 recommendation on this particular issue which
18 says -- let me quote it -- "The amount of
19 spent fuel stored in ponds in the vicinity of
20 reactors should be minimized by removing spent
21 fuel as early as feasible for interim storage
22 elsewhere, whether onsite or offsite."

1 Given that, given these comments,
2 and given that the previous National Academy
3 report on spent fuel that was done in 2004 and
4 2006, classified and non-classified versions,
5 where there was no explicit request for
6 guidance on whether to increase the rate of
7 removal of spent fuel from the pools, I would
8 like to suggest -- sorry, it has been long-
9 winded -- I would like to suggest that we
10 expand the scope of the National Academy study
11 that is requested in this Transportation and
12 Storage Subcommittee that is on Fukushima to
13 include an analysis of moving the spent fuel
14 out of the pools more rapidly.

15 I think that this would provide
16 public assurance that not just the Nuclear
17 Regulatory Commission is looking at this
18 issue, but others are as well. I think that
19 it is not completely unreasonable to request
20 such a thing.

21 So, that would be my request.

22 MEMBER MESERVE: This issue has

1 been raised as a post-Fukushima issue to be
2 addressed. I think that is consistent with
3 our recommendation that there be an Academy
4 study, that this could well be one of the
5 issues that they might examine.

6 CHAIR HAMILTON: Any further
7 questions?

8 MEMBER DOMENICI: Mr. Chairman?

9 CHAIR HAMILTON: Pete? Per, are
10 you seeking recognition? All right, Pete and
11 then Per.

12 MEMBER DOMENICI: I didn't hear
13 your comments. Did you say you accept the
14 amendment?

15 MEMBER MESERVE: I said that that
16 suggestion that the Academy study look at the
17 density of the packing of the fuel in the
18 spent-fuel pools is something that has been
19 raised as a post-Fukushima element. We had
20 suggested the Academy look at that, at the
21 Fukushima lessons learned. I think that
22 Allison's recommendation is within the scope

1 of what we thought the Academy might well do.

2 MEMBER DOMENICI: So, you are
3 accepting the --

4 MEMBER MESERVE: So, I am
5 accepting the suggestion that the Academy
6 study might well include the issue that
7 Allison has raised.

8 CHAIR HAMILTON: Per?

9 MEMBER DOMENICI: I have no --

10 CHAIR HAMILTON: Oh, I'm sorry,
11 Pete.

12 MEMBER DOMENICI: I am not going
13 to make an objection, but I do want to comment
14 that, as one who has participated in both
15 transportation of waste, almost high-level, in
16 a very regular manner, very, very big
17 transportation contracts through my State, and
18 as I view these last efforts, I hope we are
19 aware that those who oppose things out there
20 look for any little thing to delay or
21 litigate. We ought to watch how much language
22 we add to this report that gives that kind of

1 activity substance out there in the real
2 world, because it is out there.

3 I have no objection to this, but I
4 do believe that you already said what was to
5 be said about the water and the spent-fuel
6 rods in the ponds. The findings that you made
7 are really the most significant and important
8 part, without question, and the rest to be
9 done and people are to think about other
10 things, but you have already concluded that
11 there is no urgency in moving them.

12 MEMBER MESERVE: That's correct.

13 MEMBER DOMENICI: That is correct?

14 MEMBER MESERVE: There's no
15 urgency. We did not see -- what we saw would
16 not suggest there was urgency in this matter.
17 But it is something that is worth considering
18 and evaluation. The NRC acknowledges that.

19 MEMBER DOMENICI: That is our
20 report and that is our conclusion when we vote
21 for it, right?

22 MEMBER MESERVE: That's correct.

1 MEMBER DOMENICI: I am not going
2 to object, but I just wanted to insert my own
3 thoughts about it.

4 Thank you.

5 CHAIR HAMILTON: Per?

6 MEMBER PETERSON: I would like to
7 also endorse Allison's comments with respect
8 to the National Academy study that has been
9 recommended. I think that it is valuable,
10 given what has happened in Japan and the
11 importance of this set of issues around
12 assuring safety and security of spent fuel, to
13 have this independent study performed.

14 But I also think it is important
15 that the Nuclear Regulatory Commission is
16 taking early actions on these issues
17 associated with the ability to monitor
18 inventories of water in pools and to assure
19 that there is adequate means to make up water
20 in pools expeditiously.

21 Again, the National Academy study
22 that has been recommended I think is going to

1 be important in terms of providing additional
2 confidence that these issues have been looked
3 at carefully and that the storage safety is
4 appropriate. So, this is something I also
5 would like to endorse.

6 CHAIR HAMILTON: Any further
7 comments?

8 (No response.)

9 Dick, I would ask that you work
10 with the staff so that the language of this is
11 translated in such a way that it is consistent
12 with the language in the Executive Summary,
13 where we have very brief descriptions of the
14 recommendation and then several paragraphs of
15 explanation. We will leave that pretty much
16 up to you, but it is very clear that the
17 Commissioners accept with the modifications
18 indicated your recommendation.

19 Okay. Now we are to move to --

20 MEMBER DOMENICI: Excuse me.

21 CHAIR HAMILTON: Oh, I'm sorry,
22 Pete.

1 MEMBER DOMENICI: Mr. Chairman,
2 excuse me for my lapses today. I apologize.

3 I wanted to engage in a
4 conversation with Dick, if I could.

5 Dr. Meserve, that section, prompt
6 initiation of programs to prepare for future
7 large-scale transport, let me just ask: let's
8 assume laws had been past by the Congress that
9 included that language and included the rest
10 of the things that you have talked about on
11 transportation, and we find a site. City X
12 comes forward and says, "I want to answer. I
13 want to be one." And they proceed down the
14 line, and they are moving everything.

15 Can somebody come along and say,
16 "Wait, you can't do anything because you have
17 not been prompt in the initiation of programs
18 to prepare large-scale transport."? Is that
19 a condition to proceeding with the program we
20 have in mind of site location based on consent
21 and moving ahead? Do you have to have that?
22 And can somebody test that against what we are

1 doing?

2 MEMBER MESERVE: It was not our
3 intent to have this create an obstacle to the
4 achievement of disposal. Rather, it is our
5 intent to recognize having thought through the
6 transportation and having the capacity to work
7 through all the issues is essential to be able
8 to have a successful disposal site. So, that
9 is the context in which this recommendation is
10 made. It is not to create a barrier. It is
11 actually to help ensure success in being able
12 to go forward.

13 MEMBER DOMENICI: If, in fact the
14 federal government or the entity charged is
15 doing this -- what if they are not doing this?
16 What if they don't do this?

17 MEMBER MESERVE: Well, our fear is
18 not that it would be a legal challenge, but
19 that if the new corporation failed to think
20 through the transportation issue early, our
21 concern is that they would fail to be able to
22 be successful in establishing a disposal site,

1 that you need to worry about transportation
2 because a lot of people are affected by or
3 believe they might be affected by
4 transportation as a result of fuel that is
5 moving down the highways or on the railroad
6 lines. The idea is think about, the whole
7 thrust of this is to think about this early
8 and prepare for it because you aren't going to
9 succeed if you don't prepare for it.

10 MEMBER DOMENICI: I want to make
11 it clear for the record that I am supporting
12 it only on the premise that, in fact, there is
13 a desire on the part of this Commission that
14 this kind of study go on, that it take place
15 by the United States, but not that if you find
16 a site, that you then have to take whatever
17 time is necessary to make sure there is a
18 program of this type. You already have
19 language in your report on the transportation,
20 and it does not include these studies.

21 I don't know how that is going to
22 be worked out. But from my standpoint, the

1 studies are not precursors to the
2 establishment of a site. And I think Dick is
3 saying that. Isn't that correct?

4 MEMBER MESERVE: That's correct.

5 MEMBER DOMENICI: All right.

6 Thank you.

7 CHAIR HAMILTON: Okay. Anything?

8 (No response.)

9 Dick, thank you very much for an
10 excellent presentation.

11 Now, under the agenda, we are to
12 move to the Disposal Subcommittee, but we
13 still do not know exactly where Commissioner
14 Lash is. He is, we hope, in route from Miami.

15 So, we would move at this time to
16 the Reactor and Fuel Cycle Subcommittee. I
17 understand that both Per and Pete are prepared
18 to do that.

19 I might also say the agenda calls
20 for a break, but not for another 15 or 20
21 minutes. So, Per, if it is okay, let's
22 proceed now. Is that all right with you?

1 MEMBER PETERSON: That's all
2 right, yes.

3 CHAIR HAMILTON: Pete, is that
4 okay, Pete, with you?

5 MEMBER DOMENICI: That's fine, Mr.
6 Chairman.

7 CHAIR HAMILTON: All right, and we
8 will go ahead, and then maybe in 20 or so
9 minutes we will take a break. Okay.

10 Who's up here?

11 MEMBER DOMENICI: I am going to
12 just take the first slide and then I'm turning
13 it over to him.

14 CHAIR HAMILTON: Okay, Pete,
15 you're recognized.

16 MEMBER DOMENICI: All right. I am
17 going to make a comment that is included on
18 slide 1, if you are ready. If you are not, I
19 am going to read it anyway because you can get
20 it from me.

21 You have already heard from the
22 other Subcommittee, the first one. And I want

1 to reiterate that the process we used, we used
2 the same process that they used, except to say
3 that we did receive many public comments which
4 we considered very closely as we revised our
5 report.

6 We thank you. Thank you's go out
7 to those of you who took the time to provide
8 your responses and your input.

9 My Co-Chairman, Dr. Per Peterson,
10 will walk you through the main comments that
11 we received and how we took these comments
12 into account.

13 Before he does that, let me give
14 you a little preview and a highlight of some
15 of the issues that I think are particularly
16 important. In all of the comments we
17 received, there was broad support for
18 continued research in advanced nuclear
19 technologies and fuel cycles. We can say that
20 unequivocally.

21 Our Subcommittee's main
22 recommendation is that the United States

1 provide stable, long-term support for R&D
2 efforts in order to maintain a U.S. leadership
3 role in nuclear technology. To date, the U.S.
4 has been a leader because of the strengths of
5 its existing research and development of
6 infrastructure, particularly the National Labs
7 like Los Alamos and Sandia.

8 Our revised report more clearly
9 affirms the strategic importance of existing
10 U.S. facilities. These facilities and the
11 scientists who work there are irreplaceable
12 and will be critical to our country's
13 continued R&D efforts.

14 Having made that summary
15 statement, Dr. Peterson will continue with the
16 presentation. I thank you for listening.

17 MEMBER PETERSON: Thank you,
18 Senator.

19 So, what I will do is to cover,
20 first, overview of the major themes in the
21 public comment that we received on the Draft
22 Report and then to discuss some of the changes

1 and methods of addressing those comments that
2 we have implemented.

3 So, the first point that I think
4 is important is that we have received a very
5 wide range of different comments and
6 perspectives about what the future role of
7 nuclear energy should be and what the future
8 of the nuclear fuel cycle should be. And, in
9 fact, this is an area where clearly in our
10 nation we do not have a consensus about what
11 should happen.

12 These comments range from
13 immediate efforts to adopt a closed fuel cycle
14 as a part of an expanded use of nuclear energy
15 to comments about avoiding the use of
16 reprocessing and maintaining a once-through
17 fuel cycle, to comments that recommended
18 prompt shutdown of reactors and stopping the
19 generation of spent fuel.

20 So, this range of perspectives is
21 something that I think is important for us to
22 take into account because these are deeply-

1 and firmly-held beliefs by many different
2 people that are quite in disagreement. I
3 think that, in the end, the recommendations
4 that we have with relationship to research and
5 development are consistent with a middle
6 ground that is appropriate for our nation to
7 take.

8 In fact, this does reflect the
9 fact that a major fraction of comments that we
10 receive are supportive of performing research
11 and development and demonstration for advanced
12 reactor and fuel cycle technologies. In fact,
13 there is a lot of recommendations that came in
14 related to additional technologies that could
15 be or should be considered and, also,
16 considerable numbers of recommendations that
17 related to the importance, the strategic
18 importance of having these capabilities.

19 In addition, we received comments
20 that noted that we should take into account
21 fuel cycle activities elsewhere in the world
22 and be more aware of those; also, that the

1 nuclear industry needs to be actively engaged
2 with the government efforts to develop these
3 technologies. And then, finally, many of the
4 comments related to the importance of taking
5 into account the accident in Fukushima in
6 working on these topics.

7 So, with these major themes, we
8 have proposed a set of both changes and in
9 other cases keeping the report in its original
10 form. Now the first is recommendations that
11 relate to closing the fuel cycle or abandoning
12 the reprocessing and maintaining a once-
13 through fuel cycle.

14 This, again, as I had emphasized,
15 is an area where there is not a national
16 consensus. Indeed, on our Subcommittee and on
17 the Commission there is not a full consensus
18 about what should be done.

19 But, in fact, what we end up
20 recommending is that it is premature at this
21 point for the United States to commit
22 irreversibly to any particular fuel cycle as

1 a matter of government policy. Instead, there
2 are benefits to preserving and developing new
3 options, and that this is the appropriate
4 strategy for us to take at this point.

5 There's also discussion about
6 taking into account actions since Fukushima to
7 address reactor safety worldwide. Our report
8 has been changed to reflect support for
9 actions taken by the international community
10 since the accident. This includes IAEA's
11 focus on enhanced international safety
12 standards, the World Association of Nuclear
13 Operators, and also a variety of actions that
14 have been taken by vendors.

15 I was personally involved in some
16 of the major U.S. Government actions to
17 support the Japanese during the course of this
18 accident. And I would like to emphasize that
19 in managing the accident and in supporting the
20 Japanese, U.S. scientists and researchers at
21 our National Labs who work on fuel cycle and
22 reactor R&D played a major role in providing

1 advice to our government, which then went on
2 to support our ability to provide advice and
3 assistance to the Japanese.

4 And I think that this actually is
5 additional evidence of the value for the
6 United States maintaining scientific and
7 technical competence in the field of nuclear
8 energy, is that you need to have this type of
9 capability available when you may have events
10 like Fukushima happen elsewhere in the world.
11 So, I think that our new report, the final
12 report, will address these issues in a more
13 comprehensive manner.

14 Next, there is the set of
15 recommendations that relate to stopping the
16 production of spent fuel by stopping the
17 operation of reactors, either immediately or
18 at the time that their licenses expire. The
19 Commission has not offered judgment about the
20 appropriate role of nuclear power in the
21 nation or the world's future energy mix.
22 Instead, we note that there is wide support

1 for research and development of nuclear energy
2 technologies.

3 And we have not taken a position,
4 and will not take a position, on the advisable
5 funding levels, but emphasize that this should
6 be decided in the context of the nation's
7 overall efforts to develop energy sources and
8 to maintain innovation in energy technologies.

9 There is also the recommendations
10 that the U.S. should reprocess spent fuel in
11 the way that some other countries do. Our
12 Subcommittee members did visit facilities in
13 France and Japan and in the United Kingdom
14 where reprocessing of commercial spent fuel
15 takes place.

16 The Subcommittee believes that
17 reprocessing like France does does not
18 fundamentally change the waste management
19 challenge in the United States. That is,
20 these technologies do not eliminate in the end
21 the need to develop an integrated management
22 strategy that includes the capability to store

1 and to transport and to place into geologic
2 disposal these materials or at least some of
3 the materials that are generated from the use
4 of nuclear energy. And so, we think that it
5 is important that the major recommendations of
6 the Commission to move forward to develop
7 capabilities for transportation, storage, and
8 disposal be implemented.

9 Then, we also received
10 considerable number of recommendations about
11 additional reactor technologies that various
12 stakeholders believe need further attention
13 and investment. We have edited our report to
14 reflect the importance of trying to identify
15 technologies that have the potential to be
16 game-changing, that is, to change the nature
17 of the fuel cycle.

18 Some of these options may not be
19 completely obvious. And so, for example, one
20 that has been suggested and that we have
21 introduced as a potential game-changing
22 technology is one, a nuclear energy system

1 that would eliminate need for reprocessing and
2 enrichment, but through the use of uranium
3 that is abundant, would be abundant if it
4 could be abstracted from sea water and the use
5 of a disposal technology, such as deep
6 boreholes, that could be able to provide
7 effective and nearly-irretrievable long-term
8 disposal of the spent fuel.

9 So, this is an example. There is
10 actually a wide number of different potential
11 technologies that could be developed. And so,
12 we emphasize that we should be seeking this
13 sort of game-changing type of technology.

14 We also had recommendations that
15 the nuclear industry should be more involved
16 in the government actions that relate to the
17 nuclear power enterprise. We concur and have
18 edited the report to emphasize the importance
19 of industry collaboration with the government.

20 And there is also the set of
21 recommendations that relate to understanding
22 better what is happening around the world in

1 terms of nuclear energy technology. We have
2 edited the report also to reflect these
3 comments and, in particular, to note that
4 there are substantial efforts elsewhere in the
5 world to develop advanced technologies in
6 China, Russia, and India.

7 I would note that in China, for
8 example, there are major development programs
9 that have been started to demonstrate thorium
10 molten salt reactors, sodium fast reactors,
11 gas-cooled high-temperature reactor
12 technology. All of these areas are moving
13 forward elsewhere in the world.

14 And in fact, in the United States
15 our industry faces challenges in terms of
16 being able to compete with these other
17 countries because of the fact that these other
18 countries are providing substantial support to
19 their industry to develop advanced reactors
20 and fuel cycle technologies.

21 So, the final set of comments that
22 we have received relate to the importance of

1 existing U.S. facilities and of sustaining the
2 capabilities that the United States already
3 has. We have also edited the report to
4 reflect these comments.

5 In particular, we recommend that
6 the DOE should continue to leverage its
7 existing and nearly-irreplaceable nuclear
8 energy RD&D infrastructure and the human
9 capital to the greatest extent possible.

10 And I would go back and note
11 personally that in the management of the
12 Fukushima accident, again, the capability to
13 have scientifically- and technically-trained
14 people who can come to work on this problem
15 when needed was extraordinarily important in
16 enabling an effective response from the United
17 States. And so, there are multiple benefits
18 that come from sustaining this research and
19 development enterprise at a level that it can
20 be effective.

21 We also also that decommissioning
22 of the facilities that exist could cause the

1 loss of capabilities that would in the end
2 potentially significantly limit our RD&D
3 efforts in critical areas. And one of the
4 ones we cite is providing technical basis for
5 extended dry cask storage.

6 So, this is an overview of both
7 the comments and themes, the major themes, of
8 discussion that we heard in the public
9 comments that were received and also what the
10 Subcommittee recommends be done to update our
11 Subcommittee report. And then, of course,
12 these recommendations will flow into the full
13 Commission report, which we hope will be
14 issued before the end of January.

15 Thank you.

16 CHAIR HAMILTON: Pete and Per, we
17 appreciate very much your presentation. It is
18 obvious to me that you have made a number of
19 adjustments as a result of the comments, and
20 I think that is commendable.

21 Are there any questions to the
22 Co-Chairs here?

1 Yes, Al?

2 MEMBER CARNESALE: Just two
3 points. One is it is unlikely you are going
4 to receive very many comments from people who
5 oppose more R&D on advanced fuel cycles and
6 technologies. So, I think it is the merit of
7 the comments, not the number, that should
8 carry weight. I think that is true in
9 democracies generally. There are interested
10 groups, and then there are groups that have a
11 small interest and are not organized. I favor
12 it. I mean, it is a question of how strong it
13 is.

14 Second is, given the financial
15 situation of the country in the future, I
16 think more R&D in something means less R&D in
17 something else. There is going to be
18 substantial reductions -- there have been
19 -- in the R&D budgets of the country. I think
20 the sciences in general are going to suffer
21 and the like. It is Senator Domenici's usual
22 question of, where will the money come from

1 for this?

2 As I understand it, the disposal
3 piece can't be used for this purpose. So, I
4 just say we should have some measure of
5 modesty here in proposing more of each thing,
6 lest our other recommendations be given less
7 credibility for that reason.

8 MEMBER PETERSON: Al, you are
9 correct. It is important to note that under
10 the contracts between the Department of Energy
11 and utilities, the waste fund fees cannot be
12 used for generic R&D of the sort that is
13 recommended here. And the current funding,
14 therefore, comes from a combination of
15 industry funding, which funds work at the
16 Electric Power Research Institute, as well as
17 federal funding, which funds the DOE efforts
18 in this R&D.

19 The broader question of our
20 capability to invest in energy R&D is
21 addressed also in the report, both in our
22 original draft and here, which is that there

1 is a PCAST report and study on this question
2 of how do we assure going forward sufficient
3 general investment in research and development
4 in the field of energy, which, of course, is
5 of extraordinary importance to our economy and
6 to our national security.

7 We have endorsed the PCAST
8 recommendations, which include recommendations
9 on how additional funding might be generated
10 for energy R&D, such as the potential for line
11 charges on electricity and other things of
12 that nature.

13 But this is a general issue that I
14 think is important for our nation because, if
15 we don't adequately invest in research and
16 development in energy, it will be to our
17 detriment in the long-term.

18 MEMBER DOMENICI: Mr. Chairman?

19 CHAIR HAMILTON: Pete?

20 MEMBER DOMENICI: I would like to
21 say to you, Al, what my thoughts are on this.
22 I'm certainly of the opinion that looking at

1 the next decade America is not going to have
2 growing budgets on that side of the ledger
3 that is called domestic appropriations.
4 There's no question. We will either diminish
5 that program in an orderly manner, such as the
6 Committee that just failed should have done,
7 or it will be thrust upon us by default, which
8 will bring quick disaster to the country.

9 We will have disorder in our
10 economic system, the likes of which we have
11 never seen. If we let this ratio of GDP to
12 debt go to 100 and on up, there is no question
13 something big happens. If you don't want to
14 believe it, and wait until it happens, then
15 make sure you enjoy life while you have it
16 because sooner or later it is going to be
17 different if you don't fix it.

18 But I still think that we have a
19 responsibility to state that we think research
20 and development in this area is important. I
21 do. I don't think we can even measure it.
22 What comes out of the scientists at our

1 institutions as part of our infrastructure is
2 unparalleled. I think we should continue it
3 in this area.

4 I don't know whether we want to
5 try to say this is better than that with
6 dollar signs attached. I think we would spend
7 another year doing that. I believe what we
8 have done heretofore on R&D is adequate and we
9 ought to keep it that way.

10 But we understand that the people
11 opposed and the people for in something like
12 this, we don't look at them equal because one
13 is a very active group, the other is just
14 latent citizens or institutions with an
15 interest. Obviously, they are not -- we don't
16 get even response, but that happens both ways,
17 as you know, both sides of an equation.

18 Thank you very much. Thank you,
19 Mr. Chairman.

20 CHAIR HAMILTON: I think it is
21 very important that our final report reflect
22 the tone of the comments that have been made

1 by the last two or three speakers. We have to
2 be realistic about the fiscal environment
3 overall in which we are operating and how that
4 will impact some of the recommendations we
5 make. So, your comments are very well-taken.

6 Any further comments? Susan?

7 MEMBER EISENHOWER: I would just
8 add to that, yes, we are in an increasingly
9 resource-constrained environment. So, it is
10 really up to us to make a case on why research
11 and development in this area is critical.
12 Because it is not just for nuclear energy, it
13 is for energy in general.

14 Natural gas is a huge boon for the
15 nation's energy picture. But if we are
16 serious about climate change, it is really
17 only a transitional fuel. So, R&D has to be
18 playing to the longer game, which is
19 addressing climate concerns ultimately.

20 CHAIR HAMILTON: Yes. Okay. Any
21 further comments? Per?

22 MEMBER PETERSON: I would just

1 like to add that there's objective evidence
2 that U.S. investments in this area have
3 yielded very substantial results, because
4 today the only nuclear reactors commercially
5 available that you could procure that have
6 passive safety systems, that is, that don't
7 require any electrical power for long-term
8 decay heat removal, which post-Fukushima is a
9 very desirable safety feature, those are U.S.-
10 origin designs, licensed by the U.S. Nuclear
11 Regulatory Commission. And no other countries
12 have developed technologies for passive safety
13 and brought them through to commercialization.

14 So, I think this is an
15 illustration of how the United States has
16 demonstrated the capacity to be innovative in
17 reactor technology in ways that other nations
18 have found challenging. I would hope that we
19 can continue to make these types of
20 improvements and exhibit the leadership.

21 There are reasons why utilities
22 today would prefer to buy reactors that have

1 these passive safety features. In fact, the
2 ones that will be entering into construction
3 in the United States just in this coming year
4 will be reactors with passive safety systems,
5 the ones at the Vogtle sites and Summer sites
6 in South Carolina and Georgia.

7 CHAIR HAMILTON: Well, Pete and
8 Per, we appreciate very, very much your
9 report. You have already identified the
10 changes, the proposed changes. Those are
11 acceptable, I'm sure, to the Commission.

12 And you do not have, as I
13 understand it, a specific recommendation for
14 a new recommendation in the full report; not
15 necessary on the basis of what you have said.

16 MEMBER PETERSON: That is correct.
17 We have, instead, just modified the text of
18 the report to reflect the input.

19 CHAIR HAMILTON: Right.

20 MEMBER PETERSON: But the basic
21 recommendations remain the same.

22 CHAIR HAMILTON: Very good.

1 Now I am informed that Jonathan's
2 plane is going to be landing in about a half-
3 hour or so. I think what we will do at this
4 point is take a break.

5 Chuck, if this is all right with
6 you, we will wait until Jonathan is here, and
7 then you and he can report.

8 Will we be eating lunch this
9 break? We may very well have an early lunch.

10 So, we will break at this point,
11 and then we will come back when Jonathan is
12 available to hear the report on the Disposal
13 Subcommittee.

14 So, we stand in recess. It has
15 been suggested we give you a specific time, so
16 you don't wander off somewhere. 12:30. 12:30
17 we will plan to meet again.

18 Thank you.

19 We are in recess.

20 (Whereupon, the above-entitled
21 matter went off the record at 10:52 a.m. and
22 resumed at 12:33 p.m.)

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12:33 p.m.

MR. FRAZIER: Okay, so we are going to get started.

Commissioners Moniz and Carnesale will sit momentarily, I hope.

So, I am going to turn it over now to General Scowcroft, sir, whenever you're ready.

CHAIR SCOWCROFT: Thank you very much, Tim.

We will now proceed with the Disposal Subcommittee discussion. The Co-Chairs are Senator Hagel and Mr. Lash.

Do you want to start? Okay.

MEMBER HAGEL: General, thank you.

First, Jonathan and I wish to thank our Subcommittee members who put a lot of time into this project. They have enhanced what we think is a pretty good product to this point by their diligence and their time and effort, as well as thanking the staff who put

1 a remarkable amount of time and effort into
2 this effort. So, to each of you and all of
3 you, thank you on behalf of Jonathan and
4 myself.

5 Our Co-Chairmen of the Blue Ribbon
6 Commission have asked Jonathan and I to review
7 the major themes in the public comments that
8 we have received over the last few months
9 relevant to the Disposal Subcommittee Draft
10 Report and discuss in some detail how we
11 propose to address these comments and how, in
12 fact, we have addressed them.

13 That will be done through slides
14 that will appear on the screen. Jonathan and
15 I will, in some narrative form, walk everyone
16 through this. Then, at the end, I know we
17 would be happy, and speaking on behalf of the
18 staff, they would be exceptionally happy to
19 answer questions.

20 So, with that, I would ask my
21 Co-Chairman, Dr. Lash, for his thoughts and to
22 begin taking us through this Subcommittee's

1 recognition of the comments that we received,
2 which have been very, very helpful to our
3 efforts in what we heard and the investment of
4 time and thought that we received over the
5 months.

6 So, with that, Jonathan Lash.

7 MEMBER LASH: And, Mr. Chairman, I
8 apologize for having not made it this morning.
9 I got stuck in the Miami Airport waiting for
10 the maintenance staff to replace a broken bulb
11 on a door indicator. They insisted that it
12 had nothing to do with the fact that American
13 Airlines had just declared bankruptcy.

14 (Laughter.)

15 I want to add my thanks to the
16 members of the Subcommittee. Over the course
17 of recent months, members of the Committee and
18 the staff have attended dozens of meetings to
19 take comments, have made a variety of site
20 visits, and have reviewed hundreds of pages of
21 very excellent comments.

22 I will summarize today the major

1 themes that we heard in the public meetings
2 and in the comments, and the way that we
3 responded to that. We have made significant
4 changes and are grateful to the public because
5 I think what they have helped us to do is to
6 improve both the clarity and the substance of
7 the report, as you will hear as I describe
8 some of those changes.

9 The process that we used is very
10 much like the process that other Subcommittees
11 used. So, I won't review that again.

12 I would emphasize, first of all,
13 that there was quite general and widespread
14 acceptance of the fact that the United States
15 will need at least one geologic repository for
16 waste under almost any scenario that we can
17 imagine. And the premise for all the other
18 recommendations of the Disposal Committee was
19 affirmed by public comment. We have to move
20 forward with this process to identify a site
21 for a geologic repository.

22 Secondly, there was very broad

1 support for the notion that the process of
2 developing such a repository should be the
3 responsibility of an independent federal
4 entity especially established for this
5 purpose, one of the prime recommendations of
6 the Subcommittee.

7 And third, there was broad public
8 acceptance of the importance of assuring that
9 the flow of waste fees is made available to
10 that authority to complete the process of
11 identifying/siting a facility. I will come
12 back to that later in the discussion. But it
13 is a particularly important matter. None of
14 this works without money.

15 Another theme was that, while
16 people accepted the basic idea that we should
17 have a consent-based process for siting and
18 development, they thought we should be clearer
19 about what that constituted; what would amount
20 to consent; what was the role of the states;
21 what kind of agreement might be established
22 between the authority and the states; at what

1 point could a state or locality make the
2 decision to opt-out of a process. And at what
3 point would their agreement to participate be
4 binding? And finally, what kinds of
5 incentives would be available to the authority
6 in order to develop agreements with potential
7 host communities?

8 A number of commenters asked us to
9 assure that the report better reflected the
10 support that exists currently in Nye County
11 for the Yucca Mountain Project. A number of
12 commenters urged us to call for completion of
13 the NRC review of the Yucca Mountain license
14 application. And finally, a number of
15 commenters expressed doubt about whether the
16 existing waste fee collections would ever be
17 adequate to complete the process of citing and
18 developing a facility.

19 Members of the public commented
20 that we should do more to explain the extent
21 to which public fear of radiation makes the
22 process of facility siting and waste

1 management generally more difficult. They
2 urged us to reconsider the use of the word
3 "prompt" in our description of the development
4 of storage and disposal capacity because they
5 felt that that might be seen as undue haste,
6 and as a tradeoff of haste against safety,
7 which was certainly not our intention.

8 And a number of commenters
9 suggested that we should develop some kind of
10 schedule so that people could see what the
11 timing might look like for the development of
12 a new facility.

13 They asked us for more details, as
14 I said earlier, they asked us for more details
15 on the consent-based process. And in response
16 to that, we have suggested adding to the list
17 of characteristics that we believe should be
18 embodied in the future siting process,
19 including a sixth characteristic in response
20 to requests to get more specific about the
21 nature of the arrangement between the waste
22 management authority and state, tribal, and

1 local governments.

2 What we intend is that host
3 states, tribes, and communities should have
4 the opportunities to become partners with the
5 waste management organization in repository
6 development or at least, at a minimum, should
7 have a court-enforceable agreement with the
8 organization to assure that commitments to the
9 states, tribes, and communities are upheld.

10 A number of commenters observed that there is
11 a long history of failing to meet those
12 commitments, which undermines the willingness
13 to enter into negotiations.

14 In the Subcommittee's visits to
15 currently-successful programs in Scandinavia,
16 we found that these kinds of agreements were
17 an important part of the ability of the
18 authority to proceed with siting. Such a
19 partnership arrangement would contain
20 specifics about the process to develop a
21 potential site, the regulatory roles of the
22 state and other units of government, the

1 amount and nature of benefits to be provided,
2 and other factors.

3 Regarding the issue of when
4 consent has been achieved, some commenters
5 suggested that consent within a state be
6 measured by a statewide referendum or ballot
7 question.

8 On the other hand, we saw in
9 looking at the WIPP facility that the facility
10 was sited, opened, and has been operated
11 without the use of such a statewide
12 referendum, but rather in direct negotiation
13 with the State government.

14 The Subcommittee has taken the
15 view that the question of determining consent
16 ultimately has to be answered by the potential
17 host state, using whatever means and timing it
18 seems fit to demonstrate that it is acting in
19 the best interest of its citizens. We
20 conclude that a good gauge of consent is the
21 willingness of the state to enter into a
22 legally-binding agreement with the facility

1 operator, where the agreement enables the
2 state to have confidence that it can protect
3 the interests of its citizens.

4 That also extends to the
5 regulatory role of the state. It is clear to
6 us that potential host states must have the
7 opportunity to negotiate a regulatory role
8 that it believes is sufficient to satisfy its
9 citizens that their interests will be
10 protected.

11 Some suggested that giving the
12 state the right to regulate radionuclides is
13 the solution to this issue. We heard mixed
14 reactions to that suggestion from state
15 representatives themselves. And our
16 conclusion is that it should be an element of
17 the negotiation between the state and the
18 authority, and that all options should be on
19 the table.

20 The Committee has taken the view
21 that defining the point at which the right to
22 unconditionally opt-out expires must also be

1 part of the negotiation of the agreement
2 between the affected units of government and
3 the waste management organization. That is,
4 we should set up a framework within which
5 these different representatives of public
6 interest should be able to negotiate a
7 specific and reliable agreement for working
8 with the authority.

9 Commenters asked that the
10 Commission provide guidance on how long the
11 waste management organization should be given
12 to attempt to employ a consent-based siting
13 process. There is, of course, significant
14 frustration about past delays, some skepticism
15 about whether a consent-based process can be
16 made to work, a fear that this could be the
17 cause for further decades of delay, and a
18 desire to set some sort of deadline.

19 The Committee acknowledges the
20 frustration and observes that it certainly
21 will take many years to develop a new
22 facility, and it can't be rushed if public

1 trust in the Nuclear Waste Management Program
2 is to be restored.

3 That said, we all agree that there
4 has to be some end point. It makes sense for
5 Congress and other stakeholders to allow a
6 lengthy period, but not forever for this
7 process. Fifteen to 20 years seemed
8 reasonable to us, following the resumption of
9 the Waste Management Program before passing
10 judgment on whether the consent-based process
11 has been making meaningful progress.

12 Finally, with respect to the
13 nature of the incentives that might be used to
14 negotiate agreements with host communities and
15 the host state, we recommend that the Nuclear
16 Waste Policy Act be amended to authorize the
17 new corporation to negotiate substantial
18 benefits, benefits far in excess of those
19 specified in Section 171 of NWPA, to be
20 provided to local communities, tribes,
21 governments, or other organizations. The
22 specific use of these benefit funds and the

1 performance metrics that would determine the
2 amount of the payments should be an element of
3 the negotiation between the new entity and
4 local and state government.

5 As I mentioned earlier, Nye County
6 and several other neighboring counties
7 commented affirming their existing support for
8 the Yucca Mountain Project. We acknowledge
9 this fact in our Draft Report and recommend
10 that it be reflected in the final BRC report.

11 We also heard comments suggesting
12 that we urge completion of the Yucca Mountain
13 license application review. Those suggestions
14 urged that the results of this review might
15 inform future depository licensing efforts in
16 the United States and abroad. This issue is
17 before the courts.

18 As our Co-Chairs stated earlier,
19 we have not rendered an opinion on the
20 suitability of the Yucca Mountain site or the
21 appropriateness of the request to withdraw its
22 license applications, and we have not made any

1 change in respect to this particular
2 suggestion.

3 Regarding doubts about the
4 adequacy of the Nuclear Waste Fund fees, and
5 whether they will be sufficient to cover the
6 cost of the program, the Nuclear Waste Policy
7 Act requires that the fee be adjusted as
8 needed to cover the actual cost of disposal.

9 We would note that a 2008 DOE
10 analysis estimated that the life-cycle cost of
11 disposing of 109,000 metric tons of commercial
12 spent fuel would be approximately \$77 billion
13 in 2007 dollars. Another DOE study concluded
14 that the level of the current waste fee at
15 one-tenth of a cent per kilowatt hour is
16 adequate to cover those costs. However, it
17 also concluded that providing assured access
18 to the nuclear waste fee and fund will be
19 essential to the long-term success of the
20 nation's Nuclear Waste Management Program.

21 I would emphasize this again, as
22 it has been a frequent subject of discussion

1 within the Subcommittee, the importance that
2 the fee collected be available for the
3 purposes for which it was collected in order
4 to have the program succeed. It is essential
5 for the long-term success of the Waste
6 Management Program to provide assured access
7 to the nuclear waste fee.

8 The Commission was asked to
9 explain how public fear of radiation makes the
10 waste management problem more difficult. We
11 acknowledge the importance of this fact and
12 suggest that the issue be reflected in the
13 final BRC report.

14 Finally, we have responded to the
15 concern about the use of the word "prompt",
16 possibly suggesting undue haste, and have made
17 appropriate changes.

18 And we were asked to also provide
19 a notional schedule so people could understand
20 how long the steps in the plan are likely to
21 take. We don't think that's possible and did
22 not provide a specific timeline for all of the

1 actions required to be completed, but we do
2 suggest adding greater specificity in the BRC
3 reports where appropriate.

4 Thank you very much, Mr. Chairman.

5 CHAIR SCOWCROFT: Thank you very
6 much, Jonathan and Chuck.

7 Are there comments, questions,
8 observations?

9 Yes, Dick?

10 MEMBER MESERVE: Mr. Chairman, I
11 think the Subcommittee has done a very
12 admirable job in what is probably the most
13 important, most significant of the work of all
14 the Subcommittees.

15 There was one of your comments,
16 however, that did raise a little concern with
17 me, which was the notion that state regulation
18 of radionuclides should be on the table as
19 part of the discussion. As a former
20 regulator, I have some concerns about that
21 from the perspective of one of the objectives
22 one should try to seek is to have stability in

1 the regulatory program and the dangers that
2 always arise when you have dual regulation.

3 What it might subject you to, for
4 example, is that one of the parties with a
5 change of Administration would have an
6 opportunity to change regulatory requirements,
7 if they have jurisdiction, going forward.

8 What I would suggest that might be
9 an appropriate subject for negotiation is not
10 the jurisdiction about to set limits for
11 radionuclides, which I think that should be
12 clearly defined and should be in one entity.
13 But this authority would have, could have the
14 capacity to adopt more stringent limits as
15 part of a negotiation.

16 And if that were to be something
17 that was worked out at the outset and decided
18 upon as part of a deal, that would be fine.

19 But I do worry somewhat about the downstream
20 consequences of the instability that could
21 result if you give the opportunity for either
22 of the parties going forward to change the

1 regulatory requirements as they deem
2 appropriate because they have the jurisdiction
3 to do so.

4 So, I would suggest a somewhat
5 different response to that comment that might
6 be more consistent with getting the consent,
7 which we obviously want to make sure you can
8 do and reflecting local interest without
9 adding possible future problems to the
10 already-difficult task of succeeding.

11 MEMBER LASH: I will let Per
12 comment in one moment.

13 I think the suggestion you are
14 making is excellent, actually. It is very
15 useful.

16 I believe that it is important to
17 emphasize that this negotiation be a
18 negotiation over implementation
19 responsibility, not the establishing of the
20 basic standards. But, still, your point is
21 well-taken.

22 CHAIR SCOWCROFT: Per?

1 MEMBER PETERSON: Yes, I would
2 like to echo I think that Dick has raised a
3 very important point, that any facility that
4 is built should meet federal safety standards
5 and that any additional requirements that
6 could be more stringent, if that is what state
7 government officials deem to be necessary,
8 should be one of the elements of negotiation,
9 but that the federal safety standards have to
10 be met as well.

11 I would like to also point towards
12 what I think is the importance of this general
13 idea that an important measure for state-level
14 consent is the development and negotiation of
15 a legally-binding set of agreements that
16 govern how a facility will be operated, that
17 a state can count on the ability to uphold
18 those agreements because they are court-
19 enforceable.

20 This goes back to another
21 important element of why we, I think, should
22 assure that flexibility is available in the

1 negotiation, and that we don't overly
2 constrain this process through the amendment
3 to the Nuclear Waste Policy Act. And it is
4 because what I have learned serving on this
5 Commission -- for example, this last set of
6 meetings that we had, where we had the
7 opportunity to meet with state and local
8 officials in Denver; I was in Atlanta and in
9 Minneapolis -- is that you need to talk to
10 people and learn from that discussion what are
11 the issues that are important, so that you can
12 then take the proper action.

13 This is why this negotiation
14 process needs sufficient flexibility for it to
15 work out properly. The value of doing that I
16 think is enormous. This is one of the reasons
17 that I believe this is one of the most
18 substantive changes or additions to our
19 Commission's recommendations that have emerged
20 out of this process that we have had over the
21 last few months of engaging public comment on
22 our draft recommendations.

1 Because the idea that negotiating
2 legally-binding agreements with states and
3 with the local communities and tribes, if
4 those are involved, being a basis for actually
5 establishing a framework for consent, I think
6 is something that is new and that is very
7 valuable. I believe we have previous examples
8 where such agreements have worked.

9 I benefitted enormously -- sorry
10 for going on a little bit further -- but I
11 benefitted enormously from discussions with
12 Geoff Fettus at the Natural Resources Defense
13 Council, who has been involved in the
14 negotiation of such agreements. It has given
15 me confidence that this is a path forward that
16 can work in terms of ultimately getting
17 states, local communities, and tribes to enter
18 into partnerships and solve these major
19 problems our nation has to safely manage and
20 dispose spent fuel and high-level waste.

21 CHAIR SCOWCROFT: Thank you, Per.

22 And are there other comments?

1 Yes?

2 MEMBER CARNESALE: A brief
3 caution, really, that relates to this one.
4 Explain how public fear of radiation makes the
5 waste management problem more difficult.
6 There is some level of public fear of
7 radiation that is warranted, right? I don't
8 like to get excessive exposure myself or
9 members of my family.

10 So, I think we have to be careful.
11 I think we do generally believe that there are
12 levels of fear in some cases that are not
13 based on the facts, but some level of fear is
14 based on the facts. And so, we have to be
15 very careful about how that is addressed.

16 MEMBER LASH: I don't think the
17 point was to suggest that there should be no
18 fear, but rather that, because there is fear,
19 this process is a difficult process and
20 requires special openness and concern for
21 safety.

22 CHAIR SCOWCROFT: Vicky?

1 MEMBER BAILEY: Jonathan, can I go
2 back to this point on the regulatory role of
3 the states and the request to amend the Atomic
4 Energy Act? And maybe give for the audience
5 and for the record a little more flavor of
6 maybe where the Committee was coming from. I
7 think that is important.

8 Having been at the federal level
9 and at the state level myself, a lot of issues
10 are regional, a lot of issues are state-
11 specific. And I don't necessarily think those
12 issues go to any kind of instability in the
13 process. I just think having a role, a
14 specific opportunity to I think give some
15 credence to some of the specific issues, be it
16 the state -- or in this case, state -- so
17 maybe just a little more flavor of the
18 discussion of why this is in here.

19 CHAIR SCOWCROFT: Any others?

20 (No response.)

21 If not, I thank you, Jonathan and
22 Chuck, once again, for your report.

1 We will now turn to Commissioner
2 Macfarlane for a briefing on the work of the
3 Ad Hoc Subcommittee on Commingling of Defense
4 and Commercial Waste.

5 As background, let me point out
6 that the decision to commingle was made in
7 1985 by President Reagan. In the comment
8 period, a number of commenters have
9 recommended that this decision be revisited or
10 even reversed, in the light of developments
11 that have occurred, and others have urged that
12 the decision not be revisited.

13 As a result, at the May 13th
14 meeting of the Commission, we directed the
15 Disposal Subcommittee to investigate whether
16 the U.S. should consider reversing the 1985
17 decision and provide its views for
18 consideration by the full Commission.

19 More recently, as a result of the
20 comments, we decided to create an Ad Hoc
21 Subcommittee to specifically focus on this
22 issue. And Commissioner Macfarlane graciously

1 agreed to chair the Ad Hoc Subcommittee.

2 And I turn the microphone over to
3 Allison.

4 Thank you.

5 MEMBER MACFARLANE: Thank you,
6 General.

7 Well, you have given part of my
8 introduction already, which is great. That
9 moves us along here. So, actually, you can
10 move to the first slide.

11 I don't get a thing? Oh, Jonathan
12 has it.

13 (Laughter.)

14 Which is the right way? To the
15 right? The right arrow. Thank you.

16 So, as the General explained, the
17 Co-Chairman explained, this Ad Hoc
18 Subcommittee is established to consider this
19 issue of whether the defense and commercial
20 high-level waste should be unmingled or
21 continue to be commingled, or whatever terms
22 you would like to use, mixed or not mixed.

1 And so, we were set up in the
2 October-ish timeframe to do this. The
3 membership on the Subcommittee is as you see
4 here. All have been active participants in
5 this issue that we have considered recently.

6 What we have done is, this issue
7 has been highlighted for public comment at a
8 number of the regional meetings. We actually
9 had a separate panel discussion on this topic
10 particularly in the October 20th meeting that
11 we had here in Washington.

12 And the staff kindly prepared some
13 background information on this and an options
14 paper, which is posted on the website for you
15 all to read.

16 And we have had a couple of
17 discussions as a Subcommittee since then,
18 remotely for the most part. And so, we are in
19 the process of dealing with this issue. So,
20 let me show you what we have come up with so
21 far.

22 As many of you know, in 1985,

1 President Reagan issued a decision to not
2 separate defense high-level waste and
3 commercial high-level waste and just put them
4 together for disposal in one repository. And
5 that is how the Department of Energy has been
6 operating since then.

7 But, as the Co-Chairman pointed
8 out, we have heard comments both for and
9 against, and quite a few comments for and
10 against revisiting this decision, reversing
11 this decision, not reversing this decision,
12 not revisiting this decision. Let me
13 highlight a couple of those for you.

14 We have heard from state agencies,
15 from non-governmental organizations, from
16 others, other experts who are interested in
17 this issue. Just to highlight a few comments:

18 For example, from the Washington
19 State Department of Ecology, they said, "We
20 suggest" -- I'm quoting -- "a change to the
21 recommendation stating that the United States
22 Department of Energy high-level waste and

1 spent-fuel waste should be considered
2 separately."

3 From the South Carolina Department
4 of Health and Environmental Control, "The
5 Department of Health and Environmental Control
6 believes that breaking the waste into two
7 categories, while retaining DOE as the
8 managing organization for its waste, is a more
9 practical option for several reasons," which
10 they went and listed.

11 The Yakama Nation said that they
12 thought a separate repository process would be
13 beneficial for defense high-level waste.

14 The State of Idaho believes that
15 managing the DOE inventory separately from
16 commercial fuel will achieve the DOE and
17 Navy's obligations best.

18 At the same time, during that
19 October 20th public comment meeting, when we
20 had that panel discussing commingling, many,
21 most of the panelists felt actually the
22 opposite.

1 Mike Lawrence, who was the former
2 DOE Hanford Site Manager, said that he didn't
3 believe that commingling would be the right
4 thing to do.

5 Brian O'Connell, representing
6 NARUC, which is the National Association of
7 Regulatory Utility Commissioners, I think,
8 said, "Our preference is for a combined
9 facility," meaning don't unmix.

10 Beatrice Brailsford from the Snake
11 River Alliance said, "Reversing commingling
12 would cause additional problems. We have one
13 waste stream now and, all of a sudden, we
14 would have two."

15 And Steve Kraft from the Nuclear
16 Energy Institute noted that, "I don't see how
17 that success" in managing the back-end of the
18 fuel cycle "is aided by undoing a commingling
19 decision that has withstood the test of time."

20 So, we really did get comments
21 very strongly on both sides of this issue.

22 And as we started to discuss the

1 issue ourselves, we realized that it is
2 actually quite a complex issue. There are
3 quite a few issues, sub-issues that relate to
4 this issue that we should consider.

5 The current context that made us
6 really begin to rethink this at all is that,
7 since 1985, there have been some changes.
8 One is a shift in the Department of Energy
9 away from the production of these materials to
10 a cleanup mode. That is very different from
11 the situation in 1985.

12 A second was the establishment of
13 these legally-binding commitments, which you
14 just heard a fair bit about as potential in
15 the future, but that these legally-binding
16 commitments exist now, especially with the
17 State of Idaho, for example, to clean up these
18 sites.

19 Another issue is that, currently,
20 the lack of statutory authority to develop a
21 repository other than Yucca Mountain exists
22 under the Nuclear Waste Policy Act. So, we

1 are kind of stuck in that position. At the
2 same time, we have seen the successful
3 operation of the Waste Isolation Pilot Project
4 repository in southern New Mexico. But, of
5 course, the mission of WIPP is limited
6 explicitly to TRU waste from defense
7 activities only.

8 We, ourselves, have been
9 recommending the establishment of a new
10 organization outside of the Department of
11 Energy to develop and operate repositories.

12 There is, in addition, the
13 existence of wastes, of nuclear wastes, for
14 which the Department of Energy has assumed
15 disposal responsibility other than those
16 specifically named in the Nuclear Waste Policy
17 Act. Those include greater than Class C
18 wastes, the West Valley high-level waste glass
19 now, the damaged Three Mile Island spent fuel,
20 and there are a number of other small volumes
21 of wastes that need to be considered.

22 So, these are some of the issues

1 that have changed. In addition, there are a
2 number of issues that I think remain
3 unresolved. These issues are such as the
4 falling -- did I miss one? Yes, I did. Okay.

5 These issues tend to be technical,
6 organizational, policy-oriented, such as:
7 should the definition of wastes that go to a
8 defense repository be broadened? If so, how?
9 Would the responsibility for disposal of
10 Department of Energy wastes remain with the
11 Department of Energy or go to a new management
12 organization, say if the wastes were
13 unmingled? Could a repository first developed
14 for defense waste later be used for commercial
15 waste, and how would that work? What are the
16 implications of the fact that much of the
17 defense waste, especially the high-level
18 waste, the liquid high-level waste at places
19 like Hanford, is not yet in a form suitable
20 for disposal?

21 How could pursuing the separate
22 paths for siting defense and commercial waste

1 affect either? In other words, would siting
2 a commercial repository potentially be slowed
3 down by the establishment of a defense
4 repository?

5 What are some of the technical
6 issues associated with the performance of
7 these different waste types in different
8 repository environments? And how can
9 appropriate compensation and incentives be
10 provided for a host community of a defense-
11 only site, for instance, relative to a
12 commercial site?

13 These are just a small subset of
14 some of the issues that reflect how
15 complicated the overall situation is here.
16 And so, let me just tell you where we are in
17 terms of our Subcommittee.

18 We are still in the process of
19 developing a recommendation. But, mostly, and
20 most importantly, we believe that the
21 implementation of our overall recommendations,
22 many of which you have heard discussed today,

1 should not wait for this issue to be resolved.
2 The most important thing is to move forward
3 with our recommendations, our seven or eight
4 recommendations that we have outlined in our
5 Draft Report.

6 And, of course, congressional or
7 Administration efforts to implement these
8 recommendations can and should proceed as
9 expeditiously as possible.

10 So, that is mostly where we are
11 falling out on this, is that we need to move
12 forward with our recommendations. This issue
13 is an important one. It does require
14 attention, and we are working on it. But we
15 have come to it late.

16 CHAIR HAMILTON: Mr. Chairman?

17 CHAIR SCOWCROFT: Thank you very
18 much, Allison.

19 Yes, sir?

20 CHAIR HAMILTON: I just wanted to
21 thank Allison. Brent, you and I handed her a
22 difficult assignment, and we handed it to her

1 very late in the game. She and the other
2 members of the Subcommittee have really, in a
3 very diligent way, gone at the commingling.

4 So, Allison, we are very grateful
5 to you for the way you have brought this
6 forward to the Committee, and I know you have
7 got additional work to do. But I want
8 everybody to understand that we gave her that
9 assignment quite late. And she and the
10 Committee members have done an excellent job
11 thus far.

12 CHAIR SCOWCROFT: I concur. I
13 think Lee speaks for the whole Committee on
14 that issue.

15 Are there comments, questions,
16 observations?

17 Per?

18 MEMBER PETERSON: I would like to
19 reinforce Allison's point that is made about
20 the importance of moving forward expeditiously
21 to implement the Commission's recommendations,
22 both the actions by the Executive Branch on

1 the fee collection, which are needed and
2 recommended in the draft and will be in the
3 final report, I would believe, and then, also,
4 the changes in the Nuclear Waste Policy Act.

5 I do think it is important for us
6 to reexamine, in parallel with that, these
7 questions associated with commingling. But I
8 would just point out that, while in theory it
9 might be possible to move forward under the
10 existing Nuclear Waste Policy Act to develop
11 a defense-waste-only repository, that as best
12 I can tell in reviewing the statute, it really
13 would be strictly limited to defense waste,
14 which means, for example, you could not use it
15 for the wastes that are currently stored at
16 West Valley because they have some civil
17 content in addition to defense content.

18 And so, the most important point
19 is that all of these issues can be resolved in
20 a much better way if they are under a new
21 legal framework based on amendment of the
22 Nuclear Waste Policy Act to implement our

1 recommendations. We need to be moving forward
2 working with the Administration, with
3 Congress, to get these actions taken as soon
4 as possible because that is the best way to
5 get us restarted and managing these materials
6 that we need to be taking care of.

7 CHAIR SCOWCROFT: Thank you, Per.

8 Other comments?

9 (No response.)

10 If not, that concludes our formal
11 agenda.

12 I want to remind everyone again
13 that the recommendations we just heard may or
14 may not be adopted by the full Commission. We
15 will now integrate the proposed comment
16 resolution offered by the Subcommittees and
17 the views expressed here today into a final
18 report to the Secretary at the end of January.

19 And now, we will take a 15-minute
20 break before we go to the public comment
21 portion of our meeting.

22 (Whereupon, the above-entitled

1 matter went off the record at 1:15 p.m. and
2 resumed at 1:31 p.m.)

3 MR. FRAZIER: General, sir, are
4 you ready?

5 CHAIR SCOWCROFT: I am ready.

6 MR. FRAZIER: Let's go.

7 CHAIR SCOWCROFT: All right.

8 We now have the opportunity to
9 hear public comments. Based on the number of
10 people who have signed up, we can allow four
11 minutes per speaker.

12 I will call the names of the
13 speakers in the order they have signed up,
14 along with the name of the following speaker,
15 so he or she can be ready when it is his turn.

16 With that, we will hear now from
17 Gary Hollis, followed by Bob Halstead.

18 Mr. Hollis?

19 Oh, I might mention we do have a
20 little green, amber, and red light here, which
21 will indicate to you. When the amber light
22 goes on, you have one minute left, and when

1 the red light goes on, that's a red light.

2 (Laughter.)

3 MR. HOLLIS: Good afternoon.

4 My name is Gary Hollis. I am
5 Chairman of the Nye County Board of
6 Commissioners.

7 We agree with most of your
8 recommendations, especially your consent-basis
9 siting and your prompt efforts recommendation.

10 Nye County is a consenting host
11 county. We have a major head start on most
12 scientific and technical issues associated
13 with geological disposal. DOE has already
14 provided information and data that documents
15 more than 30 years of study. That should put
16 Nye County at least 20 years ahead of any
17 other community that volunteers.

18 Mr. Chris Kouts testified at the
19 House Subcommittee on Environment and the
20 Economy that the Office of Civilian
21 Radioactive Waste Management could be
22 restarted in 18 months, whether reestablishing

1 a DOE role or creating a separate corporation.

2 Continuation of the Yucca Mountain
3 license is the only proper way possible to
4 develop a geological facility for nuclear
5 waste. Most importantly, the Yucca Mountain
6 process is the law, and I outraged it is so
7 blatantly being ignored. I believe the
8 American people are similarly outraged.

9 To paraphrase former President
10 Ronald Reagan, "The public, through its
11 elected officials, has the means to change a
12 law if we disagree with it, but we cannot, as
13 citizens, pick and choose the laws we will or
14 will not obey."

15 Congress passed the Nuclear Waste
16 Policy Act. It needs to be followed or it
17 needs to be changed. The BRC is not a siting
18 commission, but remaining silent regarding the
19 abandonment of the Yucca Mountain Project has
20 nothing to do with repository siting. Your
21 silence makes you complicit in the violation
22 of federal law.

1 Claiming that the Secretary's
2 direction prohibits you from considering Yucca
3 Mountain is just wrong. Your Charter makes no
4 such prohibition, and the Federal Advisory
5 Committee Act does not allow a sponsoring
6 authority to unduly influence you as an
7 independent commission.

8 So, follow the law. Put the
9 organization in place and find a better way to
10 access the Nuclear Waste Trust Fund, and start
11 moving the waste for emplacement.

12 Your conclusion that disposal is
13 needed and that deep geological disposal is a
14 scientifically-preferred approach has been
15 reached by every panel that has looked at the
16 issue and by every other country that has
17 pursued a nuclear waste management program.

18 So, exercise your independent and
19 your political courage to include a
20 recommendation endorsing completion of the
21 NRC's review of the Yucca Mountain license
22 application.

1 Thank you.

2 CHAIR SCOWCROFT: Thank you very
3 much, Mr. Hollis.

4 Bob Halstead, followed by Dan
5 Brown.

6 MR. HALSTEAD: Thank you, Mr.
7 Chairman.

8 I am Bob Halstead. I am Executive
9 Director of the State of Nevada Agency for
10 Nuclear Projects.

11 The State of Nevada applauds this
12 Commission and the staff for the process that
13 was used in developing the Draft Report. In
14 our opinion, the Commission and its staff have
15 done an admirable job with a difficult task.

16 The State of Nevada strongly
17 supports the Draft Report recommendations
18 regarding consent-based siting and waste
19 program reorganization.

20 Regarding commingling of defense
21 and commercial waste, we believe the critical
22 implementation issues for a defense-only

1 repository would be the same as for a
2 commingled repository, that is, consent-based
3 siting and NRC licensing. And we support the
4 staff recommendation in the background paper
5 that was prepared for you that any
6 reexamination of the 1985 commingling decision
7 should be done independently of DOE.

8 And we were pleased to hear this
9 morning the Transportation and Storage
10 Subcommittee recommendations. We certainly
11 will look forward to seeing how they are
12 reflected in the Commission's final Report.
13 And I will take just a minute to talk about
14 the transportation issue.

15 As you know, we have provided a
16 considerable amount of documentation and
17 testimony to the Commission on the
18 transportation issue. This is because future
19 spent nuclear fuel shipments will certainly be
20 dramatically larger than current shipments and
21 because routine shipments and accidents both
22 create the potential for radiation exposures

1 to workers and members of the public, and
2 certainly create perceived risk, even in cases
3 where actual radiation exposures are far below
4 regulatory concerns. Certainly, we expect
5 terrorism and sabotage to continue to be
6 serious concerns in the future.

7 And so, we continue to urge the
8 Commission to expand the discussion of
9 transportation issues into a separate chapter
10 in the final report and to adopt the following
11 five recommendations:

12 One, a recommendation that the
13 implementing entity should give equal
14 consideration to transportation as it does for
15 storage and disposal as part of the planning
16 and designing of a new national nuclear waste
17 management system.

18 Two, the implementing agency
19 should address transportation requirements for
20 storage and disposal facilities, such as
21 mainline railroad access and interstate
22 highway access, in the earliest possible

1 stages of site selection.

2 Three, the implementing agency
3 should adopt all of the National Academy of
4 Sciences' 2006 recommendations for
5 transportation risk management. We were happy
6 to hear that that seems to be the same
7 recommendation coming from the Subcommittee.

8 And in particular, we note that
9 adoption of the NAS recommendations regarding
10 full-scale shipping cask testing and social
11 impact management, if done early, would be
12 especially helpful regarding the site
13 selection process.

14 Finally, or point 4, the
15 implementing entity should follow the WIPP
16 transportation model in developing a national
17 transportation plan in cooperation with
18 states, tribes, and local governments and
19 state regional groups.

20 And finally, the implementing
21 agency should insist, if it is not already
22 required because of its legal status, upon

1 full NRC regulation of all shipments to
2 storage and disposals.

3 And let me conclude by restating
4 the State of Nevada's opposition to any future
5 consideration or further consideration of
6 Yucca Mountain for nuclear waste disposal,
7 storage, or any related activity.

8 Just on a personal note, I think
9 this Commission has done a terrific job. I
10 have been to a lot of the meetings. I have
11 come to have enormous respect and fondness for
12 the members of the Commission and working with
13 the staff.

14 On behalf of the State of Nevada,
15 I would say that we really appreciate the way
16 that you have approached this subject.

17 Thank you.

18 CHAIR SCOWCROFT: Thank you, Mr.
19 Halstead.

20 The next speaker is Dan Brown,
21 followed by Kara Colton.

22 MR. BROWN: Good afternoon.

1 My name is Danny Brown. I am with
2 Securad, Incorporated of Canada.

3 I would like to follow up on the
4 last speaker's comment that it is about time
5 you guys got some compliments for the work
6 that you have done as unpaid volunteers for
7 the last 16-18 months. I think you have done
8 a phenomenal job, and the choice of
9 Commissioners was excellent right from the
10 beginning. You have proven that whoever made
11 the decisions was wise. I think you have done
12 a fabulous job.

13 The staff, Tim Frazier and John
14 and the different people, are so professional.
15 It has been a pure pleasure to be here.

16 My one complaint is the hearings
17 are coming to an end and I won't have the
18 chance to have regular contact with you in the
19 future.

20 In regard to a corporation, if you
21 create a quasi-government entity, I would
22 recommend that you take a look at the Crown

1 corporations of Canada. It is routine in the
2 Canadian system to create quasi-government
3 corporations to manage various areas of
4 activity, and the result has been less than
5 stellar. So, you might want to take a good
6 look at that.

7 Personally, I think you would be
8 better to have a private corporation, a
9 private sector corporation manage this solving
10 the used-fuel problem and getting assistance
11 where and as needed from the appropriate
12 government agencies. But let the private
13 sector lead the effort, and I think you will
14 get better results in the long run.

15 Lastly, I would like to say that
16 my organization, thanks to this Commission,
17 has met a number of people from different
18 corporations, et cetera. We are forming a
19 consortium to build a global deep repository.
20 When and if we succeed in that effort, we are
21 going to be crediting this Commission as
22 having been the catalyst that allowed us to

1 meet the right people, talk to the right
2 people, hear from wise people, experienced
3 people, and build a consensus that we really
4 need to solve this problem, and we need to
5 solve it now. We shouldn't be kicking the can
6 down the road another 25, 50, 100 years.

7 The world needs to move forward
8 with American leadership into a clean energy
9 future. I think nuclear will become the
10 baseline power source. We need a new energy
11 grid. We need to create 2 million jobs. Both
12 Republicans and Democrats see the need for
13 redeveloping our energy sector. Republicans
14 support it to support the energy industry;
15 Democrats support it because they want to deal
16 with climate change and issues of that kind.
17 It is one of the few areas where both sides
18 agree that we need to rebuild our energy grid.
19 I would like to see modular reactors become a
20 major part of that new energy system.

21 So, again, I want to thank you
22 very much. It has been an absolute pleasure

1 working with all of you.

2 And one last thing. I would like
3 to encourage the Commissioners -- and I know
4 you have been volunteering; I know it has used
5 a lot of your time -- but I would really like
6 to see you stay involved and pursue it, keep
7 pushing until we do get a solution. You are
8 in a position to be listened to by a lot of
9 different people, decisionmakers. It is nice
10 that you are producing a great report, but it
11 would be really good if we make sure it gets
12 implemented.

13 Thanks very much

14 CHAIR SCOWCROFT: Thank you very
15 much, Mr. Brown. We appreciate your comments.

16 The next speaker is Kara Colton,
17 followed by Linda Lewiston.

18 MS. COLTON: Hi. My name is Kara
19 Colton. I am the Director of the Nuclear
20 Energy Program at the Energy Communities
21 Alliance. ECA is a member organization of
22 local governments working on and impacted by

1 nuclear issues and the likely potential hosts
2 of sites for new nuclear reactors, technology
3 demonstrates, and waste storage.

4 ECA believes the BRC's process is
5 the first step in rebuilding trust that has
6 eroded over time among DOE, the NRC, states,
7 and the communities which are most affected by
8 the federal strategy regarding nuclear waste
9 management.

10 We appreciate the opportunity to
11 comment. We have appreciated the opportunity
12 to comment throughout this whole process and
13 again today.

14 While our detailed comments have
15 been submitted in writing, my comments will
16 address some of our key issues today.

17 First, ECA believes that defense
18 high-level waste should be decoupled from
19 commercial used fuel. There is defense high-
20 level waste that is older, colder. It has
21 been vitrified and it is ready to go into a
22 repository, its only disposition path. It can

1 be addressed immediately. It doesn't need to
2 wait for an NRC process to start.

3 While the industry has for years
4 argued to keep the waste together for
5 political reasons, we no longer agree. We
6 think that we should pick a pilot program,
7 like we did with TRU waste at WIPP, and move
8 forward with it now. Doing so should save
9 billions of dollars.

10 With estimates of 20 to 30 years
11 to establish a disposition path for commercial
12 used fuel, it doesn't seem to make sense to
13 wait to move the waste when we can alleviate
14 the risk in the communities now that helped
15 support our national security efforts in the
16 past.

17 In fact, demonstrating that the
18 high-level waste can be successfully
19 dispositioned can increase public confidence
20 that the federal government can safely manage
21 and dispose of nuclear waste.

22 ECA agrees with the BRC's

1 recommendation for a new consent-based
2 approach to site future nuclear waste
3 management disposal facilities. We agree that
4 any new approach should have the transparency,
5 flexibility, patience, responsiveness, and a
6 heavy emphasis on consultation and
7 cooperation, as you noted in the Draft Report.

8 ECA would add that any new
9 approach prescribed that impacted local
10 governments and communities, those adjacent to
11 the specific sites, be engaged early and
12 actively in the process to ensure that their
13 involvement is meaningful.

14 We also ask that the final report
15 include what the Draft Report did not, a
16 specific oversight role for communities and
17 funding, so that the local governments have
18 the resources necessary to carry out their
19 oversight responsibilities.

20 In regard to developing a new
21 organization to implement waste management,
22 ECA could potentially support its

1 establishment, but we have concerns about how
2 long it will take to create this new entity,
3 given that legislation will be required. We
4 are pleased that the BRC has looked at past
5 efforts and we encourage you to continue to do
6 so, look at why past efforts failed, and avoid
7 significantly increasing the period of time
8 before waste is moved from existing sites.

9 We also hope that there will be a
10 specific requirement for any new entity that
11 is created to include a local government
12 official on its board of directors from the
13 jurisdiction where the nuclear waste will be
14 located.

15 ECA agrees that there should be
16 access to funds in the Nuclear Waste Policy
17 Act independent of the annual appropriations
18 process. The funds should be used as
19 originally outlined and intended in Section
20 302 of the Nuclear Waste Policy Act.

21 However, our members are concerned
22 about how assured access will be defined and,

1 also, how long it will take to implement
2 changes, given the need to pass new
3 legislation.

4 Finally, I just want to remind you
5 that our members will be impacted by any
6 actions taken on the recommendations and any
7 actions not taken on the recommendations. We
8 are concerned about whether the political will
9 exists to implement any of the recommendations
10 and, also, how we can work to ensure that it
11 does.

12 We are thrilled with your work,
13 and we are pleased to offer any assistance as
14 you all prepare your final report.

15 Thank you.

16 CHAIR SCOWCROFT: Thank you very
17 much, Ms. Colton.

18 The next speaker is Linda
19 Lewiston, followed by Diane D'Arrigo.

20 MS. LEWISTON: Hi. My name is
21 Linda Lewiston, and I represent Nuclear Energy
22 Information Service of Illinois.

1 I was going to say that John Rowe
2 and I were the only people here today from
3 Illinois, but I don't see him here, either.
4 So, I guess I am the only one from what we
5 call "Nuke Central" because, as many of you
6 know, we have more radioactive waste in
7 Illinois from nuclear reactors than anywhere
8 else.

9 We support the recommendations of
10 the Blue Ribbon Commission as far as we can on
11 reprocessing, that reprocessing should not be
12 an option, but we disagree that not even at
13 the R&D level, that the proliferation issues
14 in regard to reprocessing have not been
15 adequately addressed yet, and that it is a
16 costlier and more environmentally-damaging
17 technology than once-through disposal.

18 We disagree with the BRC that
19 regional interim storage of high-level
20 radioactive waste should not be adopted. As
21 mentioned, the high-level radioactive waste
22 can be safely stored in dry casks for as long

1 as 100 years onsite with appropriate
2 maintenance and license renewals.

3 Interim storage proliferates more
4 high-level radioactive waste sites,
5 contaminating even more sites nationwide.
6 Something Congress disingenuously said in
7 2003, we should be reducing by opening Yucca
8 Mountain.

9 Which of these positions is the
10 hypocritical one? It will necessitate
11 unnecessary and costly double-transportation,
12 and Illinois would be a prime candidate to
13 host such a facility, given its already large
14 quantity of high-level radioactive waste and
15 elaborate transportation network.

16 On the front page of The Chicago
17 Tribune several years ago, it exposed the
18 exact routes that would be involved in the
19 Yucca Mountain transport plan. It would have
20 brought thousands of shipments through
21 Chicago, many on barges on Lake Michigan, and
22 come within a quarter mile of the Art

1 Institute. Terrorists just need to gather
2 their weapons and wait for the trains to come.
3 The transport casks are not designed to
4 withstand anti-tank missiles, for example.

5 The 2006 NAS study said to wait at
6 least 10 years because of these risks, and we
7 support the use of hardened onsite storage in
8 the meantime. The risks onsite will
9 inevitably continue for the whole decade.

10 And one example of the
11 transportation risks that has already
12 occurred, the highly-radioactive Big Rock
13 Point reactor pressure vessels, weighing 290
14 tons, traveled by train from northern Michigan
15 to Barnwell, South Carolina -- this was a few
16 years ago -- to be buried in a ditch at a
17 leaking pump. The weight on the damaged train
18 tracks in Grand Ledge, Michigan, as well as a
19 spot in the Carolinas, caused train
20 derailments in its wake with trains that came
21 along later. These are incredibly-heavy
22 containers.

1 A dedicated train with five 100-
2 ton transport casks could put 500 tons of
3 weight on a single train bridge at various
4 places in this country. Will the bridge
5 collapse under the weight? How high up is
6 that bridge? What is below it?

7 In conclusion, we support
8 recommendations that would keep the high-level
9 radioactive waste onsite in more protected
10 technology under hardened onsite storage.

11 Thank you.

12 CHAIR SCOWCROFT: Thank you, Ms.
13 Lewiston.

14 The next speaker is Diane
15 D'Arrigo, followed by Arjun Makhijani.

16 (No response.)

17 Do we have Diane D'Arrigo here?

18 (No response.)

19 Okay. All right. Could we go to
20 Arjun Makhijani?

21 MR. MAKHIJANI: Thank you very
22 much, General.

1 I really wanted to thank the
2 Commission. You started your work by
3 everybody complaining about a lack of openness
4 and lack of public comment, and how everything
5 was predetermined. And you listened right
6 away. You opened it up. You transcribed the
7 proceedings. You webcast the proceedings.
8 You expanded the public comment. And in this
9 culminating session, you showed that you took
10 the public comment seriously. So, I think
11 that is really very exemplary, and I want to
12 thank you for doing that.

13 Of course, you are not obliged to
14 agree with all the public comment because you
15 possibly couldn't because so much of it was
16 contradictory. But, nonetheless, I will plug
17 for my own public comments, as you will
18 likewise understand.

19 I want to address the commingling
20 question first. I want to preface that by
21 saying, as you probably know, I wrote the
22 comments for the Yakama Nation, which they

1 reviewed and endorsed and sent on to you their
2 comments. I am not representing the Yakama
3 Nation today. I haven't cleared what I am
4 going to say with them because I hadn't
5 reviewed your paper before then. So, I just
6 want to make it very explicit on the record
7 that I am speaking for myself here. They may
8 agree with me, but they may not.

9 The commingling paper, I want to
10 thank you for including these other wastes, at
11 least mentioning them somewhere in the
12 Commission record, that they are an important
13 technical issue to be considered.

14 For me, however, it is not enough.
15 My central reason for wanting commingling was
16 that these other wastes should be designated
17 to go to a repository. The source term just
18 for the graphite blocks at Hanford is three
19 and a half times bigger than what would have
20 been allowed at Yucca Mountain emissions from
21 70,000 tons of nuclear waste disposal. That
22 means that stuff should go to a repository.

1 If this Commission doesn't feel
2 that it can say that, I think you should leave
3 the commingling issue alone. If you cannot
4 say the depleted uranium, that stuff that is
5 going to pollute groundwater to hundreds of
6 times and thousands of times above drinking
7 water limits, and here we are going to protect
8 water that is thousands of feet below a level,
9 and we are going to leave the Columbia River
10 alone, then I think the Commission should
11 leave that issue alone.

12 My main reason for putting that
13 issue forward was to hope that the Commission
14 will fully seize its Charter to address the
15 nuclear waste question. I did reread your
16 Charter today. I can understand you didn't
17 have the time to address everything. Fine.
18 But I took your charter seriously and proposed
19 that, and if you cannot accommodate that
20 within your deliberations -- it is last-minute
21 -- I think you should leave the existing
22 policy alone.

1 The second thing, I think the DOE
2 cannot be allowed to have a role in the
3 defense repository process or in the spent-
4 fuel process. It just cannot. I cannot
5 support that. The DOE has messed up the
6 repository process from day one, 1983 -- year
7 two. I should modify, not exaggerate.

8 So, I think on those two grounds I
9 would strenuously oppose if you did not
10 support putting all these other wastes in a
11 deep repository and you did not support this
12 thing being in your new organization. Both
13 repositories should happen in the same
14 process. Having a different process for
15 defense waste is not a supportable idea to me,
16 anyway.

17 One area in which I am not very
18 happy about your response to public comment,
19 I made a presentation to you quite a long time
20 ago in which I demonstrated that, no matter
21 what your position on nuclear power,
22 reprocessing existing spent fuel makes no

1 technical or economic sense whatsoever.

2 I don't see that you have
3 addressed it. I don't see that you have seen
4 it. Yes, you have addressed the technical
5 issues. Whether you like breeder reactors or
6 advanced technologies or not, I just cannot
7 see how that makes sense, and I would love for
8 you -- you have technically some of the most
9 technically-eminant people in the country. I
10 would really like to hear from those
11 technically-eminant people as to why you
12 haven't addressed what I think was a
13 carefully-done piece of presentation to you.

14 Thank you.

15 CHAIR SCOWCROFT: Thank you, Mr.
16 Makhijani.

17 The next speaker is Ron Johnson,
18 followed by Judy Treichel.

19 Ron Johnson? Okay.

20 MR. JOHNSON: Good afternoon.

21 Thank you, Chairmen Hamilton,
22 Scowcroft, and members of the Commission.

1 My name is Ron Johnson. I am
2 Assistant Secretary/Treasurer for the Prairie
3 Island Indian Community in the State of
4 Minnesota, on the tribal council.

5 We are pleased that Commissioner
6 Bailey and Commissioner Peterson were able to
7 visit our homeland on Prairie Island the day
8 before the Blue Ribbon Commission's public
9 meeting in Minneapolis on October 28th, 2011.

10 After hosting similar meetings
11 with federal, state, and representatives over
12 the years, we have learned, unless you
13 actually come to Prairie Island and see it for
14 yourself, you really can't appreciate just how
15 close the community is to the Prairie Island
16 Nuclear Generating Plant.

17 We met in our tribal council
18 chambers, a mere three-quarters of a mile from
19 the plant's dry cask facility. Looking out
20 the window through the 340-kilowatt power
21 lines that run adjacent to our community, you
22 can easily see that the containment domes of

1 the two nuclear reactors are less than a mile
2 away.

3 We truly appreciate that
4 Commissioner Bailey and Commissioner Peterson
5 and other members of the Commission staff took
6 a few hours out of their day to see with their
7 own eyes what our tribal members live with
8 every day of their lives on Prairie Island.

9 The spent fuel is piling up less
10 than one-half of a mile from our nearest
11 tribal residence, and it will remain an
12 unwelcomed threat to our tribe until it is
13 removed, as promised, to a permanent
14 repository.

15 We have 40 years of failed federal
16 policies with the only progress being to
17 rewrite the promises to remove the spent
18 nuclear fuel. It is hard to have any faith in
19 a 40-year policy whose only measured successes
20 are regulatory amendments that simply kick the
21 can down the road 10, 30, 60, and now maybe
22 even 200 years at a time.

1 Please understand I mean no
2 disrespect to the members of the Commission
3 and your staff, who I know are working very
4 hard to fulfill the BRC's mandate. But, as I
5 am sure you can appreciate, our tribe is sick
6 and tired of hearing more promises that will
7 in all likelihood be rewritten, be broken in
8 another 40 years.

9 There are those who will all
10 quickly dismiss the concerns of our tribe.
11 They say the risk of harm to our community is
12 so low that we really shouldn't be concerned
13 at all. We say, "Tell that to the residents
14 of Fukushima, Japan." I'm sure they received
15 the same assurance, platitudes, that we hear
16 every day, assurance and platitudes that are
17 all too easily made, but will mean absolutely
18 nothing if there's any kind of event at the
19 plant or the dry cask storage facilities.

20 Nine months after the disaster in
21 Japan, members of our tribe truly are haunted
22 by the images of abandoned homes and abandoned

1 communities. The people of Japan are living
2 out our worst fears, forced removal from their
3 homes and the loss of their homeland with
4 little hope of ever returning.

5 We didn't ask for the plant or its
6 dry cask storage facility. All we ask now is
7 that the federal government fulfill its
8 promise to remove the spent nuclear fuel from
9 our homeland.

10 Thank you.

11 CHAIR SCOWCROFT: Thank you, Mr.
12 Johnson.

13 The next speaker is Judy Treichel,
14 followed by Alex Pavlak.

15 MS. TREICHEL: I am Judy Treichel
16 of the Nevada Nuclear Waste Task Force.

17 I, first, just wanted to say that
18 I was really surprised with Commissioner
19 Meserve's report on, the point that he made
20 about Fukushima and that there was not
21 extensive damage to the fuel because that goes
22 against everything that I have heard. And

1 perhaps I misunderstood, but I was surprised
2 by that.

3 Secondly, I think it is a mistake
4 to consider separating the treatment of
5 defense waste and commercial waste because I
6 don't think that the dangers are separate, and
7 I don't know why DOE would be competent to
8 handle the defense waste; whereas, a new
9 entity must be created to handle commercial.

10 And I think part of that goes to
11 the problem of the way that we classify
12 nuclear waste and the fact that the danger
13 isn't the primary concern, but what is looked
14 at is where and how the waste was produced.

15 So, if you look at the issues that
16 were listed for considerations for or against
17 commingling, there were six of them. The
18 first was cost-efficiency, and I cannot
19 believe that separating the waste and treating
20 them separately would save any cost. It would
21 certainly cost a lot more to do that.

22 Health and safety, I'm not sure,

1 either. Because if there is any thought out
2 there that getting a repository for defense
3 waste is easier than getting one for
4 commercial waste, that can only happen if
5 health and safety and consent are sort of cast
6 to the winds.

7 The regulation should be the same
8 for both. With transport, possibly there
9 would be increased transport if you've got two
10 separate repositories with waste going in
11 different directions. And I don't believe
12 that it does anything for public
13 acceptability.

14 It seems to me that it would be a
15 confusing and just a sort of overwhelming
16 thing for the public to be faced with sites
17 being chosen for repositories, for storage,
18 whatever, in tandem for two different kinds of
19 waste. It just seems to me that it makes a
20 lot more sense to keep them together because
21 they are all dangerous, and the danger and the
22 public health and safety has to be the first

1 requirement, regardless of what you are doing.

2 So, I thank you very much.

3 CHAIR SCOWCROFT: Thank you very
4 much, Ms. Treichel.

5 The next speaker is Alex Pavlak,
6 followed by Norman Meadow.

7 MR. PAVLAK: Thank you for
8 allowing me to speak to you this afternoon.

9 My name is Alex Pavlak. I am an
10 unaffiliated engineer. I would like to talk
11 for a couple of minutes about the big picture.

12 Society doesn't trust nuclear
13 power. Their vision of the future is based on
14 Three Mile Island, Fukushima, Chernobyl, waste
15 dumps that are toxic for 100,000 years.

16 Society needs a credible vision of nuclear
17 power that is cheap, safe, sustainable, and
18 secure. That is the BRC Charter. It is in
19 your Charter, not exactly those words, but
20 that is your Charter.

21 So, where is it? Where is the
22 vision? The BRC has been fixing a broken

1 waste management system, and in my view doing
2 an excellent job. I applaud its work. But I
3 don't see a big picture. There is no context.

4 Nobody is mentioning the fact that
5 WIPP and Yucca Mountain are excellent
6 solutions, if we are dealing with fission
7 products where you isolate it from the
8 biosphere for 100 years.

9 The actinides, on the other hand,
10 will have lifetimes of 100,000 years. This is
11 going to going to create some difficulties at
12 some point.

13 So, what's next? How does one go
14 about developing the big picture? And I would
15 like to use Apollo as an example.

16 In 1961, Jack Kennedy announced
17 that America was going to put a man on the
18 moon. At that point, NASA was confronted with
19 exactly the same issue that nuclear power is
20 confronted with today: how are we going to
21 deal with this?

22 When the politicians made the

1 decision, they assumed that we would launch a
2 rocket from the surface of the earth to the
3 surface of the moon and come back. The comic
4 book hero Flash Gordon does it every day.
5 What's the big deal?

6 The rocket scientists knew better.
7 The rocket scientists wanted to launch a
8 number of rockets and assemble a big rocket in
9 earth orbit, go from earth orbit to the
10 surface of the moon and return.

11 And then, we had a guy down in the
12 bowels of NASA-Langley saying, "No, no, no.
13 The right way to do this is a lunar orbit
14 rendezvous." You go from the surface of the
15 earth to a lunar orbit, drop a guy down, pick
16 him up, and come home.

17 It took NASA one year to run those
18 scenarios, one year to do the system tradeoffs
19 and the risk assessments. At the end of one
20 year, NASA chose the lunar orbit rendezvous,
21 and the rest is history. If they had chosen
22 either one of the other two approaches, we

1 would not have done it in 10 years, if at all.

2 The process here is important.

3 NASA had a goal, a clear and stable goal. It
4 took them one year to run the scenarios, to do
5 the system trades, and the risk assessments.
6 They ran the scenarios and then they chose
7 one.

8 This is not science. This is
9 engineering. This is how we build bridges.
10 Maryland and Virginia decide we are going to
11 replace the Wilson Bridge. The engineers run
12 the scenarios: high bridge, low bridge,
13 drawbridge, tunnels, upriver, downriver. the
14 politicians pick one. There is a sequence of
15 steps you go through to get the big picture.

16 Likewise, nuclear power has a
17 goal: cheap, safe, sustainable, and secure.
18 This is your charter. We need to run the
19 scenarios.

20 Unlike Apollo, nuclear power has a
21 strong political component. Everybody is an
22 expert. Everybody has an opinion, and

1 everything looks confusing.

2 The way to manage this conflict is
3 to separate the roles and establish a visible
4 formal interface. This is the way you do it
5 for large public works projects. This is the
6 way we need to do it for nuclear power.

7 First, the experts identify
8 factual scenarios; these are your choices.
9 Then, the public and society can make value
10 choices.

11 These ideas are developed and
12 summarized in a paper that is posted on your
13 website titled, "What's Next?" The key
14 recommendation, I would suggest, is the
15 Department of Energy needs to establish a
16 classic engineering development program with
17 a formal public interface. That is my main
18 conclusion.

19 Thank you.

20 CHAIR SCOWCROFT: Thank you, Mr.
21 Pavlak.

22 The next speaker is Norman Meadow,

1 followed by Karen Meadow.

2 MR. N. MEADOW: Thank you for the
3 opportunity to present these thoughts here
4 today.

5 My name is Dr. Norman Meadow, and
6 I am a principal research scientist in the
7 Department of Biology at Johns Hopkins. I am
8 now retired from that position. But I have
9 been the Vice President of the Maryland
10 Conservation Council, which is one of the
11 oldest environmental organizations in the
12 State and perhaps the only such organization
13 in Maryland to support nuclear power.

14 We believe that nuclear power is
15 essential for the elimination of global
16 warming and that the plants affect much less
17 biological habitat than fossil fuel or
18 industrial-scale wind and solar installations.

19 We approve of the recommendations
20 of the Draft Report and thank you for your
21 effort. We do, however, think that there is
22 a weakness in the draft. It fails to

1 adequately acknowledge the central role that
2 fear of ionizing radiation in any dose, no
3 matter how small, has had in creating
4 opposition to the entire nuclear fuel cycle.

5 The word "safe" appears in the
6 draft 346 times. The radio-phobia is so
7 pervasive that it seems to be taken for
8 granted, as is illustrated by the Yucca
9 Mountain controversy. It is treated as a
10 given that, because Yucca Mountain involves
11 radioactivity, that the project must have the
12 potential for causing widespread health
13 problems.

14 However, the estimates of dose
15 from Yucca are not mentioned in the news
16 media. I found them only by reading the
17 Environmental Impact Statement. The doses are
18 low and greatly delayed in time. The most
19 likely dose to the maximally-exposed
20 individual is unlikely to even double the
21 annual background dose, and this doubling is
22 not expected to happen for 400,000 years after

1 Yucca's closure.

2 It is well-established that
3 doubling of background is extremely unlikely
4 to cause health harm, as I will talk about
5 next.

6 Further, to be crafting today's
7 energy policy in anticipating of events that
8 will not occur for a period of time longer
9 than homo sapiens has existed seems misguided.

10 The Draft Report devotes only
11 about four pages to the crucial topic of
12 radiation and health. We understand the
13 limits imposed by the Commission's Charter,
14 and we are not suggesting that you delve into
15 radiation health physics. But we suggest that
16 those few pages mention the conclusions made
17 by agencies such as the National Research
18 Council and the results from the Lifespan
19 Study of the atomic bomb survivors, which is
20 producing the strongest data on the
21 relationship between the dose of ionizing
22 radiation and the risk of cancer or birth

1 defects.

2 The most recent paper on
3 radiation-induced cancer among the atomic bomb
4 survivors finds that there may be a threshold
5 for radiation-induced solid tumors at a dose
6 of 40 millisieverts. The existence of a
7 threshold has been hotly and strongly debated.
8 If this threshold for harm is validated after
9 more complete data are available from the
10 Lifespan Study, it will force a reduction in
11 the estimates of harm from both Chernobyl and
12 Fukushima.

13 Another important finding from the
14 Lifespan Study is the small number of cancers
15 that is attributable to the radiation received
16 by the bomb survivors. Among the 49,000
17 exposed people who developed 7900 cancers in
18 53 years following the bombings, very
19 surprisingly, only 850 of those cancers is
20 attributable to the radiation.

21 In conclusion, we think that risk,
22 which we believe is the core issue of the

1 back-end of the nuclear fuel cycle, has not
2 been summarized adequately in the draft.
3 Figure 7 is good, but other doses and the
4 prospective threshold should be inserted into
5 the figure. The web links associated with the
6 figure are of mixed quality.

7 And finally, we suggest that
8 radiation health specialists should be
9 consulted about the content of the pages, the
10 few pages in the Draft Report that deal
11 directly with risk.

12 Thank you.

13 CHAIR SCOWCROFT: Thank you, Mr.
14 Meadow.

15 The next speaker is Karen Meadow,
16 followed by Earl Potter.

17 MS. K. MEADOW: Good afternoon.

18 I am Karen Meadow, and I am
19 Treasurer of the Maryland Conservation
20 Council.

21 Adding to Dr. Meadow's
22 suggestions, the Draft Report mentions birth

1 defects as a major concern, but another paper
2 from the Lifespan Study states that, "The
3 clinical assessment of nearly 12,000 offspring
4 of A-bomb survivors who have reached a median
5 age of about 50 years provided no evidence for
6 increased prevalence of adult-onset
7 multifactorial diseases in relation to
8 parental exposure."

9 Additionally, the National
10 Research Council's Committee on the Biological
11 Effects of Ionizing Radiation, the BEIR
12 report, states that, quote, "The aim of the
13 early genetic studies carried out in Japan was
14 to obtain a direct measure of adverse effects
15 in the children of A-bomb survivors." The
16 BEIR Committee concludes that, quote, "There
17 are no statistically-significant adverse
18 effects detectable in the children of exposed
19 survivors."

20 These data from atomic bomb
21 survivors show that the probability of birth
22 defects from any dose even remotely possible

1 from the nuclear fuel cycle is vanishingly
2 small. Although you must mention the
3 possibility of birth defects resulting from
4 exposure to ionizing radiation, the statements
5 about birth defects should incorporate the
6 conclusions from the Lifespan Study and the
7 BEIR reports that reactor accidents are
8 extremely unlikely to cause any birth defects.

9 By overlooking the research
10 results from groups that are as eminently
11 qualified as this Commission is, the report
12 tacitly supports the radio-phobia which is the
13 basis for the controversy. The health issue
14 has been sidelined even though it is the core
15 issue, and we urge you to give it a more
16 objective treatment.

17 We recommend that radiation health
18 specialists should be consulted about the
19 content of the pages in the Draft Report that
20 deal directly with risk. Frequent assertions
21 that the risk of cancer is orders of magnitude
22 higher than those estimated by the Lifespan

1 Study and the BEIR Committee both include and
2 depend upon the allegation that the nuclear
3 power industry has manipulated the IAEA, WHO,
4 and UNSCEAR. A lack of objectivity on the
5 part of the NRC has also been alleged. Absent
6 these malign implications, estimates of risk
7 from radiation fall dramatically.

8 Up to the moment that the tsunami
9 engulfed the Fukushima Daiichi power plant,
10 the industry had relied on the absence of a
11 serious accident for 25 years to persuade the
12 public to accept the resurgence of nuclear
13 power. This strategy assumed that another
14 serious accident was highly unlikely. The
15 industry deliberately avoided a discussion of
16 risk.

17 A new approach is necessary, and
18 there must be an effort made to disseminate
19 solid medical evidence that even accidents
20 like Fukushima are not nearly as harmful as
21 they are often purported to be, not to mention
22 considerably less harmful than the public has

1 routinely accepted from fossil fuel power
2 generation for more than a century.

3 Thank you.

4 CHAIR SCOWCROFT: Thank you very
5 much, Ms. Meadow.

6 The next speaker is Earl Potter,
7 followed by Kevin Kamps.

8 MR. POTTER: Members of the
9 Commission and staff, for 10 years I served as
10 a Senior Counsel and Senior Advisor to the
11 WIPP Project in the negotiation of what became
12 called "The Deal with Next Mexico",
13 essentially, a partnership arrangement.

14 That experience led me to write a
15 letter to this Commission and to staff on the
16 proposition that the key concept in
17 successfully constructing a program for the
18 management and disposal of nuclear waste in
19 the United States is a partnership with the
20 states.

21 I would like to thank the
22 Commission staff, particularly John Kotek,

1 Glenn Paulson, and Tom Isaacs, for listening
2 to those of us who made that comment, and
3 express my great pleasure in seeing the word
4 "partnership" in the revisions to the Draft
5 Report that were submitted today.

6 I would like to leave you, though,
7 with two thoughts which I think are critical.
8 I think this is the most important issue in
9 front of this Commission: recognizing and
10 defining the role of the states and tribes and
11 localities in your report for a new consent-
12 based siting process going forward, which you
13 have, in my view, magnificently done in the
14 Draft Report and in the revisions that are
15 proposed today. It is the most critical
16 issue.

17 I would like to express my hope
18 that these changes appear not only in the
19 Draft Report of the Subcommittee that is being
20 proposed today, but in your main report and,
21 more importantly, in the Executive Summary,
22 which is the provision of the report that 99

1 percent of the public is going to read, even
2 if this means leaving something else out.

3 Thank you.

4 CHAIR SCOWCROFT: Thank you very
5 much, Mr. Potter.

6 The next speaker is Kevin Kamps,
7 followed by Michael Glaab.

8 MR. KAMPS: Chairmen,
9 Commissioners, thank you.

10 My name is Kevin Kamps with Beyond
11 Nuclear.

12 And given the short time, I will
13 focus my remarks mostly on pool risks. At
14 your October 20th meeting here in Washington,
15 D.C., I heard the phrase for the first time
16 "no unmanageable risks with pools or dry casks
17 onsite here in the U.S.," and I was perplexed
18 by that.

19 Today I heard Mr. Meserve say that
20 there is no urgency in moving the irradiated
21 nuclear fuel from pools to dry casks. And I
22 came late, so I missed what was said earlier,

1 but I have heard that it was said that there
2 were no significant releases from pools in
3 Japan and no significant damage to pools in
4 Japan. That first point I would like to rebut
5 directly.

6 There is a study that has been out
7 for a number of weeks now. It was published
8 by the European Geosciences Union. The
9 authors are Stohl, S-T-O-H-L, Stohl, et al.
10 The publication is Discussions of Atmospheric
11 Chemistry and Physics. And the title of the
12 study is "Xenon-133 and Cesium-137 Releases
13 into the Atmosphere from the Fukushima Daiichi
14 Nuclear Power Plant: Determination of the
15 Source-Term Atmospheric Dispersion and
16 Deposition".

17 And I would like to read this
18 extract from the abstract. Quote: "Our
19 results indicate that cesium-137 emissions
20 peaked on 14 to 15 March, but were generally
21 high from 12 until 19 March, when they
22 suddenly dropped by order of magnitude,

1 exactly when spraying of water on the spent-
2 fuel pool of Unit 4 started. This indicates
3 that emissions were not only coming from the
4 damaged reactor cores, but also from the
5 spent-fuel pool of Unit 4, and confirms that
6 the spraying was an effective countermeasure."

7 It is incredible to me that this
8 Commission in its Draft Report and more
9 recently has said there are no risks with
10 pools in the United States. It is an
11 incredible statement, that buggers belief.

12 We have had a number of close-
13 calls in this country over the years. One I
14 will mention is Palisades in Michigan near my
15 home, October 2005, a cask dangled, a 107-ton
16 weight dangling above the spent-fuel pool for
17 43 hours. And the personnel at the plant were
18 so inexperienced with the operations of the
19 crane that they attempted to override the
20 emergency brake, which was the last line of
21 defense against potentially a radioactive fire
22 in that pool. If they had succeeded -- and

1 they were trying -- they could have plunged
2 that 107-ton weight into the floor of the pool
3 and drained the water away. And within an
4 hour or two, the waste which has accumulated
5 for 40 years at that plant would have been up
6 in flames outside of containment.

7 How can you say there are no risks
8 at pools in this country? That is one of many
9 examples that can be cited.

10 David Lochbaum with the Union of
11 Concerned Scientists in 1995 published an
12 entire book about radioactive risks, including
13 an entire chapter on pool risks that cites a
14 number of additional examples of the near
15 draindowns of pools in this country.

16 Of course, at Fukushima it was a
17 pool boildown that went on for days before the
18 water boiled down to the top of the fuel
19 assemblies, so that they could catch on fire
20 and discharge their cesium-137 directly into
21 the environment because it is not located
22 inside containment.

1 And the United States has 24 such
2 pools operational here in the United States.
3 These are Mark 1 pools. I will mention one
4 that is a shutdown reactor, Millstone Unit 1.
5 It has been shut down since the mid-1990s, and
6 the company, to save money on dry cask
7 storage, has kept its pool full. That is a
8 huge risk.

9 We have Oyster Creek, New Jersey,
10 over 40 years old; Vermont Yankee; Pilgrim;
11 Fermi 2, 500 tons of high-level radioactive
12 waste in those pools, no temperature gauges
13 required, no water-level gauges required, no
14 radiation monitors, no backup power, no makeup
15 water.

16 The last point I will make --
17 because that was the end buzzer, right? -- the
18 last point I will make is that even the makeup
19 water approach is very problematic. Again, as
20 David Lochbaum has recently pointed out to the
21 NRC, what about all that steam when you are
22 adding makeup water to an overheated pool? It

1 will shortcircuit safety systems that are
2 vital to the core. So, the operators will
3 have a choice. Do we protect the core with
4 its radioactive inventory or do we protect the
5 pools with its radioactive inventory? We have
6 to prevent the boiling in the first place.
7 And, of course, hardened onsite storage, the
8 first premise is to empty the pools to avert
9 these risks.

10 Thank you.

11 CHAIR SCOWCROFT: Thank you, Mr.
12 Kamps.

13 The next speaker is Michael Glaab,
14 followed by Katherine Fuchs.

15 MR. GLAAB: Thank you.

16 I would like to thank the
17 Commission for its indulgence, but, in
18 particular, I would like to take the
19 opportunity to express my special gratitude to
20 the Chairmen Hamilton, Brent Scowcroft, and
21 Senator Chuck Hagel, General Scowcroft, whose
22 political careers were careers of public

1 service throughout the years, frankly, I
2 respect and esteem.

3 My name is Michael Glaab. I
4 studied nuclear engineering. I am a member of
5 the American Nuclear Society, although I am
6 not a spokesperson. I am not speaking for the
7 ANS on this occasion. I am a member of the
8 ANS Standard 2.32 Working Group. I am in the
9 ANS division membership concerned with
10 decontamination and decommissioning.

11 I have approximately two decades
12 of service that might be considered
13 environmental in the sense that I was for six
14 years on a technical review committee for a
15 military research facility that was concerned
16 with environmental contamination. I served
17 for almost two decades on a restoration
18 advisory board, also concerned with
19 environmental contamination at that facility.

20 Now one might consider me an
21 environmentalist, and to some extent I am.
22 However, I do believe in the potential of

1 nuclear power. I do favor our continuing
2 research into nuclear power generation and the
3 use of nuclear materials and technologies of
4 all sorts, in particular, fusion.

5 However, I have to echo the
6 previous gentleman to the extent that I would
7 like to just add additional emphasis to the
8 necessity of assuring the maintenance of an
9 acceptable and safe degree of criticality
10 safety -- and all the nuclear engineers here
11 will understand what I mean -- at storage
12 sites where significant amounts of radioactive
13 substances are currently being stored in
14 relatively close proximity to one another.

15 In particular, the far-from-ideal
16 practice of storing hundreds, and even
17 sometimes thousands, of spent-fuel rod
18 assemblies from reactors in storage pools that
19 are in many cases adjacent to the reactors
20 that are still in use. This state of affairs
21 mutely testifies to the immediacy of the need
22 for additional interim storage and long-term

1 disposal facilities. Of course, this problem,
2 to a significant extent, is due to the
3 inability of the federal government to
4 implement its plan to establish a practical,
5 long-term storage proposal, a storage system.

6 I would like to express my praise
7 for the Commission's resolution with respect
8 to being more flexible when negotiating with
9 states. I personally favor the Yucca Mountain
10 Project. However, I do not favor having a
11 state, whether it is Nevada or any other,
12 being forced to accept a storage facility.
13 So, I do favor the basic concept of
14 negotiating with them, flexibly trying to
15 legally establish a definitive agreement with
16 that state. If that requires compensation,
17 due appropriate compensation be accorded to
18 that state for the additional financial cost
19 of transporting waste materials to that state,
20 then so be it. We have to be fair here.

21 I would like to call everyone's
22 attention to the fact that currently we have

1 an opportunity. Because Japan and Germany are
2 experiencing so much resistance to the
3 continuance of their nuclear energy programs,
4 this is an opportunity for us, through the
5 IAEA, to work with those nations to perhaps
6 establish larger repositories that might be
7 international in scope and to continue the
8 current activities involved in developing fuel
9 banks, which would help to minimize the
10 likelihood of radioactive waste -- (buzzer
11 sounds) -- oh, all right, I'm sorry.

12 Just one last thing. I would just
13 like to recommend that you give your
14 consideration to establishing advisory boards
15 at nuclear facilities which would provide
16 limited representation to local stakeholder
17 groups, and choose as members of those local
18 stakeholder groups reasonably-qualified
19 individuals with technical expertise.

20 And I assure you that you will
21 find them. I am sure there are many people
22 here who could serve, academics, retired

1 engineers, technicians. They are out there.
2 They are available. By including them in
3 advisory oversight boards for nuclear
4 facilities, that would help to increase
5 transparency, and that would reduce the fear
6 that, unfortunately, is prevalent among the
7 general public. And that doesn't include me.

8 Once again, I thank you for your
9 indulgence, and I apologize for going over by
10 several seconds.

11 CHAIR SCOWCROFT: Thank you, Mr.
12 Glaab.

13 The next speaker is Katherine
14 Fuchs, followed by Dominique French.

15 MS. FUCHS: Hello. I am here
16 today representing the Alliance for Nuclear
17 Accountability, which is a national network of
18 35 organizations based in communities
19 downwind, downstream, and sometimes right
20 next-door to Department of Energy nuclear
21 facilities.

22 So, while I, myself, am not an

1 engineer or a physicist, I work with people
2 who have decades of experience dealing with
3 nuclear waste issues from both the technical
4 and political perspective.

5 First, or secondly, I suppose, I
6 would like to thank the Commission for
7 volunteering your time and putting the
8 considerable resources, mental and otherwise,
9 into this project, as well as for bringing
10 back the webcasts. I know a lot of our
11 members across the country are watching right
12 now and are very glad that they can
13 participate from afar.

14 I am going to try to touch on a
15 number of topics, which I am sure you have
16 already received more extensive written
17 comments about from ANA and our member groups.

18 First of all, I will talk about
19 this new entity or corporation that is going
20 to be dealing with the nuclear waste. We do
21 think it is very important to move away from
22 the Department of Energy handling these

1 issues. As you well know, trust is a serious
2 problem with DOE and these nuclear
3 communities. So, we applaud you for trying to
4 deal with that challenge.

5 But I would like to say that this
6 new entity, in order to gain public trust,
7 requires public oversight. We are very much
8 against the idea of a private corporation
9 dealing with our nation's spent nuclear fuel
10 and other defense wastes and things of that
11 nature.

12 We are also concerned that this
13 new entity not just to enter into partnerships
14 with affected communities, tribes, and states,
15 but that they integrate affected communities,
16 tribes, and states. We think it is very
17 important that these affected communities have
18 representation directly in this new entity and
19 are involved in decisionmaking processes, not
20 just consultation and presenting public
21 comments in forums like this.

22 So, the second point I wanted to

1 talk is the fuel cycle and reprocessing
2 issues. I am glad that the Commission doesn't
3 think that reprocessing will reduce the actual
4 amount of waste that we will have to deal
5 with, but I would like to point out that it
6 does actually impact how we can store the
7 waste.

8 Recently, in August of this year,
9 Sandia Lab issued a report titled, "Generic
10 Repository Design Concepts and Thermal
11 Analysis". And in this report, they
12 determined that mixed oxide plutonium/uranium
13 fuel actually stays hotter 10 times longer
14 than uranium oxide fuel. And therefore, it
15 will require more space to deal with the
16 increased thermal output.

17 So, one of our concerns about
18 reprocessing is that it could actually
19 increase the amount of space that we need to
20 dispose of this fuel. And so, we urge you to
21 take that under consideration.

22 Secondly, as you have already

1 heard from me, reprocessing creates different
2 waste streams that will come with their own
3 challenges to making them safe.

4 And finally, just a note that
5 France has not closed the nuclear fuel cycle.
6 They still have waste issues that they can't
7 deal with, and they do have transportation
8 problems as well. So, it is not perfect. It
9 is certainly not a model that we can follow
10 step-by-step.

11 Thirdly, I would like to talk
12 about the issue of commingling. The Alliance
13 for Nuclear Accountability believes that the
14 status quo should remain as far as
15 commingling, particularly because reversing
16 this decision is going to further harm public
17 trust and possibly break legal agreements with
18 states like New Mexico.

19 On to the spent nuclear fuel
20 issue, which has been addressed quite a bit,
21 we think that is a good thing to address. We
22 want to get the fuel out of pools, and we

1 think that hardened onsite storage is a way to
2 do that quickly. And we can use that as a way
3 to deal with the issue until we do have a
4 permanent repository.

5 And I will close just by saying
6 that the only surefire way to make sure we
7 don't have to continue having commissions like
8 this in 40 years, in 100 years, in 400 years
9 is to stop making more waste.

10 Thank you.

11 CHAIR SCOWCROFT: Thank you, Ms.
12 Fuchs.

13 The next speaker is Dominique
14 French, followed by Geoff Fettus.

15 MS. FRENCH: Thank you,
16 Commissioners for your time.

17 Good afternoon.

18 My name is Dominique French. I am
19 with Nuclear Information and Resource Service.

20 My colleague, Diane D'Arrigo, who
21 was supposed to provide comments earlier, fell
22 ill this afternoon, and that is why she was

1 unable to provide comments. So, I am here on
2 her behalf and on my organization's behalf.

3 I am here to present a paper on
4 the harmful effects of radiation on women.
5 Pursuant to information published by the
6 National Academy of Sciences, the BEIR VII
7 report, issued in 2006, women have a 50
8 percent greater chance of getting cancer and
9 also dying from cancer compared to men. This
10 figure is a huge disparity and demonstrates
11 that federal agency standards are not
12 protective enough of women.

13 As such, this Committee should
14 provide greater protection and better
15 monitoring. Additionally, moving highly-
16 radioactive waste will result in incidental
17 radiation exposures to the public, as the
18 intense gamma rays from waste and generation
19 of x-rays during transit cannot be avoided.

20 We expect that these external
21 exposures will result in disproportionate
22 impacts to women. We, of course, know that

1 children will also be impacted
2 disproportionately.

3 This matter should be addressed at
4 every level of public policy determination
5 since our society and Constitution guarantee
6 equal protection under the law, and this
7 program will not provide that.

8 The Yucca Mountain Program
9 acknowledges not only exposure, but death, but
10 these deaths were deemed insignificant in
11 comparison to the entire population of the
12 United States of America.

13 The Nuclear Information and
14 Resource Service, on behalf of all of our
15 members in all 50 states, rejects this
16 evaluation and expected more from this
17 Commission.

18 In closing, I would like to enter
19 this paper into the record and provide a
20 citation. Our paper, "Atomic Radiation is
21 More Harmful to Women" can be found on our
22 website, www.nirs.org. Select the "Radiation"

1 link and then "Harmful Effects".

2 Thank you again for your time.

3 CHAIR SCOWCROFT: Thank you very
4 much, Ms. French.

5 Our next speaker and the final
6 speaker is Geoff Fettus.

7 MR. FETTUS: Hi. My name is
8 Geoffrey Fettus. I'm a Senior Attorney at the
9 National Resources Defense Council.

10 I would like to thank the
11 Commission and its staff for its serious work
12 over the past year and its willingness to
13 engage with NRDC and others.

14 Since I only have four minutes, I
15 will be very concise.

16 And thank you, Commissioner
17 Peterson, for your kind words.

18 I would like to quickly address
19 the concerns raised by Commissioner Meserve in
20 the Disposal Subcommittee report and his
21 concern over what he cited as dual regulation
22 with the specific exemptions from

1 environmental laws that myself and some others
2 have suggested that are currently enshrined in
3 the AEA, if those are actually done away with,
4 as I suggest.

5 I would like to take these four
6 minutes to do the best that I can to mollify
7 those concerns, especially your sense that a
8 political change in parties could dramatically
9 affect any regulatory regimes.

10 First, and this is certainly
11 something that most of you know, if not all,
12 dual regulation is already in place. The
13 problem is that it just doesn't work as well
14 as it should, and we have half a century of
15 evidence to demonstrate that proposition.

16 As this Commission well knows,
17 and especially after the education you have
18 had over the past year, DOE authority extends
19 to source material, special nuclear material,
20 and byproduct material at the weapons
21 complexes and the legacy sites.

22 The NRC has regulatory

1 responsibility for commercial operations and
2 medical waste and anything else that would
3 touch radioactivity.

4 EPA, by contrast, has the lion's
5 share of responsibility for ensuring that all
6 federal agencies remediate hazardous
7 substances to levels that are protective for
8 public health and the environment.

9 And under CERCLA and under RCRA,
10 as opposed to the NRC and DOE's dose/response
11 relationships, potential threats to the public
12 and environment are evaluated in terms of
13 risk. Because of those fundamental regulatory
14 differences between the agencies, we have a
15 long history of risk- versus dose-based
16 remediation levels, and there are conflicts in
17 selecting what are the appropriate cleanup
18 levels. And many of you, including
19 Commissioner Meserve, are very aware and
20 sensitive to those long conflicts.

21 I would suggest to you, because I
22 have such a brief period of time, that if EPA

1 and the states had clear legal authority and
2 could treat radioactivity as they do other
3 pollutants under environmental law, and states
4 had meaningful regulatory control over how the
5 waste was managed and ultimately disposed of
6 in their respective states, we might actually
7 move forward and actually move toward the
8 progress that Mo Udall envisioned in 1982,
9 when the Nuclear Waste Policy Act was first
10 passed.

11 I am not going to suggest to you
12 that harmonizing such a regime would not be
13 contentious or even bloody, for all we know in
14 how things like this work in D.C., but they
15 certainly can be harmonized, because we have
16 been able to do it at Superfund sites around
17 the country, specifically with uranium sites.
18 So, it has been done.

19 The next thing I would suggest to
20 you -- and here, I would suggest you listen
21 closely to my colleague, Mr. Potter, who I
22 have been on the other side of the table from,

1 but we are in sound agreement on this issue
2 -- that if you don't get the states' buy-in in
3 terms of meaningful regulatory oversight, we
4 will be back here 10 years, 20 years, 30 years
5 from now. Hopefully, it won't be us, but some
6 people will be back here having these same
7 fights.

8 So, to tiptoe up to the line or
9 constrain any future process by not addressing
10 the AEA exemptions for the states and EPA, the
11 real downstream consequences are going to be
12 felt by the instability when parties try to
13 make deals, but the legal framework fails to
14 allow for it. Unless you address the AEA, we
15 won't get there.

16 So, thank you very much, and good
17 luck.

18 (Laughter.)

19 CHAIR SCOWCROFT: Thank you, Mr.
20 Fettus.

21 That concludes our open public
22 comment session, and that concludes the

1 meeting today.

2 So, with thanks to everybody who
3 participated and who listened carefully, I
4 declare the meeting adjourned.

5 (Whereupon, the above-entitled
6 matter went off the record at 2:41 p.m.)

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abandoned 152:22 152:22	25:14 68:5 69:10 69:18,19 75:12 168:11,14	activity 56:1 131:7 133:4	82:19 193:9	afternoon 8:10 124:3 131:22 149:20 156:8 165:17 186:17,22
abandoning 68:11	accidents 128:21	actual 99:8 129:3 184:3	add-on 43:19	age 29:17 166:5
abandonment 125:19	167:7 168:19	Ad 4:10 8:11 109:3 109:20 110:1,17	adequacy 99:4	agencies 112:14 133:12 163:17 191:6,14
ability 57:17 70:2 93:17 104:17	accommodate 147:19	adapt 26:13	adequate 57:19 81:8 91:17 99:16	agency 4:20 127:9 129:18 130:2,21 187:11
able 12:12,18 13:5 18:4,8,12 60:7,11 60:21 73:6 74:16 96:6 150:6 192:16	accommodation 27:22 28:2 35:2	adaptability 27:17 35:1 40:19	adequately 79:15 141:15 162:1 165:2	agenda 11:5 62:11 62:19 122:11
above-entitled 85:20 122:22 194:5	accomplish 43:14	adaptation 30:10	adjacent 138:10 150:21 178:19	ago 43:10 142:17 143:16 148:20
abroad 98:16	accomplished 20:2	adapting 26:21	adjourned 194:4	agree 43:11 49:17 97:3 124:7 134:18 137:5 138:3 145:14 146:8
absence 168:10	accomplishing 35:10 47:16	add 14:10 33:21 41:1,17 42:18 45:5 55:22 82:8 83:1 88:15 138:8 178:7	adjusted 99:7	agreed 110:1
absent 37:7 168:5	accorded 179:17	adding 92:16 101:2 103:9 165:21 175:22	adjustments 76:19	agreement 16:14 90:21 91:3 93:7 94:22 95:1 96:1,7 179:15 193:1
absolute 16:16 134:22	account 64:12 66:22 67:20 68:5 69:6	addition 30:14 34:7 67:19 116:12 117:1 121:17	Administration 102:5 119:7 122:2	agreements 91:6 93:16 97:14 104:15,18 106:2,8 106:14 185:17
absolutely 152:17	Accountability 5:22 181:17 185:13	Additional 12:17 13:13 19:14 30:1 30:3 41:1 48:17 58:1 67:14 70:5 72:11 79:9 104:5 114:12 120:7 174:14 178:7,22 179:18	admirable 101:12 127:15	agrees 32:19 137:22 139:15
abstract 172:18	accumulated 174:4	additionally 166:9 187:15	adopt 30:9 66:13 102:14 129:10 130:3	ahead 59:21 63:8 124:16
abstracted 73:4	achieve 113:16	additions 105:18	adopted 122:14 141:20	aided 114:18
abundant 73:3,3	achieved 94:4	address 49:1 69:7 70:12 87:11 129:19 136:16 145:19 147:14,17 185:21 189:18 193:14	adoption 130:9	aim 166:12
academics 180:22	achievement 60:4	addressed 20:15 28:4 54:2 78:21 87:12 107:15 137:1 141:15 149:3,4,12 185:20 188:3	adult-onset 166:6	air 30:17,22
Academies 44:13	acknowledge 98:8 100:11 162:1	addresses 49:10	advanced 64:18 67:11 74:5,19 77:5 149:6	Airlines 88:13
Academy 21:10 25:6 33:3,17 53:2 53:10 54:3,16,20 55:1,5 57:8,21 130:3 187:6	acknowledged 43:6	addressing 66:1	advantages 34:17 39:16	Airport 88:9
Academy's 43:9	acknowledges 56:18 96:19 188:9		adverse 166:14,17	al 3:10 14:8 41:7 77:1 78:8 79:21 172:9
accept 54:13 58:17 168:12 179:12	act 46:14 97:16 99:7 105:3 108:4 115:22 116:17 121:4,10,22 125:16 126:5 139:17,20 192:9		advice 70:1,2	Alamos 65:7
acceptability 155:13	acting 94:18		advisable 71:4	ALBERT 1:15
acceptable 84:11 178:9	actinides 157:9		advise 21:11	Alex 2:13 5:11 153:14 156:5,9
acceptance 43:16 89:14 90:8	action 23:7 105:12		Advisor 5:17 169:10	allegation 168:2
accepted 90:16 169:1	actions 57:16 69:6 69:9,13,16 73:16 101:1 120:22 122:3 140:6,7		advisory 126:4 177:18 180:14 181:3	alleged 168:5
accepting 55:3,5	active 81:13 111:4		AEA 190:3 193:10 193:14	alleviate 137:13
access 99:17 100:6 126:10 129:21,22 139:16,22	actively 68:1 138:12		afar 182:13	
accident 23:15	activities 44:14,16 67:21 116:7 180:8		affairs 178:20	
			affect 38:16 118:1 161:16 190:9	
			affirmed 89:19	
			affirming 98:7	
			affirms 65:9	

Alliance 4:25 5:22 114:11 135:21 181:16 185:12	answered 94:16 anticipated 23:5 anticipating 163:7 anti-tank 143:4 anyway 24:13 63:19 148:16	101:3 102:9 103:2 118:9 133:11 142:1 179:17 191:17	assessments 158:19 159:5 assignment 119:22 120:9 assistance 44:16 70:3 133:10 140:13 Assistant 5:7 150:2 associated 36:1 38:9,18 40:16 57:17 118:6 121:7 124:12 165:5 Association 69:12 114:6 assume 59:8 assumed 116:14 158:1 168:13 assumptions 40:2 assurance 53:16 152:15,16 assure 13:9 48:12 57:18 79:2 91:9 93:8 104:22 180:20 assured 99:17 100:6 139:22 assuring 30:18 57:12 90:8 178:8	attention 7:4 16:22 28:10 72:12 119:14 179:22 Attorney 6:17 189:8 attractive 34:17 attributable 164:15 164:20 audience 8:19 108:4 August 184:8 authority 16:5 90:10,22 91:5 92:22 93:18 95:18 96:8 102:13 115:20 126:6 190:18 192:1 authorize 97:16 authors 172:9 available 8:21 25:14 39:19 70:9 83:5 85:12 90:9 91:5 100:2 104:22 164:9 181:2 Avenue 1:10 avert 176:8 avoid 139:6 avoided 168:15 187:19 avoiding 66:15 aware 55:19 67:22 191:19 AYERS 1:14 A-bomb 166:4,15 A-F-T-E-R-N-O-... 86:1 a.m 1:9 7:2 85:21
Allison 1:18 4:12 50:20 55:7 110:3 119:18,21 120:4 Allison's 54:22 57:7 120:19 allotted 9:5 allow 97:5 123:10 126:5 193:14 allowed 8:22 13:12 32:7 133:22 146:20 148:2 allowing 156:8 already-difficult 103:10 altered 45:18 alternatives 42:12 amber 123:20,21 amend 108:3 amended 97:16 amendment 46:20 54:14 105:2 121:21 amendments 151:20 America 80:1 157:17 188:12 American 88:12 125:8 134:8 177:5 America's 1:1 8:5 amount 9:5 12:15 13:4 52:18 87:1 90:19 94:1 98:2 128:16 184:4,19 amounts 29:16 178:12 ample 50:11 ANA 182:17 analysis 53:13 99:10 184:11 announced 157:16 annual 139:17 162:21 ANS 177:7,8,9 answer 59:12 87:19	Apollon 157:15 159:20 apologize 59:2 88:8 181:9 apparent 22:9 apparently 22:22 28:13 appealed 16:11,12 appear 24:22 45:20 87:14 170:18 appears 162:5 applaud 51:21 157:2 183:3 applauds 127:11 application 10:14 91:14 98:13 126:22 applications 98:22 applied 49:12 applies 14:21 appreciate 9:15 14:3 17:11 76:17 84:8 131:15 135:15 136:10 150:14 151:3 152:5 appreciated 13:11 136:11 appreciation 12:2 12:15 approach 30:10 35:5 40:20 126:14 138:2,4,9 168:17 175:19 approached 131:16 approaches 158:22 appropriate 11:1 22:13 25:1,8 28:3 32:21 33:14 42:13 58:4 67:6 69:3 70:20 100:17	appropriately 26:16 47:19 appropriateness 10:13 98:21 appropriations 80:3 139:17 approve 161:19 approximately 99:12 177:11 area 16:20 25:7 26:11 35:7,11 36:13 40:17 42:18 66:9 68:15 80:20 81:3 82:11 83:2 148:17 areas 17:18 74:12 76:3 133:3 134:17 argued 137:4 argument 16:16 40:4 arguments 37:12 48:17 arises 24:6 Arjun 2:10 5:5 144:15,20 arose 21:11 arrangement 15:17 92:21 93:19 169:13 arrangements 43:13 arrow 110:15 Art 142:22 articulated 50:6 asked 10:19 87:6 91:8 92:13,14 96:9 100:8,18 asking 16:18 assemble 158:8 assemblies 174:19 178:18 assertions 167:20 assessment 166:3	attached 81:6 attack 30:5,20 31:5 31:6,18 attempt 15:14 96:12 attempted 173:19 attend 12:9,19 attended 51:20 88:18 attending 52:3	back 20:18 48:22 75:10 85:11 90:12 104:20 108:2 158:3 182:10 193:4,6 background 109:5 111:13 128:4 162:21 163:3

backup 175:14	185:13	body 9:21	156:22	capacity 26:7 31:20
back-end 114:17	beneficial 38:8	boildown 174:17	brought 83:13	60:6 83:16 92:4
165:1	113:13	boiled 174:18	120:5 142:20	102:14
Bailey 1:15 50:2	benefit 31:14 33:9	boiling 176:6	Brown 2:6 4:21	capital 75:9
108:1 150:6 151:4	49:19 97:22	bomb 163:19 164:3	127:5 131:20,22	capture 48:2
ballot 94:6	benefits 31:8 40:6,8	164:16 166:20	132:1 135:15	care 122:6
bankruptcy 88:13	40:11 69:2 75:17	bombings 164:18	budgets 77:19 80:2	careers 176:22,22
banks 180:9	94:1 97:18,18	book 158:4 174:12	buggers 173:11	careful 45:9 107:10
barges 142:21	benefitted 106:9,11	boon 82:14	build 133:19 134:3	107:15
Barnwell 143:15	best 94:19 113:17	boreholes 73:6	159:9	carefully 28:18
barrier 60:10	121:11 122:4	borne 39:14	building-as-you-go	58:3 194:3
based 59:20 107:13	190:6	Boston 18:5	40:20	carefully-done
107:14 121:21	better 73:22 81:5	bowels 158:12	built 104:4	149:13
123:9 156:13	91:9 121:20 126:9	Brailsford 114:10	bulb 88:10	Carnesale 1:15
170:12 181:18	133:8,14 158:6	brake 173:20	bullet 36:16	3:10 14:9,16,20
baseline 134:10	187:14	Branch 120:22	bunkered 30:2	77:2 86:5 107:2
basic 84:20 90:16	beyond 5:19 34:21	BRC 98:10 100:13	burden 18:9	Carolina 84:6
103:20 179:13	34:22 171:10	101:2 125:17	buried 143:16	113:3 143:15
basically 33:11	big 55:16 80:13	139:4 141:18	burning 36:7	Carolinas 143:19
35:17	143:12 156:11	156:18,22	burnup 35:21 36:5	carried 166:13
basis 76:4 84:15	157:3,14 158:5,8	BRC's 136:4	buy 83:22	carry 46:19 77:8
106:4 167:13	159:15	137:22 152:4	buy-in 193:2	138:18
Beatrice 114:10	bigger 146:19	break 62:20 63:9	buzzer 175:17	case 24:10 29:12
beautifully 16:9	billion 99:12	85:4,9,10 122:20	180:10	82:10 108:16
beginning 40:15	billions 137:9	185:17	byproduct 190:20	cases 68:9 107:12
43:21 132:10	binding 91:4	breaking 113:6		129:2 178:19
behalf 87:3,17	biological 161:17	breeder 149:5	C	cask 24:9 29:15
131:14 187:2,2	166:10	Brent 1:10,14	C 116:17	30:17,21,22 31:2
188:14	Biology 161:7	119:21 176:20	call 3:2 10:15 11:6	76:5 130:10
BEIR 166:11,16	biosphere 157:8	Brian 114:5	20:4 91:12 123:12	150:19 152:19
167:7 168:1 187:6	birth 163:22	bridge 144:3,4,6	141:5 179:21	153:6 173:15
belief 173:11	165:22 166:21	159:11,12,12	called 80:3 169:12	175:6
beliefs 67:1	167:3,5,8	bridges 159:9	calls 62:19 173:13	cases 27:5,6 29:18
believe 33:14 38:6	bit 106:10 115:14	brief 17:16 58:13	Canada 4:22 132:2	30:3,15 31:5,16
39:21 56:4 61:3	185:20	107:2 191:22	133:1	141:22 143:3
72:12 80:14 81:7	blatantly 125:7	briefing 18:16	Canadian 133:2	144:2 171:16,21
92:17 103:16	blizzard 14:1	31:14 109:2	cancer 163:22	cast 155:5
105:17 106:7	blocks 146:18	briefly 14:10	164:3 167:21	catalyst 133:22
107:11 114:3	bloody 192:13	bring 80:8	187:8,9	catch 174:19
118:20 121:3	Blue 1:1 8:5 87:5	bringing 12:16	cancers 164:14,17	categories 113:7
125:7 127:21	141:10 150:8	182:9	164:19	cause 75:22 96:17
154:19 155:11	board 4:17 124:5	broad 64:17 89:22	candidate 142:12	114:12 163:4
161:14 164:22	139:12 177:18	90:7	capabilities 67:18	167:8
177:22	boards 180:14	broadcasting 12:12	72:7 75:2 76:1	caused 143:19
believed 21:19	181:3	broadened 117:8	capability 39:12	causing 162:12
believes 71:16 95:8	Bob 2:5 4:18	broader 35:4 78:19	70:9 71:22 75:12	caution 107:3
113:6,14 136:4,17	123:17 127:4,8	broken 88:10 152:7	78:20	cent 99:15

central 141:5 146:15 162:1	124:5 127:7	Chicago 142:16,21	102:12	14:10 17:7 21:7
centralized 28:8 37:7,13	Chairmen 149:21 171:8 176:20	children 166:15,18 188:1	climate 82:16,19 134:16	32:14,19 33:14 51:1 55:13 63:17
century 169:2 190:14	challenge 40:12 60:18 71:19 183:4	China 74:6,7	clinical 166:3	65:21 89:19 103:5 103:12 105:21
CERCLA 191:9	challenges 27:8 74:15 185:3	choice 132:8 176:3	close 8:22 150:15 173:12 178:14 186:5	109:7 111:7 113:19 122:15,20 132:4 136:11,12
certain 29:17 36:5	challenging 83:18	choices 160:8,10	closed 66:13 185:5	145:4,8,10,14 148:18 170:2 193:22
certainly 46:5 51:18 79:22 92:7 96:20 128:10,19 129:2,4 154:21 185:9 190:10 192:15	chambers 150:18	choose 125:13 180:17	closely 64:4 192:21	commented 52:1 91:19 98:7
cesium-137 172:12 172:19 174:20	chance 132:18 187:8	chose 158:20 159:6	closing 68:11 188:18	commenters 2:2 28:12 91:8,12,15 92:8 93:10 94:4 96:9 109:8
cetera 133:18	change 25:19,20 27:1 35:12 71:18 72:16 82:16 99:1 102:5,6,22 112:20 125:11 134:16 190:8	chosen 155:17 158:21	closure 163:1	comments 3:8,13 3:17,19,25 4:2,8 4:13 7:15 8:7 9:14,18 10:2 11:20 12:4 13:5 13:18,20 15:4 17:12,17 19:1,8 19:16,17,20 20:12 26:4 27:2 28:5 29:12 32:11 34:9 35:14 36:22 37:20 38:20 41:4,8 43:4 43:12 45:7,10 46:8 51:10 52:2,4 53:1 54:13 57:7 58:7 64:3,10,11 64:16 66:1,5,12 66:15,17 67:9,19 68:4 74:3,21 75:4 76:7,9,19 77:4,7 81:22 82:5,6,21 87:7,11 88:1,19 88:21 89:2 98:11 101:7,15 106:22 109:20 112:8,9,17 114:20 120:15 122:8 123:9 135:15 136:14,15 145:17,22 146:2 182:17 183:21
chair 1:13,14 4:12 8:1 13:17 14:15 14:19 15:2,20 16:3 17:6 45:8 46:7 48:5 50:1,20 51:3 54:6,9 55:8 55:10 57:5 58:6 58:21 62:7 63:3,7 63:14 76:16 79:19 81:20 82:20 84:7 84:19,22 86:10 101:5 103:22 106:21 107:22 108:19 110:1 119:16,17,20 120:12 122:7 123:5,7 127:2 131:18 135:14 140:16 144:12 149:15 153:11 156:3 160:20 165:13 169:4 171:4 176:11 181:11 186:11 189:3 193:19	changes 13:13 20:1 35:21 36:13 65:22 68:8 84:10,10 89:4,8 100:17 105:18 115:7 121:4 140:2 170:18	Chris 124:18	collaboration 73:19	
Chairman 4:17 17:5 18:15 54:8 59:1 63:6 79:18 81:19 88:7 101:4 101:10 119:16	changed 25:3 69:8 117:1 125:17	Chuck 1:17 4:4 85:5 101:6 108:22 176:21	collapse 30:19 144:5	
	chapter 129:9 174:13	circumstances 25:4 26:13	colleague 186:20 192:21	
	character 35:22	citation 188:20	collected 100:2,3	
	characteristic 92:19	cite 76:4	collection 121:1	
	characteristics 92:17	cited 174:9 189:21	collections 91:16	
	characterize 19:15	cites 174:13	Colton 2:8 4:23 131:21 135:16,18 135:19 140:17	
	charged 14:17 47:7 60:14	citing 91:17	Columbia 147:9	
	charges 79:11	citizens 81:14 94:19 95:3,9 125:13	combination 78:14	
	charter 126:3 147:14,16,18 156:18,19,20 159:18 163:13	City 59:11	combined 114:8	
	cheap 156:17 159:17	civil 121:16	come 20:18 33:17 34:5 39:16 59:15 75:14,18 77:22 85:11 90:11 111:20 119:15 131:11 142:22 143:2 150:13 158:3,16 185:2	
	cheaper 39:4	Civilian 124:20	comes 24:11 59:12 78:14 80:22	
	Chemistry 172:11	Claiming 126:1	comic 158:3	
	Chernobyl 156:14 164:11	clarification 15:1	coming 7:8 8:2 84:3 108:6 130:7 132:17 173:3	
		clarify 51:17	commendable 76:20	
		clarity 89:6	comment 4:15 5:2 6:13 8:21 9:1,12 9:21 11:18 14:8	
		Class 116:17		
		classic 160:16		
		classified 31:14 32:1 53:4		
		classify 154:11		
		clean 115:17 134:8		
		cleanup 115:10 191:17		
		clear 14:11 24:18 47:1 49:2 58:16 61:11 95:5 159:3 192:1		
		cleared 146:3		
		clearer 90:18		
		clearly 65:8 66:9		

186:21 187:1 commercial 8:13 71:14 99:11 109:4 110:19 112:3 113:16 117:14,22 118:2,12 127:21 136:19 137:11 154:5,9 155:4 191:1 commercialization 83:13 commercially 83:4 commingle 109:6 commingled 110:21 128:2 commingling 4:10 8:13 109:3 113:20 114:3,11,18 120:3 121:7 127:20 128:6 145:19 146:9,15 147:3 154:17 185:12,15 commission 1:1,9 7:9 8:5,16 10:4,16 10:19 11:11 13:3 15:9 17:16 21:1 22:8 29:5 31:11 33:21 34:6,8 40:8 41:9 42:8 44:22 53:17 57:15 61:13 68:17 70:19 72:6 76:13 83:11 84:11 87:6 96:10 100:8 105:5 109:14,18 122:14 125:18 126:7 127:12,14 128:17 129:8 131:9,12 133:16 133:21 141:10 145:2 146:12 147:1,10,13 149:22 151:5 152:2 167:11 169:9,15,22 170:9 173:8 176:17 182:6 184:2 188:17 189:11	190:16 Commissioner 18:5 62:13 109:1 109:22 150:5,6 151:4,4 153:18 189:16,19 191:19 Commissioners 3:8 4:17 7:6,10 11:17 13:22 18:3 45:15 58:17 86:5 114:7 124:6 132:9 135:3 171:9 186:16 commissions 186:7 Commission's 9:12 10:3 17:18 105:19 120:21 128:12 150:8 163:13 179:7 commit 68:21 commitments 38:18 93:8,12 115:13,16 committed 11:11 committee 8:12 14:18 19:6 20:4 32:19 33:1 45:3,5 80:6 88:17 89:18 95:20 96:19 108:6 120:6,10,13 126:5 166:10,16 168:1 177:14 187:13 common 26:12 commonly-heard 10:1 communities 4:25 91:7 93:3,9 97:14 97:20 106:3,17 135:20 136:7 137:14 138:10,16 153:1 181:18 183:3,14,15,17 community 5:8 16:21 30:7 34:18 35:3 69:9 118:10 124:17 150:3,15 150:21 152:11 company 175:6	compared 187:9 comparison 188:11 compensation 118:9 179:16,17 compete 74:16 competence 70:7 competent 154:7 complaining 145:3 complaint 132:16 complete 26:16 32:7 90:10 91:17 164:9 completed 101:1 completely 26:19 53:19 72:19 completes 45:1 completion 91:12 98:12 126:20 complex 115:2 complexes 190:21 complicated 118:15 complicit 125:21 compliment 13:2 14:5 compliments 132:5 component 159:21 comprehensive 33:2,10 36:18 43:9 45:12 70:13 compromise 28:15 concept 52:11,12 169:16 179:13 Concepts 184:10 concern 30:13 42:1 50:9 60:21 100:15 101:16 107:20 154:13 166:1 189:21 concerned 15:12 139:21 140:8 152:12 174:11 177:9,15,18 183:12 concerns 32:14 82:19 101:20 129:4,6 139:1	152:10 184:17 189:19 190:7 concise 189:15 conclude 24:21 94:20 131:3 concluded 26:10 56:10 99:13,17 concludes 122:10 166:16 193:21,22 conclusion 56:20 95:16 126:12 144:7 160:18 164:21 conclusions 19:4 163:16 167:6 concur 28:20 73:17 120:12 condemned 37:9 condition 50:13 59:19 conference 20:4 confidence 58:2 95:2 106:15 137:19 confirms 173:5 conflict 160:2 conflicts 191:16,20 confronted 157:18 157:20 confusing 155:15 160:1 Congress 59:8 97:5 122:3 125:15 142:6 congressional 119:6 Congressman 7:21 11:22 consensual 15:17 16:14 consensus 20:10 66:10 68:16,17 134:3 consent 59:20 90:20 94:4,5,15 94:20 103:6 104:14 106:5	155:5 170:11 consenting 124:10 consent-based 90:17 92:15 96:12 96:15 97:10 127:18 128:2 138:1 consent-basis 124:8 consequences 31:6 31:17 102:20 193:11 Conservation 5:13 5:15 161:10 165:19 consider 14:12,14 34:6 37:14 44:2 109:16 110:18 115:4 154:4 177:20 considerable 67:16 72:10 128:16 182:8 considerably 168:22 consideration 24:18 44:22 109:18 129:14 131:5,5 180:14 184:21 considerations 154:16 considered 64:4 67:15 111:5 113:1 116:21 146:13 177:12 considering 56:17 126:2 consistent 46:6 54:2 58:11 67:5 103:6 consolidated 34:12 38:21 39:3,17 40:5,9 41:2 44:10 consortium 133:19 constituted 90:19 constitutes 20:10
--	--	--	---	--

Constitution 188:5	167:13	149:9 173:13	created 47:12	143:17 173:4
constrain 105:2	convened 1:9	174:8,15 182:11	139:11 154:9	Dan 2:6 127:4
193:9	conversation 59:4	192:17	creates 185:1	131:20
constructing	cooling 30:18 31:2	country's 65:12	creating 125:1	danger 24:6 30:19
169:17	cooperation 130:17	county 4:17 91:10	162:3	154:12 155:21
construction 84:2	138:7	98:5 124:5,10,11	credence 108:15	dangerous 155:21
consultation 138:6	core 164:22 167:14	124:16	credibility 78:7	dangers 102:1
183:20	176:2,3	couple 51:19	credible 156:16	154:6
consulted 165:9	cores 173:4	111:16 112:13	crediting 133:21	dangled 173:15
167:18	corporation 47:13	156:11	Creek 175:9	dangling 173:16
contact 132:18	47:15,21 60:19	courage 126:19	criteria 29:10	Danny 4:21 132:1
contain 93:19	97:17 125:1	course 9:4,17 13:19	critical 65:12 76:3	data 124:14 163:20
containers 143:22	132:20 133:8,9	14:4 16:13 17:7	82:11 127:21	164:9 166:20
containment	182:19 183:8	19:4 20:22 23:22	170:7,15	date 65:3
150:22 174:6,22	corporations 133:1	24:11 25:12 31:3	criticality 178:9	David 174:10
contaminating	133:3,18	33:5 35:3 69:17	criticism 40:1	175:20
142:5	correct 45:6 56:12	76:11 79:4 88:16	Crown 132:22	day 7:13 148:6
contamination	56:13,22 62:3,4	96:13 116:5 119:6	crucial 163:11	150:7 151:6,8
177:16,19	78:9 84:16	145:13 174:16	culminating 145:9	152:16 158:4
contemplating	cost 38:6,21 39:8,9	176:7 179:1	current 36:8 78:13	days 174:17
43:21	39:14,15,20 40:5	187:22	99:14 115:5	de 42:4 52:6
content 121:17,17	40:10,13 41:1	court 16:11 104:18	128:20 180:8	deadline 96:18
165:9 167:19	99:6,8,10 154:20	courts 49:2 98:17	currently 36:4,7	deal 17:8 20:20
contentious 192:13	154:21 179:18	court-enforceable	91:10 115:19	32:9 34:2 35:4
context 48:3 60:9	costlier 141:16	93:7	121:15 178:13	36:5 37:21 43:1
71:6 115:5 157:3	costly 142:11	cover 65:19 99:5,8	179:22 190:2	102:18 134:15
continuance 180:3	costs 31:7 40:16	99:16	currently-succes...	157:21 158:5
Continuation	99:16	Co-Chair 3:6 4:5,6	93:15	165:10 167:20
125:2	cost-efficiency	Co-Chairman 3:16	customarily 24:10	169:12 183:4
continue 33:8 37:5	154:18	3:22,23 64:9	cycle 3:19 52:16	184:4,15 185:7
38:5 65:15 75:6	council 5:13,15	87:21 110:17	62:16 66:8,13,17	186:3
81:2 83:19 110:21	6:18 106:13 150:4	112:7	67:12,21 68:11,13	dealing 23:8 32:3
129:5,7 139:5	150:17 161:10	Co-Chairmen	68:22 69:21 72:17	111:19 157:6
143:9 180:7 186:7	163:18 165:20	17:15,21 45:1	74:20 114:18	182:2,20 183:9
continued 4:1 5:1,2	189:9	87:5	162:4 165:1 167:1	deals 193:13
6:10,13 64:18	Council's 166:10	Co-Chairs 1:11 9:9	184:1 185:5	dealt 32:12,20 36:9
65:13	Counsel 5:17	11:20 15:9 76:22	cycles 64:19 77:5	death 188:9
continuing 178:1	169:10	86:14 98:18	C-O-N-T-E-N-T-S	deaths 188:10
contracts 49:3	count 104:17	co-located 34:15	3:1 4:1 5:1 6:10	debated 164:7
55:17 78:10	countermeasure	35:9		debt 80:12
contractual 38:17	173:6	crafting 163:6	D	decade 80:1 143:9
contradictory	counties 98:6	crane 173:19	Daiichi 21:4 168:9	decades 37:16
145:16	countries 71:11	create 60:3,10	172:13	96:17 177:11,17
contrast 191:4	74:17,18 83:11	109:20 128:22	damage 21:20	182:2
control 113:4,5	country 12:6 39:7	129:2 132:21	22:22 153:21	decay 83:8
192:4	50:13 77:15,19	133:2 134:11	172:3	December 1:6 8:3
controversy 162:9	80:8 126:16 144:4	139:2 157:11	damaged 116:19	decide 159:10

decided 71:6 102:17 109:20	139:22	describe 89:7	developments 35:17 109:10	discussed 17:2 40:7 118:22
decision 91:2 109:6 109:9,12,17 112:1 112:10,11,11,12 114:19 128:6 158:1 185:16	defining 27:14 95:21 170:10	described 25:22	devotes 163:10	discussing 41:21 113:20
decisionmakers 135:9	definite 27:12	description 92:3	Diane 5:25 140:19 144:14,17 186:20	discussion 8:7 17:22 27:13 38:21 41:1,12,17 43:5 52:13 69:5 76:8 86:13 90:12 99:22 101:19 105:10 108:18 111:9 129:8 168:15
decisionmaking 183:19	definition 117:7	descriptions 41:14 58:13	dice 15:19	discussions 42:9 51:15 106:11 111:17 172:10
decisions 132:11	definitive 179:15	Design 184:10	Dick 3:15 18:4,9 45:8,19 50:2 52:6 58:9 59:4 62:2,9 101:9 104:2	diseases 166:7
declare 194:4	degree 178:9	designated 1:23 3:4 7:19 146:16	differences 191:14	disingenuously 142:6
declared 88:13	delay 55:20 96:17	designed 143:3	different 12:3,6 27:4 28:22 40:1 66:5 67:1 73:10 80:17 96:5 103:5 115:10 118:7,7 132:14 133:17 135:9 148:14 155:11,18 185:1	dismiss 152:10
decommissioning 75:21 177:10	delayed 7:11 162:18	designing 129:16	difficult 92:1 100:10 107:5,19 119:22 127:15	disorder 80:9
decontamination 177:10	delays 96:14	designs 83:10	difficulties 157:11	disparity 187:10
decoupled 136:18	deliberately 168:15	desirable 27:20 83:9	dilemma 37:1	Dispersion 172:15
dedicated 9:16 144:1	deliberations 147:20	desire 61:13 96:18	diligence 86:21	disposal 4:3 11:12 27:11 36:10 37:8 42:1,3,4,5,11,14 42:16,21 43:22 44:10 46:14 47:17 49:22 60:4,8,22 62:12 72:2,8 73:5 73:8 78:2 85:12 86:13 87:9 89:18 92:4 99:8 109:15 112:4 116:15 117:9,20 124:13 126:12,13 129:15 129:20 131:6 138:3 141:17 146:21 169:18 179:1 189:20
deem 103:1 104:7	delve 163:14	destroyed 18:18	diligent 120:3	disposals 131:2
deemed 188:10	democracies 77:9	detail 13:21 87:10	diminish 80:4	dispose 106:20 137:21 184:20
deep 73:5 126:13 133:19 148:11	Democrats 134:12 134:15	detailed 136:14	direct 94:12 166:14	disposed 192:5
deeply 66:22	demonstrate 48:20 74:9 94:18 190:15	details 92:13,14	directed 11:3 109:14	disposing 99:11
default 80:7	demonstrated 83:16 148:20	detectable 166:18	direction 10:9 126:2	disposition 136:22 137:11
defeating 31:1	demonstrates 136:3 187:10	determination 172:14 188:4	directions 155:11	dispositioned
defects 164:1 166:1 166:22 167:3,5,8	demonstrating 137:17	determine 32:8 98:1	directly 165:11 167:20 172:5 174:20 183:18	
defense 6:18 8:13 32:22 106:12 109:3 110:19 112:2 113:13 116:6 117:8,14,17 117:22 118:3,10 121:13,17 127:20 136:17,19 148:3 148:15 154:5,8 155:2 173:21 183:10 189:9	demonstration 67:11	determined 184:12	Director 4:19,23 127:9 135:19	
defense-only 127:22	densely 24:2	determining 94:15	directors 139:12	
defense-waste-only 121:11	densification 52:7	detriment 79:17	disagree 125:12 141:12,18	
define 20:14	density 54:17	develop 49:20 68:2 71:7,21 72:6 74:5 74:19 91:6 92:9 93:20 96:21 115:20 116:11 121:10 125:4	disagreement 67:2	
defined 102:12	Denver 12:10 105:8	developed 73:11 83:12 117:13 160:11 164:17	disaster 80:8 152:20	
	Department 78:10 112:5,19,22 113:3 113:5 115:8 116:10,14 117:10 117:11 160:15 161:7 181:20 182:22	developing 10:6 11:12 69:2 90:2 91:18 118:19 127:13 130:16 138:20 157:14 180:8	discharge 174:20	
	depend 9:6 25:13 168:2	development 65:5 67:5,11 71:1 74:8 75:19 79:3,16 80:20 82:11 90:18 92:3,11 93:6 104:14 160:16	discuss 20:18 65:22 87:10 114:22	

137:19	5:23 181:14	drinking 147:6	economy 79:5	embodied 19:5
disproportionate	186:13,18	drop 158:15	124:20	92:18
187:21	door 88:11	dropped 23:1	edited 72:13 73:18	emerge 9:20
disproportionately	dose 162:2,14,19	172:22	74:2 75:3	emerged 105:19
188:2	162:21 163:21	dry 24:2,9 29:15	editing 44:19	emergency 173:20
dispute 30:13	164:5 166:22	41:13 76:5 141:22	education 190:17	eminently 167:10
disrespect 152:2	doses 162:17 165:3	150:19 152:19	effective 73:7 75:16	emissions 146:20
disrupt 30:21	dose-based 191:15	153:6 171:16,21	75:20 173:6	172:19 173:3
disseminate 168:18	dose/response	175:6	effectively 42:3	emphasis 29:2
Distance 33:3	191:10	dual 102:2 189:21	43:15	138:6 178:7
43:10	double 162:20	190:12	effects 166:11,14	emphasize 42:20
distilling 14:7	double-transport...	due 179:2,17	166:18 187:4	69:18 71:5 73:12
ditch 143:16	142:11	dumps 156:15	189:1	73:18 89:12 99:21
diverse 23:12	doubling 162:21	dying 187:9	efficiencies 34:16	103:17
diversity 27:7	163:3	D'Arrigo 5:25	effort 12:15 13:4	emphasized 27:16
division 177:9	doubt 91:15	140:19 144:15,17	13:10 14:3 20:3	42:10 49:18 68:14
documentation	doubts 99:3	186:20	86:22 87:1,2	emplacement
128:16	downriver 159:13	D.C 1:10 171:15	133:13,20 161:21	126:11
documents 124:14	downstream	192:14	168:18	employ 96:12
DOE 37:22 41:5	102:19 181:19		efforts 55:18 65:2	empty 176:8
75:6 78:17 99:9	193:11	E	65:13 66:13 68:2	enables 95:1
99:13 113:7,15,16	downwind 181:19	Earl 2:17 5:16	71:7 74:4 76:3	enabling 75:16
114:2 124:13	dozens 88:18	165:16 169:6	78:17 88:3 98:15	encompass 33:15
125:1 128:7 136:6	Dr 59:5 64:9 65:15	earlier 24:9 43:3	119:7 124:9	encourage 135:3
148:1,5 154:7	87:21 161:5	51:10 92:14 98:5	137:15 139:5,6	139:5
183:2 190:18	165:21	98:18 171:22	eight 119:3	ended 16:13
DOE's 11:5 191:10	draft 8:8 9:12 11:4	186:21	EISENHOWER	endorse 57:7 58:5
doing 22:21 27:9	12:4 19:19 20:7	earliest 129:22	1:17 82:7	endorsed 79:7
39:13 47:8 49:19	25:12 26:2 47:3	early 23:7 28:11	either 36:10 70:17	146:1
60:1,15,15 81:7	48:3 65:21 78:22	52:6,21 57:16	80:4 102:21 118:1	endorsing 126:20
105:15 137:8	87:9 98:9 105:22	60:20 61:7 85:9	141:3 155:1	energy 4:24,25 5:4
145:12 156:1	119:5 121:2	130:11 138:11	158:22	10:10 11:2,5,7
157:1	127:13,17 138:7	166:13	elaborate 142:15	66:7,14 70:8,21
dollar 81:6	138:15 161:20,22	earth 158:2,9,9,15	elected 125:11	71:1,7,8 72:4,22
dollars 99:13 137:9	162:6 163:10	earthquake 21:3	Electric 78:16	74:1 75:8 78:10
Domenici 1:16 3:12	165:2,10,22	easier 155:3	electrical 83:7	78:20 79:4,10,16
3:21 15:8,21 16:4	167:19 170:4,14	easily 150:22	electricity 79:11	82:12,13,15 108:4
46:10,22 47:6,13	170:19 173:8	152:17	element 34:12	112:5,22 114:16
54:8,12 55:2,9,12	draindown 21:20	eating 85:8	49:18 54:19 95:16	115:8 116:11,14
56:13,19 57:1	draindowns 174:15	ECA 135:21 136:4	98:2 104:21	117:10,11 134:8
58:20 59:1 60:13	drained 174:3	136:17 137:22	elements 46:16	134:10,13,14,18
61:10 62:5 63:5	dramatically	138:8,22 139:15	104:8	134:20 135:20,20
63:11,16 79:18,20	128:20 168:7	echo 12:1 51:10	eliminate 71:20	140:21 160:15
Domenici's 77:21	190:8	104:2 178:5	73:1	163:7 180:3
domes 150:22	drawbridge 159:13	Ecology 112:19	elimination 161:15	181:20 182:22
domestic 80:3	drawn 19:5 33:16	economic 80:10	email 20:5	enforceable 104:19
Dominique 2:21	44:5	149:1	emails 14:1	engage 59:3 189:13

138:11	environmentalist	31:22 32:6 33:4	exist 75:22 115:16	express 12:14
engaging 105:21	177:21	33:10 56:18	existed 163:9	170:3,17 176:19
engineer 5:12	environmentally-...	188:16	existence 116:13	179:6
156:10 182:1	141:16	event 21:20 23:3	164:6	expressed 10:4
engineering 159:9	environmets	25:17 152:18	existing 41:5 46:17	30:14 91:15
160:16 177:4	118:8	events 21:1 70:9	65:5,9 75:1,7	122:17
engineers 159:11	envision 37:15	163:7	91:16 98:7 121:10	extended 37:9 76:5
178:10 181:1	envisioned 192:8	eventually 27:10	139:8 147:21	extends 95:4
engulfed 168:9	EPA 191:4,22	everybody 13:10	148:22	190:18
enhanced 69:11	193:10	17:3 120:8 145:3	exists 91:10 115:21	extensive 41:21
86:19	equal 81:12 129:13	159:21,22 194:2	140:9	153:21 182:16
enjoy 80:15	188:6	everyone's 7:4	expand 53:10	extent 50:8 75:9
enormous 12:15	equation 81:17	179:21	129:8	91:20 177:21
13:4 105:16	ERNIE 1:19	evidence 70:5 83:1	expanded 33:15	178:6 179:2
131:11	eroded 136:6	166:5 168:19	66:14 145:8	external 187:20
enormously 106:9	especially 90:4	190:15	expect 129:4	extract 172:18
106:11	115:16 117:17	evidently 22:20	187:20	extraordinarily
enormously-imp...	124:8 130:12	exact 142:18	expected 162:22	75:15
43:17	190:7,17	exactly 26:17 27:14	188:16	extraordinary 79:5
enrichment 73:2	essential 26:11	32:9 62:13 156:19	expeditiously 10:6	extremely 50:18
enshrined 190:2	35:10 42:15 60:7	157:19 173:1	28:7 57:20 119:9	163:3 167:8
ensure 60:11	99:19 100:4	exaggerate 148:7	120:20	eyes 151:7
138:12 140:10	161:15	examine 54:5	experience 17:8	
ensuring 191:5	essentially 169:13	examining 36:18	22:11 48:21 49:11	F
enter 93:13 94:21	establish 28:7 42:2	example 28:8 72:19	49:15,20 169:14	F 1:9
106:17 183:13	42:13 137:11	73:9 74:8 102:4	182:2	fabulous 132:12
188:18	160:3,15 179:4,15	105:5 112:18	experienced 134:2	faced 12:22 155:16
entering 84:2	180:6	115:17 121:14	experiencing 180:2	faces 74:15
enterprise 73:17	established 8:12	143:4,10 157:15	expert 159:22	facilities 26:8 34:13
75:19	90:4,21 110:18	examples 106:7	expertise 180:19	34:15 41:6,14
entire 15:9 42:7	establishing 60:22	174:9,14	experts 112:16	42:14 44:10 65:10
162:4 174:12,13	103:19 106:5	excellent 33:6	160:7	65:10 71:12 75:1
188:11	180:14	62:10 88:21	expire 70:18	75:22 129:20
entity 47:11 60:14	establishment 62:2	103:14 120:10	expires 95:22	138:3 152:19
90:4 98:3 102:12	115:12 116:9	132:9 157:2,5	explain 91:20	179:1 180:15
129:13 130:15	118:3 139:1	exceptionally 87:18	100:9 107:4	181:4,21
132:21 139:2,10	esteem 177:2	excess 97:18	explained 110:16	facility 35:10 37:7
154:9 182:19	estimated 99:10	excessive 107:8	110:17	37:8 40:15 42:2,3
183:6,13,18	167:22	excuse 58:20 59:2	explanation 58:15	42:4,5 90:11
environment 82:2	estimates 137:10	Executive 4:19	explicit 53:5 146:6	91:18,22 92:12
82:9 124:19	162:14 164:11	58:12 120:22	explicitly 116:6	94:9,9,22 96:22
174:21 191:8,12	168:6	127:8 170:21	exposed 142:17	104:3,16 114:9
environmental	et 133:18 172:9	exemplary 145:11	164:17 166:18	125:4 142:13
113:4,5 161:11	European 172:8	exemptions 189:22	exposure 107:8	150:19 153:6
162:17 177:13,16	evaluated 23:6	193:10	166:8 167:4 188:9	177:15,19 179:12
177:19 190:1	191:12	exercise 126:18	exposures 128:22	fact 23:19 27:3
192:3	evaluation 24:22	exhibit 83:20	129:3 187:17,21	30:15 36:6,12

38:16 39:3,5	federal 1:23 3:4	findings 41:1 56:6	149:18 153:14	185:5
40:18 41:22 42:20	7:19 16:7,22 41:6	finds 164:4	156:6 161:1	frankly 26:19
43:7 50:10 60:13	46:14 60:14 78:17	fine 63:5 102:18	165:16 169:7	177:1
61:12 66:9 67:8,9	90:3 104:4,9	147:17	171:7 176:14	Frazier 1:23 3:3
67:12 68:19 74:14	108:8 125:22	finished 16:1	181:14 186:14	7:3,19 86:3 123:3
74:17 84:1 87:12	126:4 136:8	fire 173:21 174:19	following 97:8	123:6 132:13
88:12 89:14 98:9	137:20 150:11	firmly-held 67:1	123:14 129:10	French 2:21 5:23
100:11 117:16	151:15 153:7	first 8:6 10:3 18:1	164:18	181:14 186:14,15
137:17 154:12	179:3 187:11	34:20 51:6 63:12	fondness 131:11	186:18 189:4
157:4 179:22	191:6	63:22 65:20 66:3	force 5:10 39:11	frequent 99:22
facto 42:4	fee 91:16 99:7,14	68:10 86:17 89:12	153:16 164:10	167:20
factor 27:17	99:18 100:2,7	110:10 117:13	forced 153:2	FRIDAY 1:6
factors 94:2	121:1	136:5,17 145:20	179:12	front 142:16 170:9
facts 107:13,14	feedback 51:14	153:17 154:18	forever 97:6	frustration 96:14
factual 25:3,21	feel 147:1	155:22 160:7	form 68:10 87:15	96:20
30:13 160:8	fees 78:11 90:9	171:15 172:4	117:19	Fuchs 2:20 5:22
fail 60:21	99:4	176:6,8 182:5,18	formal 122:10	176:14 181:14,15
failed 60:19 80:6	feet 147:8	190:10 192:9	160:4,17	186:12
139:6 151:15	fell 186:21	fiscal 82:2	former 5:17 101:19	fuel 3:19 11:10,12
failing 93:11	felt 92:5 113:21	fission 157:6	114:1 125:9	21:20 22:18,22
fails 161:22 193:13	193:12	fit 94:18	forming 133:18	23:2 24:1,3,8,11
fair 115:14 179:20	Fermi 175:11	five 9:4 129:11	forth 26:9 27:6	24:14 28:17 29:17
faith 151:18	Fettus 2:22 6:16	144:1	31:8	29:21 30:11 31:13
fall 10:2 168:7	106:12 186:14	fix 80:17	forum 44:18	35:19,21,22 36:8
falling 117:4	189:6,7,8 193:20	fixing 156:22	forums 183:21	36:9,21 37:1,6,18
119:11	field 70:7 79:4	flames 174:6	forward 9:2 29:5	38:1,4,11,15,19
falls 18:9	Fifteen 97:7	Flash 158:4	32:8 59:12 60:12	39:5,13,15 44:9
familiar 41:16	fight 16:10	flavor 108:5,17	72:6 74:13 79:2	48:17 49:4,9
family 18:7,7 107:9	fight 193:7	flexibility 26:11	89:20 102:7,22	52:16,19,21 53:3
far 33:7 97:18	figure 165:3,5,6	40:19 104:22	106:15 119:2,12	53:7,13 54:17
111:21 120:11	187:10	105:14 138:5	120:6,20 121:9	57:12 61:4 62:16
129:3 141:10	final 7:17 13:15	flexible 179:8	122:1 128:11	64:19 66:8,13,17
185:14	42:20 70:11 74:21	flexibly 179:14	134:7 137:8	66:19 67:12,21
fare 31:17	81:21 98:10	flight 7:12	147:13 170:12	68:11,13,22 69:21
far-from-ideal	100:13 121:3	floor 11:17 174:2	192:7	70:16 71:10,14
178:15	122:17 128:12	flow 30:16,21 76:12	fossil 161:17 169:1	72:17 73:8 74:20
fast 74:10	129:10 138:14	90:9	found 51:11,12	77:5 82:17 99:12
favor 77:11 178:1	140:14 189:5	focus 69:11 109:21	83:18 93:16	106:20 113:16
179:9,10,13	finally 68:3 91:4,14	171:13	162:16 188:21	114:18 116:19
fear 60:17 91:21	97:12 100:14	folks 51:15	four 123:10 163:11	128:19 136:19
96:16 100:9 107:4	130:14,20 140:4	follow 15:14 126:8	189:14 190:5	137:12 148:4,22
107:6,12,13,18,18	165:7 185:4	130:15 132:3	fraction 67:9	151:9,18 153:8,21
162:2 181:5	financial 77:14	185:9	fragment 47:22	161:17 162:4
fears 153:2	179:18	followed 123:17	framework 96:4	165:1 167:1 169:1
feasible 52:21	find 59:11 61:15	125:16 127:4	106:5 121:21	171:21 173:2
feature 83:9	126:9 180:21	131:21 135:17	193:13	174:18 180:8
features 84:1	finding 164:13	140:19 144:15	France 71:13,17	183:9 184:1,13,14

184:20 185:5,19 185:22 Fukushima 21:4,9 21:12 22:2 23:3,9 23:15,18 24:19 25:10,21 53:12 54:21 68:5 69:6 70:10 75:12 152:14 153:20 156:14 164:12 168:9,20 172:13 174:16 fulfill 152:4 153:7 full 7:9 19:3,5 21:11 34:6 68:17 76:12 84:14 109:18 122:14 131:1 175:7 fully 28:19 43:11 49:17 147:14 full-scale 40:14 130:10 function 31:1 43:15 fund 78:11 99:4,18 126:10 fundamental 191:13 fundamentally 71:18 funding 44:15 46:13 71:5 78:13 78:15,17 79:9 138:17 funds 78:15,17 97:22 139:16,18 further 10:7 15:4 24:17 41:17 49:14 54:6 58:6 72:12 82:6,21 96:17 106:10 131:5 163:6 185:16 fusion 178:4 future 1:1 8:6 10:20 11:2,14 44:8 45:22 46:21 59:6 66:6,7 70:21 77:15 92:18 98:15	103:9 115:15 128:18 129:6 131:4 132:19 134:9 138:2 156:13 193:9 <hr/> G <hr/> G 1:9 gain 183:6 game 82:18 120:1 game-changing 72:16,21 73:13 gamma 187:18 Gary 2:4 4:16 123:17 124:4 gas 82:14 gas-cooled 74:11 gather 143:1 gauge 94:20 gauges 175:12,13 GDP 80:11 general 15:4 44:20 77:20 79:3,13 82:13 86:8,16 89:13 104:12 110:6,16 123:3 144:22 176:21 181:7 generally 77:9 92:1 107:11 172:20 generated 72:3 79:9 Generating 150:16 generation 11:8 66:19 169:2 178:2 187:18 generic 78:12 184:9 genetic 166:13 gentleman 178:6 Geoff 2:22 106:12 186:14 189:6 Geoffrey 6:16 189:8 geologic 10:6 72:1 89:15,21 geological 124:13	125:4 126:13 Georgia 84:6 Geosciences 172:8 Germany 180:1 getting 103:6 106:16 133:10 155:2,3 187:8 give 18:20 50:10 64:13 85:15 102:21 108:4,14 129:13 167:15 180:13 given 28:11 33:18 45:11 52:14 53:1 53:1,2 57:10 77:14 78:6 96:11 106:14 110:7 139:3 140:2 142:13 162:10 171:12 gives 49:11 55:22 giving 95:11 Glaab 2:19 5:21 171:7 176:13,15 177:3 181:12 glad 51:7 182:12 184:2 glass 116:18 Glenn 170:1 global 133:19 161:15 go 13:14 24:13 29:4 29:15 40:14 48:22 60:12 61:14 63:8 64:6 75:10 80:12 108:1,12 117:7,11 122:20 123:6 136:21 144:19 146:17,22 157:13 158:9,14 159:15 goal 159:3,3,17 goes 16:11 29:17 104:20 123:22 124:1 153:21 154:10 going 7:4,14 14:6 18:16 20:17,20	21:22 22:12 24:19 26:18 32:8 33:3 37:16,17,19 38:10 38:12 40:14,16 43:9 49:21 55:12 57:1,22 61:8,21 63:11,17,19 77:3 77:17,20 79:2 80:1,16 85:2 86:4 86:7 102:7,22 106:10 133:21 141:1 146:4 147:5 147:7,9 155:10 157:11,11,17,20 159:10 170:12 171:1 181:9 182:14,19 185:16 192:11 193:11 good 8:1 51:13 84:22 86:20 94:20 124:3 131:22 133:5 135:11 149:20 165:3,17 185:21 186:17 193:16 Gordon 158:4 govern 104:16 government 15:13 15:13 16:7,22 46:14 60:14 68:2 69:1,16 70:1 73:16,19 93:22 94:13 96:2 98:4 104:7 133:12 137:20 139:11 153:7 179:3 governments 12:8 93:1 97:21 130:18 135:22 138:10,17 graciously 109:22 Grand 143:18 granted 162:8 graphite 146:18 grateful 89:4 120:4 gratitude 176:19 great 13:21 17:8 110:8 135:10	170:3 greater 24:5 26:4 101:2 116:17 187:8,14 greatest 75:9 greatly 162:18 green 123:20 grid 134:11,18 ground 67:6 grounds 148:8 groundwater 147:5 group 20:10 81:13 177:8 groups 77:10,10 130:19 167:10 180:17,18 182:17 grow 38:10 growing 38:12 80:2 guarantee 188:5 guarding 39:13 guess 141:4 guidance 25:11 53:6 96:10 guy 158:11,15 guys 132:5 <hr/> H <hr/> H 1:14 habitat 161:17 Hagel 1:17 4:4 86:14,16 176:21 half 85:2 146:19 190:14 Halstead 2:5 4:18 123:17 127:4,6,8 131:19 Hamilton 1:11,13 3:6 7:22 8:1 12:1 13:17 14:15,19 15:2,20 16:3 17:6 18:15 45:8 46:7 48:5 50:1,20 51:3 54:6,9 55:8,10 57:5 58:6,21 62:7 63:3,7,14 76:16 79:19 81:20 82:20 84:7,19,22 119:16
---	--	--	--	--

119:20 149:21 176:20 hand 10:18 18:20 94:8 157:9 handed 119:21,22 handle 154:8,9 handled 26:6 handling 36:19 182:22 Hanford 114:2 117:19 146:18 happen 26:17,18 66:11 70:10 148:13 155:4 162:22 happened 23:19 57:10 happening 28:18 73:22 happens 80:13,14 81:16 happy 87:17,18 130:5 148:18 hard 28:16 51:7 151:18 152:4 hardened 29:12 143:7 144:10 176:7 186:1 harm 152:11 163:4 164:8,11 185:16 harmful 168:20,22 187:4 188:21 189:1 harmonized 192:15 harmonizing 192:12 haste 28:18 92:5,6 100:16 haunted 152:21 hazardous 191:6 head 124:11 health 18:6 113:4,5 154:22 155:5,22 162:12 163:4,12 163:15 165:8 167:13,17 191:8 hear 7:14 9:8 11:19	12:20 54:12 85:12 89:7 123:9,16 128:8 130:6 134:2 149:10 152:15 heard 50:5 52:5 63:21 76:8 88:3 89:1 95:13 98:11 112:8,14 115:14 118:22 122:13 153:22 171:15,19 172:1 185:1 hearing 8:19 9:2 12:7 152:6 hearings 132:16 heat 24:5 83:8 heavily 30:1 42:7,8 heavy 138:6 Hello 181:15 help 60:11 180:9 181:4 helped 51:16 89:5 137:14 helpful 9:14 12:18 46:3 88:2 130:12 heretofore 81:8 hero 158:4 Hi 135:18 140:20 189:7 high 136:19 144:5 159:12 172:21 higher 35:20 167:22 highest 28:20 highlight 64:14 112:13,17 highlighted 111:7 highly 168:14 187:15 highly-dependent 43:8 highly-radioactive 143:12 highway 50:15 129:22 highways 61:5 high-level 11:13 44:9 55:15 106:20	110:20 112:2,3,22 113:13 116:18 117:17,18 136:18 137:18 141:19,21 142:4,14 144:8 175:11 high-temperature 74:11 history 93:11 158:21 191:15 Hoc 4:10 8:11 109:3,20 110:1,17 hog 40:14 hold 12:5 Hollis 2:4 4:16 123:17,18 124:3,4 127:3 home 158:16 173:15 homeland 150:7 153:3,9 homes 152:22 153:3 homo 163:9 hope 16:18 46:22 55:18 62:14 76:13 83:18 86:6 139:9 147:13 153:4 170:17 hoped 18:11 Hopefully 193:5 Hopkins 161:7 horizontal 41:18 HOSS 30:10 52:11 52:12 host 91:7 93:2 94:17 95:6 97:14 97:15 118:10 124:10 142:13 hosting 150:10 hosts 136:1 hot 24:12 Hotel 1:10 hotly 164:7 hotter 184:13 hour 9:1 85:3 99:15 174:4	hours 9:15 151:6 173:17 House 124:19 huge 21:22 82:14 175:8 187:10 human 75:8 hundreds 88:20 147:5 178:16 hypocritical 142:10 <hr/> I <hr/> IAEA 168:3 180:5 IAEA's 69:10 Idaho 113:14 115:17 idea 40:13 47:10 61:6 90:16 104:13 106:1 148:15 183:8 ideas 160:11 identified 24:17 84:9 identify 72:14 89:20 160:7 identifying/siting 90:11 ignored 125:7 ill 186:22 Illinois 5:4 140:22 141:3,7 142:12 illustrated 162:8 illustration 83:15 images 152:22 imagine 26:15 28:16 89:17 immediacy 178:21 immediate 66:13 immediately 70:17 137:1 immune 30:5 impact 23:3 82:4 130:11 162:17 184:6 impacted 135:22 138:9 140:5 188:1 impacts 21:3,17 36:1 187:22	implement 119:7 120:21 121:22 138:21 140:1,9 179:4 implementation 103:18 118:21 127:22 implemented 66:2 72:8 135:12 implementing 44:11 129:13,18 130:2,15,20 implications 117:16 168:6 importance 29:3 33:18 57:11 65:9 67:17,18 68:4 72:14 73:18 74:22 79:5 90:8 100:1 100:11 104:12 120:20 important 7:13 13:12,13 15:10,22 16:8 17:7 22:1 27:17 30:8 35:16 42:22 48:12,15 49:8,13 56:7 57:14 58:1 64:16 66:4,21 72:5 75:15 78:9 79:14 80:20 81:21 90:13 93:17 101:13 103:16 104:3,13 104:21 105:11 108:7 119:2,13 121:5,18 146:12 159:2 164:13 170:8 182:21 183:17 importantly 118:20 125:5 170:21 imposed 163:13 impossible 18:14 improve 89:6 improvements 83:20 inability 179:3
---	--	---	--	--

inadequacy 43:5	123:21 172:19	insist 130:21	176:4,5	119:1,12 120:14
incentives 91:5	indicated 18:16	insisted 88:11	invest 78:20 79:15	126:16 128:14,18
97:13 118:9	19:7,12 39:2 41:8	inspection 50:14	investigate 109:15	146:13 147:3,11
incident 47:16	58:18	instability 102:20	investigation 17:18	147:13 157:19
incidental 187:16	indicates 173:2	108:12 193:12	investment 72:13	164:22 167:13,15
include 53:13 55:6	indicator 88:11	installations	79:3 88:3	170:8,16 185:12
61:20 79:8 116:17	individual 19:20	161:18	investments 83:2	185:20 186:3
126:19 138:15	162:20	instance 118:11	invite 45:4	193:1
139:11 168:1	individually 20:17	Institute 78:16	invited 21:10	issued 18:22 19:6
181:7	20:19	114:16 143:1	involved 28:1	26:2 43:10 44:12
included 34:11	individuals 9:11	institutions 81:1,14	69:15 73:15 106:4	76:14 112:1 184:9
46:2 59:9,9 63:17	180:19	instrumentation	106:13 135:6	187:7
includes 69:10	indulgence 176:17	22:14 23:9	142:18 180:8	issues 23:21 25:10
71:22	181:9	integrate 122:15	183:19	31:4,12 51:16,17
including 44:11	industrial-scale	183:15	involvement	54:5 57:11,16
92:19 146:10	161:18	integrated 48:12	138:13	58:2 60:7 64:15
174:12 181:2	industry 68:1	71:21	involves 38:6	70:12 105:11
191:18	73:15,19 74:15,19	integrating 13:6	162:10	108:9,10,12,15
incompatibility	78:15 134:14	intend 93:2	ionizing 162:2	115:3 116:22
27:9	137:3 168:3,10,15	intended 139:19	163:21 166:11	117:2,3,5 118:6
inconsistent 26:19	inevitably 143:9	intense 187:18	167:4	118:14 121:19
incorporate 47:4	inexperienced	intent 60:3,5	irradiated 171:20	124:12 127:22
167:5	173:18	intention 46:6 92:7	irreplaceable 65:11	129:9 134:16
incorporated 4:22	influence 126:6	interaction 20:4,6	irreversibly 68:22	136:1,16 141:13
44:4 132:2	inform 98:15	interest 77:11	Isaacs 170:1	149:5 154:15
incorrect 38:22	informally 51:15	81:15 94:19 96:6	Island 5:8 116:19	182:3 183:1 184:2
increase 30:16 53:6	information 5:4,24	103:8	150:3,7,13,15	185:6
137:19 181:4	12:17 23:2 25:13	interested 77:9	151:8 156:14	item 23:7
184:19	111:13 124:14	112:16	isolate 157:7	items 19:21 20:14
increased 23:8	140:22 186:19	interests 27:22	Isolation 116:3	20:20
155:9 166:6	187:5 188:13	95:3,9	issue 8:13 10:18	
184:16	informed 85:1	interface 160:4,17	23:22 24:7,14,16	J
increasing 139:7	infrastructure 65:6	interim 52:21	24:20 25:1,9	Jack 157:16
increasingly 82:8	75:8 81:1	141:19 142:3	26:22 29:4,6 30:8	January 76:14
incredible 173:7,11	initiation 44:7	178:22	32:4,4,9,15 33:5	122:18
incredibly 51:13	45:22 59:6,17	international 69:9	35:1,4 36:8,17	Japan 21:2 57:10
incredibly-heavy	innovation 71:8	69:11 180:7	37:1 39:21 40:6	71:13 152:14,21
143:21	innovative 83:16	interpreted 28:13	42:22 43:2,17	153:1 166:13
independent 57:13	input 12:2 19:14	interstate 50:15	50:9,22 51:18	172:3,4 180:1
90:3 126:7,18	21:12 24:19 64:8	129:21	52:5,8,13,17	Japanese 22:16
139:17	84:18	introduce 23:12	53:18,22 54:1	24:4 69:17,20
independently	insert 57:2	introduced 72:21	55:6 60:20 79:13	70:3
128:7	inserted 165:4	introducing 22:17	94:3 95:13 98:16	Jersey 175:9
India 74:6	inside 174:22	introduction 11:16	100:12 109:22	job 14:6 101:12
Indian 5:8 150:3	insights 12:17	110:8	110:19 111:5,6,19	120:10 127:15
Indiana 50:7	insignificant	inventories 57:18	112:17 114:21	131:9 132:8,12
indicate 27:19	188:10	inventory 113:15	115:1,2,4,19	157:2

jobs 134:11	key 50:4,15,16 136:16 160:13 169:16	180:6	legacy 190:21	123:21 124:1,1
John 132:13 141:1 169:22	kick 151:20	larger-scale 49:22	legal 60:18 121:21 130:22 185:17 192:1 193:13	lightly 32:16
Johns 161:7	kicking 134:5	large-scale 44:8 46:1 48:15 59:7 59:18	legally 179:15	likelihood 152:7 180:10
Johnson 2:11 5:6 149:17,19,20 150:1 153:12	kilowatt 99:15	Lash 1:18 4:6 7:11 62:14 86:14 87:21 88:6,7 103:11 107:16	legally-binding 94:22 104:15 106:2 115:13,15	likes 80:10
join 18:5,12	kind 17:9 47:8 55:22 61:14 90:21 92:9 108:12 116:1 134:16 152:18 189:17	Lastly 133:15	legislation 139:3 140:3	likewise 145:18 159:16
Jonathan 1:18 4:6 7:11 85:6,11 86:17 87:3,6,14 88:6 101:6 108:1 108:21 110:11	kindly 111:12	last-minute 147:20	lengthy 97:6	limit 76:2
Jonathan's 85:1	kinds 91:4 93:16 155:18	late 119:15 120:1,9 171:22	lessons 21:8,11 22:1,1,3,9,10 54:21	limited 9:3 29:16 116:5 121:13 180:16
judgment 10:22 70:19 97:10	Kingdom 71:13	latent 81:14	lest 78:6	limits 102:10,14 147:7 163:13
Judy 2:12 5:9 149:18 153:13,15	knew 16:16 158:6	latest 23:2	letter 169:15	Linda 2:9 5:3 135:17 140:18,21
July 19:6	know 18:21 42:9 61:21 62:13 81:4 81:17 87:16 111:22 120:6 128:15 135:3,4 141:6 145:21 152:3 154:7 182:10 183:1 187:22 190:11 192:13	Laughter 18:19 88:14 110:13 124:2 193:18	let's 20:19 46:8 59:7 62:21 123:6	line 59:14 79:10 173:20 193:8
jump 20:19	knows 17:3 190:16	launch 158:1,7	level 11:7 23:2 50:12 75:19 99:14 107:6,13 108:8,9 136:20 141:13 147:8 188:4	lines 61:6 150:21
jurisdiction 19:10 34:21 102:7,10 103:2 139:13	Kotek 169:22	law 125:6,12,22 126:8 188:6 192:3	levels 22:14 23:1 36:5,6 71:5 107:12 191:7,16 191:18	link 189:1
justifications 41:2	Kouts 124:18	Lawrence 114:1	Lewiston 2:9 5:3 135:17 140:19,20 140:21 144:13	linkage 41:22
J.W 1:9	Kraft 114:15	laws 59:8 125:13 190:1	liability 38:8,17 49:2,6,10	links 165:5
<hr/> K <hr/>	<hr/> L <hr/>	lay 26:15,15	licensed 83:10	lion's 191:4
K 165:17	Lab 184:9	lead 50:11 133:13	license 10:14 91:13 98:13,22 125:3 126:21 142:2	liquid 117:18
Kamps 2:18 5:19 169:7 171:6,8,10 176:12	Labs 65:6 69:21	leader 65:4	licensing 98:15 128:3	list 92:16
Kara 2:8 4:23 131:21 135:16,18	lack 22:13 115:20 145:3,4 168:4	leadership 17:11 65:2 83:20 134:8	life 80:15	listed 113:10 154:16
Karen 2:16 5:14 161:1 165:15,18	Lake 142:21	leaking 143:17	Lifespan 163:18 164:10,14 166:2 167:6,22	listen 12:13,19 192:20
Katherine 2:20 5:22 176:14 181:13	land 38:7	learn 21:8 48:20 105:10	lifetime 157:10	listened 135:8 145:5 194:3
keep 40:21 81:9 135:6 137:4 144:8 155:20	landing 85:2	learned 18:13 22:1 22:19 23:17 26:1 54:21 105:4 150:12	light 109:10 123:20	listening 65:16 170:1
keeping 10:9 35:19 38:1 68:9	language 28:13,21 44:20 45:21 47:8 55:21 58:10,12 59:9 61:19	learning 26:21		litigate 55:21
Kennedy 157:16	laps 59:2	learning-as 40:19		little 55:20 64:14 101:16 106:10 108:5,17 123:20 153:4
kept 175:7	large 29:11 39:7 43:4 142:13 160:5	leave 58:15 147:2,9 147:11,21 170:6		live 151:7
Kevin 2:18 5:19 169:7 171:6,10	larger 128:20	leaving 171:2		lives 151:8

139:11 180:16,17	lunch 85:8,9	107:5 117:11	193:3	107:2,16 108:1
localities 170:11		124:21 126:17	means 24:5 30:17	110:5 120:18
locality 15:18 91:1	M	129:17 130:5,11	30:18 57:19 77:16	135:21 177:4,7
located 139:14	Macfarlane 1:18	136:9 138:3,21	94:17 121:14	182:17
174:21	4:12 50:21 51:4	157:1 169:18	125:11 146:22	members 1:12 45:5
location 59:20	109:2,22 110:5	Manager 114:2	171:2	51:22 71:12 86:18
locations 28:8	magnificently	managing 69:19	measure 78:4	88:16,17 91:19
Lochbaum 174:10	170:13	113:8,15 114:17	80:21 104:13	107:9 120:2,10
175:20	magnitude 167:21	122:5	166:14	129:1 131:12
long 26:8 53:8	172:22	mandate 152:4	measured 94:6	139:21 140:5
93:11 96:10	main 19:18 26:20	manipulated 168:3	151:19	149:22 151:5,7
100:20 133:14	40:4,22 44:4	manner 55:16	media 162:16	152:2,21 169:8
139:2 140:1	64:10,21 147:12	70:13 80:5	median 166:4	180:17 182:11
141:22 148:19	160:17 170:20	March 21:2 172:20	medical 168:19	188:15
191:15,20	mainline 129:21	172:21	191:2	membership 111:3
longer 35:20 37:4	maintain 65:2 71:8	mark 1:14 13:18	meet 85:17 93:11	177:9
82:18 137:5 163:8	maintaining 66:16	175:3	104:4 105:7 134:1	men 187:9
184:13	68:12 70:6	Marriott 1:10	meeting 1:4 7:9 8:3	mental 182:8
long-term 65:1	maintenance 88:10	Maryland 5:13,15	8:4,18 109:14	mention 123:19
73:7 79:17 83:7	142:2 178:8	159:10 161:9,13	111:10 113:19	163:16 167:2
99:19 100:5	major 9:20 17:16	165:19	122:21 150:9	168:21 173:14
178:22 179:5	34:1 50:9 65:20	massive 29:16,18	171:14 194:1,4	175:3
look 8:12 9:1 48:1	67:9 68:7 69:16	29:20	meetings 10:19	mentioned 25:5
54:16,20 55:20	69:22 72:5 74:8	material 33:16	12:5,9,12,16,19	43:3 98:5 141:21
81:12 92:11	76:7 87:7 88:22	37:8 190:19,19,20	19:13 50:6 51:11	162:15
128:11 132:22	106:18 124:11	materials 8:15 72:2	51:19 52:4 88:18	mentioning 146:11
133:6 139:6	134:20 166:1	72:3 115:9 122:5	89:1 105:6 111:8	157:4
154:15	makeup 22:17	178:3 179:19	131:10 150:10	mentions 165:22
looked 58:2 126:15	23:12 175:14,18	matter 21:7 25:15	meets 43:16	mere 150:18
139:4 154:13	175:22	30:12 32:5 35:15	member 8:19 11:22	merit 77:6
looking 52:15	Makhijani 2:10 5:5	35:15 56:16 69:1	14:9,16,20 15:8	Meserve 1:19 3:15
53:17 79:22 94:9	144:15,20,21	85:21 90:13 123:1	15:21 16:4 18:11	18:3,11 46:5,12
150:19	149:16	148:20 162:3	46:5,10,12,22	47:2,9,14 49:17
looks 160:1	making 13:5 25:19	188:3 194:6	47:2,6,9,13,14	53:22 54:15 55:4
Los 65:7	97:11 103:14	maximally-expos...	48:7 49:17 50:2	56:12,14,22 59:5
loss 76:1 153:3	185:3 186:9	162:19	50:21 51:4 53:22	60:2,17 62:4
lot 22:4,4 26:1 32:1	malign 168:6	Meadow 2:14,16	54:8,12,15 55:2,4	101:10 171:19
37:16 61:2 67:13	man 157:17	5:13,14 156:6	55:9,12 56:12,13	189:19 191:19
86:18 108:9,10	manage 12:22	160:22 161:1,2,5	56:14,19,22 57:1	Meserve's 153:19
131:10 135:5,8	106:19 133:3,9	165:14,15,17,18	57:6 58:20 59:1	messages 10:1
154:21 155:20	137:20 160:2	169:5	60:2,13,17 61:10	messed 148:5
182:10	managed 192:5	Meadow's 165:21	62:4,5 63:1,5,11	met 39:8 104:10
love 149:7	management 27:4	mean 19:2 77:12	63:16 65:17 77:2	133:17 150:17
low 152:12 159:12	71:18,21 75:11	152:1,17 178:11	78:8 79:18,20	methods 66:1
162:18	92:1,22 93:5 96:3	meaning 114:9	82:7,22 84:16,20	metric 11:10 99:11
luck 193:17	96:11 97:1,9	meaningful 97:11	86:16 88:7 101:10	metrics 98:1
lunar 158:13,15,20	99:20 100:6,10	138:13 192:4	103:11 104:1	Mexico 116:4

169:12 185:18	mode 115:10	192:7,7	189:9	134:7 156:16
Miami 62:14 88:9	model 130:16	moved 139:8	nations 83:17	160:15
Michael 2:19 5:21	185:9	moves 110:9	180:5	negotiate 95:7 96:6
171:7 176:13	modesty 78:5	moving 36:2 48:17	nationwide 142:5	97:14,17
177:3	modification 41:10	53:13 56:11 59:14	nation's 10:17 11:2	negotiating 106:1
Michigan 142:21	modifications	59:21 61:5 74:12	71:6 82:15 99:20	179:8,14
143:14,18 173:14	19:22 25:18 58:17	120:20 122:1	183:9	negotiation 94:12
microphone 110:2	modified 25:2	126:11 171:20	Natural 82:14	95:17 96:1 98:3
middle 67:5	36:12 84:17	187:15	106:12	102:9,15 103:17
mid-1990s 175:5	modify 148:7	multifactorial	nature 31:4 72:16	103:18 104:8,14
Mike 114:1	modular 134:19	166:7	79:12 92:21 94:1	105:1,13 106:14
mile 116:19 142:22	mollify 190:6	multiple 75:17	97:13 183:11	169:11
150:18 151:1,10	molten 74:10	municipality 16:20	Navy 41:5	negotiations 93:13
156:14	moment 9:9 23:16	mutely 178:21	Navy's 113:17	neighboring 98:6
military 177:15	103:12 168:8	mutual 28:2	near 173:14 174:14	network 142:15
million 134:11	momentarily 86:6	mysteries 22:4	nearest 151:10	181:17
millisieverts 164:6	money 77:22 90:14		nearly 166:3	Nevada 4:19 5:10
Millstone 175:4	175:6	N	168:20	127:9,11,16
mind 59:20	monitor 57:17	N 161:2	nearly-irreplace...	131:14 153:16
minimize 180:9	monitoring 187:15	name 7:19 123:14	75:7	179:11
minimized 52:20	monitors 175:14	124:4 132:1	nearly-irretrieva...	Nevada's 131:4
minimum 93:6	Moniz 1:19 86:5	135:18 140:20	73:7	never 23:1 42:5
Minneapolis 105:9	months 16:15	150:1 156:9 161:5	necessarily 108:11	80:11
150:9	22:20 26:2 87:8	171:10 177:3	necessary 26:7	new 44:2 47:11,21
Minnesota 5:8	88:5,17 105:21	186:18 189:7	43:14 61:17 84:15	50:4 60:19 69:2
150:4	124:22 132:7	named 116:16	104:7 138:18	70:11 84:14 92:12
minute 33:18	152:20	names 123:12	168:17	96:21 97:17 98:3
123:22 128:13	moon 157:18 158:3	narrative 87:15	necessitate 142:10	106:6 116:4,9
minutes 9:4 62:21	158:10	narrow 35:15	necessity 178:8	117:11 121:20
63:9 123:11	morning 8:1 18:13	NARUC 114:6	need 10:5 21:8 23:8	129:16 134:10,20
156:11 189:14	88:8 128:9	NAS 130:9 143:5	26:12 27:10 29:2	136:2 138:1,4,8
190:6	Mountain 10:8,12	NASA 157:18	30:16 33:7 42:18	138:20 139:2,10
misguided 163:9	10:14 14:11,13,22	158:17,20 159:3	42:19,22 43:18,20	140:2 148:12
missed 171:22	91:11,13 98:8,12	NASA-Langley	61:1 70:8 71:21	154:8 168:17
missiles 143:4	98:20 115:21	158:12	72:12 73:1 89:15	170:11 175:9
mission 35:11	125:2,5,19 126:3	nation 11:11 66:10	105:9 116:21	182:19 183:6,13
116:5	126:21 131:6	67:6 70:21 79:14	119:11 122:1,6	183:18 185:18
mistake 154:3	142:8,19 146:20	106:19 113:11	134:4,4,10,11,12	news 162:15
misunderstanding	157:5 162:9,10	145:22 146:3	134:18 137:1	next-door 181:20
29:7,9	179:9 188:8	national 6:18 21:10	140:2 143:1	nice 135:9
misunderstood	move 17:14 20:6	33:2 44:12 53:2	159:18 160:6	nine 37:3 152:20
154:1	28:7 36:9 49:4,8	53:10 57:8,21	178:21 184:19	non-classified 53:4
mix 11:2 70:21	50:21 58:19 62:12	65:6 68:15 69:21	needed 26:14 36:14	non-governmental
mixed 95:13	62:15 72:6 89:19	79:6 114:6 129:16	75:15 99:8 121:1	112:15
110:22,22 165:6	110:10 119:2,11	130:3,16 137:15	126:13 133:11	Norman 2:14 5:13
184:12	121:9 134:7 137:7	163:17 166:9	needs 35:2 68:1	156:6 160:22
Mo 192:8	137:13 182:21	181:17 187:6	105:14 125:16,17	161:5

northern 143:14	141:7 146:21	observations 101:8	ones 12:10 76:4	opposition 131:4
note 9:22 70:22	147:15 148:21	120:16	84:2,5	162:4
74:3,7 75:10 78:9	150:16 151:1,18	observed 93:10	one-half 151:10	option 113:9
99:9 130:8 131:8	153:8,16 154:12	observes 96:20	one-tenth 99:15	141:12
185:4	156:12,16 157:19	obstacle 60:3	ongoing 11:5 31:10	options 69:3 72:18
noted 34:14 36:16	159:16,20 160:6	obtain 166:14	onsite 29:12 52:22	95:18 111:13
38:9 67:20 114:16	161:13,14 162:4	obvious 22:10	142:1 143:7,8	opt-out 91:2 95:22
138:7	165:1 167:1 168:2	72:19 76:18	144:9,10 171:17	orbit 158:9,9,13,15
noticed 45:19	168:12 169:18	obviously 19:9,19	176:7 186:1	158:20
notion 37:13 90:1	171:11,21 172:14	22:16 35:8 47:10	open 7:9 11:17	order 3:2 20:6 30:4
101:17	177:4,5 178:1,2,3	81:15 103:7	193:21	43:14 65:2 91:6
notional 100:19	178:10 180:3,15	occasion 177:7	opened 94:10 145:6	100:3 123:13
NRA 23:10	181:3,16,20 182:3	occur 46:20 163:8	opening 3:2,5	172:22 183:6
NRC 23:6 24:16	182:20 183:2,9	occurred 21:2	142:7	orderly 80:5
32:6 36:3,17	185:5,13,19	109:11 143:12	openness 107:20	orders 167:21
56:18 91:13 128:3	186:19 188:13	occurs 28:17	145:3	organization 93:5,8
131:1 136:6 137:2	190:19 192:9	October 111:10	operate 116:11	96:3,11 113:8
168:5 175:21	Nuke 141:5	113:19 150:9	operated 94:10	116:10 117:12
190:22 191:10	number 9:6 29:11	171:14 173:15	104:16	126:9 133:16
NRC's 24:21	37:2 43:4 52:8	October-ish 111:2	operates 29:15	135:21 138:21
126:21	72:10 73:10 76:18	offer 10:22 34:3	operating 37:5	148:12 161:12
NRDC 189:13	77:7 91:8,11,14	140:13	39:10 82:3 112:6	organizational
nuclear 1:1 4:20,24	92:8 93:10 109:8	offered 11:4 70:19	operation 48:20	117:6
5:4,10,19,22,24	111:8 116:20	122:16	49:22 70:17 116:3	organizations 9:11
8:5 10:17,21 11:1	117:2 123:9	Office 124:20	operational 175:2	97:21 112:15
11:5,7,14 21:4	133:17 158:8	Officer 7:20	operations 173:18	161:11 181:18
31:11 35:17 44:9	164:14 172:7	official 1:23 3:4	191:1	organization's
46:13 50:17 52:15	173:12 174:14	139:12	operator 95:1	187:2
53:16 57:15 64:18	182:15	officials 104:7	operators 69:13	organized 77:11
65:3 66:7,8,14	numbers 67:16	105:8 125:11	176:2	origin 83:10
68:1 69:12 70:7	NWPA 97:19	offsite 52:22	opinion 10:11	original 25:12 68:9
70:20 71:1 72:4	Nye 4:17 91:10	offspring 166:3	79:22 98:19	78:22
72:22 73:15,17	98:5 124:5,10,16	oh 55:10 58:21	127:14 159:22	originally 23:5
74:1 75:7 82:12	N.W 1:10	110:11 123:19	opportunities	139:19
83:4,10 97:1,15		180:11	26:13 93:4	ought 17:10 55:21
99:4,6,18,20	O	okay 7:3 17:14 46:7	opportunity 9:19	81:9
100:7 105:3	obey 125:14	58:19 62:7,21	12:9 34:14,19	outcome 27:20
114:15 115:22	object 57:2	63:4,9,14 82:20	48:9,19 95:7	outlined 119:4
116:13,16 121:4	objection 45:15	86:3,15 117:4	102:6,21 105:7	139:19
121:10,22 125:4	55:13 56:3	144:19 149:19	108:14 123:8	output 184:16
125:15 126:10,17	objective 83:1	old 175:10	136:10,11 161:3	outraged 125:6,8
127:10 128:19	167:16	older 24:14 136:20	176:19 180:1,4	outset 102:17
129:16 131:6	objectives 101:21	oldest 161:11	oppose 55:19 77:5	outside 10:2 41:7
134:9 135:19	objectivity 168:4	once 29:17 68:12	148:9	116:10 174:6
136:1,2,8 137:21	obligation 38:18	108:22 181:8	opposed 81:11	overall 19:16 33:19
138:2 139:13,16	obligations 113:17	once-through	191:10	34:7 40:9 52:11
139:20 140:21	obliged 145:13	66:16 141:17	opposite 113:22	71:7 82:3 118:15

118:21 overheated 175:22 overlooking 167:9 overly 105:1 override 173:19 oversight 138:16 138:19 181:3 183:7 193:3 overstated 37:2 overview 65:20 76:6 overwhelming 155:15 oxide 184:12,14 Oyster 175:9 O'Connell 114:5	111:18 129:15 134:20 154:10 168:5 partial 47:9 participants 111:4 participate 91:3 182:13 participated 55:14 194:3 particular 11:7 12:7,20 21:4 34:18 48:14 52:17 68:22 74:3 75:5 99:1 130:8 176:18 178:4,15 particularly 26:6 27:5 37:15 64:15 65:6 90:13 111:10 169:22 185:15 parties 102:4,22 190:8 193:12 partners 93:4 partnership 93:19 169:13,19 170:4 partnerships 106:18 183:13 parts 12:6 pass 140:2 passed 125:15 192:10 passing 97:9 passive 30:18 83:6 83:12 84:1,4 path 39:4 106:15 136:22 137:11 paths 117:22 patience 138:5 pattern 17:9 Paulson 170:1 Pavlak 2:13 5:11 153:14 156:5,7,9 160:21 pay 16:22 46:15 payments 98:2 pays 46:10 PCAST 79:1,7 peaked 172:20	Pennsylvania 1:10 people 9:2,6,15 12:16 13:1 27:9 52:1,9 56:9 61:2 67:2 75:14 77:4 81:10,11 90:16 92:10 100:19 105:10 123:10 125:8 132:14 133:17 134:1,2,2 134:3 135:9 141:2 149:9,11 153:1 164:17 180:21 182:1 193:6 perceived 129:2 percent 171:1 187:8 perfect 185:8 perform 48:16 49:3 performance 98:1 118:6 performed 57:13 performing 67:10 period 8:21 14:2 97:6 109:8 139:7 163:8 191:22 periods 35:20 37:10 permanent 151:13 186:4 perplexed 171:17 person 41:15 51:14 personal 131:8 personally 15:10 69:15 75:11 133:7 179:9 personnel 173:17 perspective 101:21 182:4 perspectives 12:20 66:6,20 persuade 168:11 pervasive 162:7 Per's 51:10 Pete 1:16 3:12,21 15:7 17:7 46:9 54:9,10 55:11	58:22 62:17 63:3 63:4,14 76:16 79:19 84:7 Peterson 1:20 3:9 3:23 11:22 48:7 57:6 63:1 64:9 65:15,17 78:8 82:22 84:16,20 104:1 120:18 150:6 151:4 189:17 phenomenal 132:8 Phil 1:21 18:4,12 45:9 phone 12:13 phrase 171:15 physicist 182:1 physics 163:15 172:11 pick 125:13 137:6 158:15 159:14 picture 82:15 156:11 157:3,14 159:15 piece 78:3 149:13 Pilgrim 175:10 piling 151:9 pilot 116:3 137:6 place 61:14 71:15 72:1 126:9 176:6 190:12 placed 13:11 34:13 places 28:6 117:18 144:4 plan 85:17 100:20 130:17 142:19 179:4 plane 85:2 planning 43:12 44:13 129:15 plant 150:16 152:19 153:5 168:9 172:14 173:17 174:5 plants 10:17 21:5 37:17 161:16 plant's 150:19	platitudes 152:15 152:16 played 69:22 playing 82:18 please 7:6 152:1 pleased 128:8 139:4 140:13 150:5 pleasure 132:15 134:22 170:3 plug 145:16 plunged 174:1 plutonium/urani... 184:12 point 13:2 29:9 37:3 47:5 66:3 68:21 69:4 85:4 85:10 86:21 91:1 91:3 95:21 97:4 103:20 104:3,11 107:17 108:2 109:5 120:19 121:8,18 130:14 143:13 153:19 157:12,18 172:4 175:16,18 183:22 184:5 pointed 112:7 175:20 points 77:3 policies 151:16 policy 69:1 97:16 99:6 105:3 115:22 116:16 121:4,10 121:22 125:16 139:16,20 147:22 151:19 163:7 188:4 192:9 policy-oriented 117:6 political 126:19 137:5 140:8 159:21 176:22 182:4 190:8 politicians 157:22 159:14 pollutants 192:3
P				
packed 24:3 packing 54:17 page 142:16 pages 88:20 163:11 163:16 165:9,10 167:19 Palisades 173:14 panel 111:9 113:20 126:15 panelists 113:21 paper 39:19 111:14 128:4 146:5,9 160:12 164:2 166:1 187:3 188:19,20 paragraphs 58:14 parallel 121:6 paraphrase 125:9 parental 166:8 parenthetically 36:15 part 15:10,11 16:12 21:15 22:6 28:19 31:1 36:18 41:19 46:13,15,17 49:19 51:4 52:12 56:8 61:13 66:14 81:1 93:17 96:1 101:19 102:15,18 110:7				

pollute 147:5	173:21	presentation 4:9	42:22 59:13 62:22	progress 20:9
ponds 52:19 56:6	potentially-affect...	8:15 62:10 65:16	86:12 93:18 119:8	97:11 151:16
pool 24:13 171:13	44:14	76:17 148:19	proceeding 42:13	192:8
173:2,5,16,22	Potter 2:17 5:16	149:13	59:19	progression 25:14
174:2,13,17 175:7	165:16 169:6,8	presenting 183:20	proceedings 145:7	prohibition 126:4
175:22	171:5 192:21	presently 11:9	145:7	prohibits 126:2
pools 21:18 22:12	power 10:17,21	preserving 69:2	proceeds 26:21	project 5:18 86:19
22:15,18 23:4,13	11:1,14 35:18,19	President 109:7	process 31:10,21	91:11 98:8 116:3
23:18 24:1,3,5,8	70:20 73:17 78:16	112:1 125:9 161:9	32:7,8 33:20	125:19 162:11
24:15 52:7 53:7	83:7 134:10	presiding 1:11	35:18 64:1,2 89:9	169:11 179:10
53:14 54:18 57:18	148:21 150:20	pressure 143:13	89:10,20 90:1,10	182:9
57:20 171:16,21	156:13,17 157:19	presume 11:7	90:17 91:2,17,22	projects 4:20
172:2,3 173:10	159:16,20 160:6	presumption 46:18	92:15,18 93:20	127:10 160:5
174:8,15 175:2,3	161:13,14 168:3,9	pretty 58:15 86:20	96:13,15 97:7,10	proliferates 142:3
175:12 176:5,8	168:13 169:1	prevalence 166:6	105:2,14,20	proliferation
178:18 185:22	172:14 175:14	prevalent 32:13	107:19,19 108:13	141:13
population 188:11	178:1,2	181:6	111:19 113:12	prominent 33:22
portion 122:21	practical 113:9	prevent 176:6	118:18 125:6	promise 153:8
portions 32:11	179:4	prevents 38:6	127:12 130:13	promised 151:13
position 31:20 71:3	practice 178:16	preview 64:14	136:4,12 137:2	promises 151:17
71:4 116:1 135:8	Prairie 5:8 150:2,7	previous 53:2	138:12 139:18	152:6
148:21 161:8	150:13,15 151:8	106:7 178:6	148:3,4,6,14,14	promote 17:22
positions 142:9	praise 179:6	previously 42:9	159:2 170:12	prompt 44:7 45:21
possibility 24:6	preceded 16:15	primary 154:13	193:9	59:5,17 66:18
39:2 167:3	precise 44:19 45:17	prime 29:10 90:5	processes 24:22	92:3 100:15 124:9
possible 27:8 29:7	precursors 62:1	142:12	183:19	promptly 28:9
30:5 39:15 40:10	predetermined	principal 161:6	procure 83:5	proper 105:12
75:9 100:21 103:9	145:5	priority 28:21	produced 154:14	125:3
119:9 121:9 122:4	preface 145:20	private 133:8,9,12	producing 135:10	properly 105:15
125:3 129:22	prefer 83:22	183:8	163:20	proposal 15:15,16
166:22	preference 114:8	probability 166:21	product 86:20	34:3 37:21 38:2
possibly 100:16	premature 68:20	probably 44:18	production 70:16	44:17 179:5
145:15 155:8	premise 21:14	101:12 145:21	115:9	propose 33:18 41:9
185:17	61:12 89:17 176:8	problem 18:6 22:6	products 157:7	47:11 87:11
posted 8:16 111:14	prepare 44:8 45:22	38:10,12,13 41:20	professional	proposed 3:13,19
160:12	59:6,18 61:8,9	75:14 100:10	132:14	4:2 8:8 35:12
post-Fukushima	140:14	107:5 133:10	program 4:24	40:21 41:16 50:3
54:1,19 83:8	prepared 20:8	134:4 154:11	59:19 61:18 80:5	68:8 84:10 122:15
potential 14:21	62:17 111:12	179:1 183:2	97:1,9 99:6,20	147:18 170:15,20
72:15,21 73:10	128:5	190:13	100:4,6 102:1	proposes 17:19
79:10 91:6 93:21	preparing 43:12	problematic	126:17 127:19	proposing 44:21
94:16 95:6 115:14	preponderance	175:19	135:20 137:6	78:5
128:22 136:1	19:17	problems 12:22	160:16 169:17	proposition 169:16
162:12 177:22	prescribed 138:9	22:16 27:14 103:9	188:7,8	190:15
191:11	present 1:12,22	106:19 114:12	programs 44:7	prospective 165:4
potentially 76:2	13:8 27:7 37:6	162:13 185:8	45:22 59:6,17	protect 95:2 147:7
118:2 138:22	161:3 187:3	proceed 39:4 42:15	74:8 93:15 180:3	176:3,4

protected 95:10 144:9	191:8,11 193:21	quickly 152:10 186:2 189:18	ran 159:6	131:15 134:3
protection 187:14 188:6	publication 172:10	quite 26:19 33:1 43:8 45:11 67:2	range 66:5,12,20	135:5,11 145:1,11
protective 187:12 191:7	publicly 18:22	89:13 112:9 115:2	rapidly 53:14	149:10 150:14
proven 132:10	published 172:7 174:11 187:5	115:3 120:9	rate 53:6	152:12 153:18
proves 18:14	pump 143:17	148:19 185:20	ratio 80:11	reason 17:1 49:7
provide 24:19 25:11 26:4 30:3	pure 132:15	quo 185:14	rays 187:18	78:7 146:15
34:15 53:15 64:7	purported 168:21	quote 52:18 166:12	RCRA 191:9	147:12
65:1 70:2 73:6	purpose 8:4 78:3 90:5	166:16 172:18	RD&D 75:8 76:2	reasonable 97:8
96:10 100:6,18,22	purposes 100:3	quoting 112:20	reach 27:22	reasonably-quali...
109:17 180:15	Pursuant 187:5		reached 35:2 126:15 166:4	180:18
186:21 187:1,14	pursue 135:6	R	reacted 45:11	reasons 23:10
188:7,19	pursued 126:17	radiation 91:21	reaction 20:11	83:21 105:16
provided 9:11 94:1	pursuing 117:21	100:9 107:4,7	reactions 95:14	113:9 137:5
97:20 118:10	pushing 135:7	128:22 129:3	reactor 3:19 24:12	rebuild 134:18
124:14 128:15	put 13:3 24:2,8	162:2 163:12,15	35:19 36:10 38:1	rebuilding 136:5
166:5	30:3 38:7 48:1	163:22 164:15,20	39:6,10,12 48:18	rebut 172:4
provides 48:19	86:18,22 112:3	165:8 166:11	49:9 62:16 67:12	recall 21:6 29:13
providing 44:15	124:15 126:8	167:4,17 168:7	69:7,22 72:11	37:2 39:1
58:1 69:22 74:18	144:2 157:17	175:14 187:4,17	74:11 83:17	receive 8:11 26:3
76:4 99:17	putting 147:12	188:20,22	143:13 167:7	34:9 35:14 36:22
provision 170:22	148:10 182:7	radiation-induced	173:4 175:4	64:3 67:10 77:4
proximity 178:14	P-R-O-C-E-E-D-...	164:3,5	reactors 37:5,6	received 8:8 9:13
public 2:2 3:13,19	7:1	radioactive 124:21	52:20 66:18 70:17	10:10 12:3 13:20
4:2,15 5:2 6:13	p.m 8:22 85:22	141:6,20,21 142:4	74:10,10,19 83:4	17:17 19:1,8,14
8:21 9:1,21 10:1	86:2 123:1,2	142:14 144:9	83:22 84:4 134:19	19:20 20:12 28:5
19:13 43:16 51:22	194:6	173:21 174:12	136:2 141:7 149:5	29:11 30:6 32:10
53:16 64:3 65:21	Q	175:11 176:4,5	151:1 178:18,19	38:20 41:4 43:4
76:8 87:7 89:1,4	qualified 167:11	178:12 180:10	151:1 178:18,19	64:11,17 65:21
89:19 90:7 91:19	quality 165:6	187:16	read 15:17 28:19	66:4 67:19 72:9
91:21 96:5,22	quantity 142:14	radioactivity	44:6 48:9 63:19	74:22 76:9 87:8
100:9 105:21	quarter 142:22	162:11 191:3	111:15 171:1	88:1,4 152:14
107:4,6 111:7	quasi-government	192:2	172:17	164:15 182:16
113:19 122:20	132:21 133:2	radionuclides	reading 162:16	recess 85:14,19
123:9 125:10	question 45:13	95:12 101:18	ready 7:21 63:18	recognition 54:10
129:1 137:19	47:7 56:8 77:12	102:11	86:9 123:4,5,15	88:1
145:4,8,10,14,17	77:22 78:19 79:1	radio-phobia 162:6	136:21	recognize 27:21
148:18 150:8	80:4,12 94:7,15	167:12	Reagan 109:7	32:5 60:5
155:12,16,22	145:20 147:15	railroad 61:5	112:1 125:10	recognized 63:15
160:5,9,17 168:12	questioned 40:3	129:21	real 56:1 193:11	recognizing 170:9
168:22 171:1	questions 3:17,25	railroads 50:13,14	realistic 82:2	recommend 10:7
176:22 181:7	4:8,13 32:10 54:7	50:16	realized 115:1	75:5 97:15 98:9
183:6,7,20 185:16	76:21 87:19 101:7	raise 32:4 101:16	really 9:10 31:21	132:22 167:17
187:17 188:4	120:15 121:7	raised 50:11 54:1	45:13 51:7,12,13	180:13
	quick 80:8	54:19 55:7 104:2	51:16 56:7 82:10	recommendation
		189:19	82:16 107:3	4:9 8:11 10:5
			114:20 115:6	21:15 33:20 41:3
			120:2 121:12	44:3 45:14,16

47:4 50:4,12,19 52:17 54:3,22 58:14,18 60:9 64:22 84:13,14 112:21 118:19 124:9 126:20 128:4 129:12 130:7 138:1 160:14	reduction 164:10 reductions 77:18 redundant 23:11 reemphasize 29:3 49:1 reestablishing 124:22 reexamination 36:19 128:6 reexamine 121:6 referendum 94:6 94:12 referred 33:11 reflect 19:9 25:2,3 36:12 67:8 69:8 72:14 74:2 75:4 81:21 84:18 118:14 reflected 91:9 98:10 100:12 128:12 reflecting 103:8 reflection 32:13,18 33:13 regard 23:18 25:1 34:5 132:20 138:20 141:14 regarding 10:20 94:3 99:3 125:18 127:18,20 130:9 130:12 136:8 regardless 11:13 42:15 43:1 156:1 regime 192:12 regimes 190:9 regional 50:5 51:11 108:10 111:8 130:19 141:19 regular 55:16 132:18 regulate 95:12 regulation 101:17 102:2 131:1 155:7 189:21 190:12 regulations 36:4 regulator 101:20 regulatory 31:11	36:13,20 53:17 57:15 83:11 93:21 95:5,7 102:1,6 103:1 108:2 114:7 129:4 151:20 190:9,22 191:13 192:4 193:3 reinforce 120:19 reinforced 30:2 reiterate 64:1 rejects 188:15 relate 22:6 68:11 70:15 73:16,21 74:22 115:3 related 11:4 31:13 31:15 44:16 67:14 67:17 68:4 131:7 relates 107:3 relation 166:7 relationship 16:2 67:4 163:21 relationships 191:11 relative 118:11 relatively 178:14 releases 172:2,12 relevant 8:9 49:21 87:9 reliable 96:7 relied 168:10 remain 22:5 23:21 84:21 117:2,10 151:11 185:14 remaining 39:6 125:18 remains 26:11 remarkable 87:1 remarks 3:2,5 171:13 remediate 191:6 remediation 191:16 remind 122:12 140:4 remotely 111:18 166:22 removal 53:7 83:8	153:2 remove 38:19 151:17 153:8 removed 24:8,15 151:13 removing 49:9 52:20 rendered 10:11 98:19 rendevous 158:14 158:20 renewals 142:2 reorganization 127:19 replace 88:10 159:11 report 7:17 8:8 9:12 13:15 15:11 18:22 19:3,6,19 20:7 21:7 25:6,8 25:19 26:2,12,20 27:18 28:19 29:1 29:5 31:9 32:11 33:12,15,17,21 34:7 35:13 36:12 38:5 40:7,8,22 41:12,19 42:18,20 43:10 44:4,5,22 45:12 47:3 48:4 48:10 49:19 51:1 51:5,9 52:15 53:3 55:22 56:20 61:19 64:5 65:8,22 68:9 69:7 70:11,12 72:13 73:18 74:2 75:3 76:11,13 78:21 79:1 81:21 84:9,14,18 85:7 85:12 87:10 89:7 91:9 98:9,10 100:13 108:22 119:5 121:3 122:18 127:13,17 128:12 129:10 135:10 138:7,14 138:15 140:14 153:19 161:20	163:10 165:10,22 166:12 167:11,19 170:5,11,14,19,20 170:22 173:8 184:9,11 187:7 189:20 reporting 18:1 reports 7:16 12:4 17:15 25:2 101:3 167:7 repositories 116:11 148:13 155:10,17 180:6 repository 10:6,8 89:15,21 90:2 93:5 112:4 113:12 115:21 116:4 117:8,13 118:2,4 118:8 121:11 125:20 128:1,2 133:19 136:22 146:17,22 148:3,6 148:11 151:14 155:2 184:10 186:4 represent 140:21 representation 180:16 183:18 representatives 12:7,21 95:15 96:5 150:11 representing 5:25 114:5 146:2 181:16 reprocess 71:10 reprocessing 34:11 35:6,9 66:16 68:12 71:14,17 73:1 141:11,11,14 148:22 184:1,3,18 185:1 Republicans 134:12,13 request 10:13 53:5 53:19,21 98:21 108:3 requested 53:11
---	--	--	---	---

requests 92:20	58:8 62:8 75:16	185:15	176:9	162:5 178:9 185:3
require 83:7	81:16 92:15,19	review 3:13,19 4:2	River 114:11 147:9	safely 49:15 106:19
119:13 184:15	103:5 108:20	7:15 9:17,20 10:3	road 27:8 134:6	137:20 141:22
required 101:1	122:9 144:16,18	31:11 87:6 89:11	151:21	safety 28:15,20
130:22 139:3	148:18	91:13 98:13,14	roadmap 26:16	29:4,9 38:4 45:20
175:13,13	responses 8:9	126:21 177:14	rock 16:9 143:12	57:12 58:3 69:7
requirement	17:19 64:8	reviewed 19:22	rocket 158:2,6,7,8	69:11 83:6,9,12
139:10 156:1	responsibilities	88:20 146:1,5	rockets 158:8	84:1,4 92:6 104:4
requirements	16:17 138:19	reviewing 9:16	rod 178:17	104:9 107:21
23:11 36:20 102:6	responsibility	13:4 121:12	rods 56:6	154:22 155:5,22
103:1 104:5	47:15,18 80:19	revised 64:4 65:8	role 11:1 15:12	176:1 178:10
129:19	90:3 103:19	revising 51:8	16:7 47:16 65:3	Salons 1:9
requires 99:7	116:15 117:9	revision 20:7	66:6 69:22 70:20	salt 74:10
107:20 179:16	191:1,5	revisions 170:4,14	90:20 95:5,7	Sandia 65:7 184:9
183:7	responsiveness	revisited 109:9,12	108:2,13 125:1	sapiens 163:9
reread 147:15	138:5	revisiting 112:10	138:16 148:2	satisfy 95:8
research 64:18	rest 7:7 56:8 59:9	112:12	162:1 170:10	save 137:8 154:20
65:5 67:4,10 71:1	158:21	rewrite 151:17	roles 93:21 160:3	175:6
75:18 78:16 79:3	restarted 122:5	rewritten 152:7	roll 7:17	saw 40:6 41:7
79:15 80:19 82:10	124:22	Ribbon 1:1 8:5	rolling 15:19	56:15 94:8
161:6 163:17	restating 131:3	87:5 141:10 150:8	Ron 2:11 5:6	saying 62:3 145:21
166:10 167:9	restoration 177:17	RICHARD 1:19	149:17,19 150:1	158:12 186:5
177:15 178:2	restored 97:2	right 13:18 14:4	Ronald 125:10	says 15:16 52:18
researchers 69:20	result 21:21 22:13	20:17 38:15 40:15	route 27:15 50:9	59:12
residence 151:11	23:14 39:4 43:7	44:18 46:4 54:10	62:14	scale 48:16,19
residents 152:13	44:1 61:4 76:19	56:21 62:5,22	routes 142:18	49:11,16
resistance 180:2	102:21 109:13,19	63:2,7,16 84:19	routine 128:21	Scandinavia 93:15
resolution 3:14,19	133:4 187:16,21	85:5 95:12,21	133:1	scenario 89:16
4:3 122:16 179:7	resulting 167:3	107:7 110:14,15	routinely 169:1	scenarios 158:18
resolved 28:4 119:1	results 83:3 98:14	110:15 114:3	Rowe 141:1	159:4,6,12,19
121:19	133:14 163:18	123:7 132:9 134:1	Royal 52:15	160:8
Resource 5:25	167:10 172:19	134:1 144:19	run 133:14 150:21	schedule 92:10
186:19 188:14	resumed 85:22	145:5 158:13	158:17 159:4,11	100:19
resources 6:18	123:2	175:17 180:11	159:18	science 159:8
106:12 138:18	resumption 97:8	181:19 182:11	rush 28:14	sciences 21:10 33:3
182:8 189:9	resurgence 168:12	rights 16:17	rushed 96:22	77:20 130:4 187:6
resource-constra...	retaining 113:7	risk 30:16 38:4	Russia 74:6	scientific 70:6
82:9	rethink 115:6	129:2 130:5	R&D 11:5 65:1,13	124:12
respect 57:7 97:12	retired 161:8	137:14 152:11	69:22 77:5,16,16	scientifically 75:13
99:1 131:11 177:2	180:22	158:19 159:5	77:19 78:12,18,20	scientifically-pre...
179:7	return 7:6 158:10	163:22 164:21	79:10 81:8 82:17	126:14
respective 192:6	returning 153:4	165:11 167:20,21	141:13	scientist 161:6
respects 39:1 49:13	revealed 22:3,5	168:6,16 175:8		scientists 65:11
respond 9:19 21:13	23:20 25:16	191:13,15	S	69:20 80:22 158:6
responded 89:3	reversed 109:10	risks 36:1 143:6,8	sabotage 129:5	158:7 174:11
100:14	reversing 109:16	143:11 171:13,16	safe 46:1,3 48:20	scope 10:2 22:7
response 17:13	112:10,11 114:11	173:9 174:7,12,13	156:17 159:17	41:7 53:10 54:22

180:7	44:20 46:8 47:20	seriously 145:10	139:7	small 49:11 77:11
Scowcroft 1:10,14	48:1 51:7 56:15	147:18	signs 81:6	116:20 118:13
86:8,10 101:5	92:10 111:3	serve 180:22	sign-up 8:20	162:3 164:14
103:22 106:21	114:16 134:12,19	served 169:9	silence 125:21	167:2
107:22 108:19	135:6 141:3 149:2	177:16	silent 125:18	smaller 48:16,19
119:17 120:12	149:3,7 150:13,22	service 5:4,25	similar 47:7 150:10	49:15
122:7 123:5,7	151:6 157:3	140:22 177:1,12	similarly 125:8	Snake 114:10
127:2 131:18	seeing 128:11	186:19 188:14	simply 50:3 151:20	social 130:10
135:14 140:16	170:3	serving 105:4	single 144:3	society 52:15
144:12 149:15,22	seek 101:22	session 145:9	sir 86:8 119:19	156:12,16 160:9
153:11 156:3	seeking 54:10	193:22	123:3	177:5 188:5
160:20 165:13	73:12	set 13:7 17:9 57:11	sit 7:7 86:6	sodium 74:10
169:4 171:4	seen 16:14 28:17	68:8 70:14 73:20	site 10:12 14:17,21	softened 27:18
176:11,20,21	29:20 42:12 80:11	74:21 96:4,18	36:11 59:11,20	solar 161:18
181:11 186:11	92:5 116:2 149:3	102:10 104:15	60:8,22 61:16	solid 164:5 168:19
189:3 193:19	seize 147:14	105:5 111:1	62:2 88:19 89:20	solution 10:17
screen 87:14	Select 188:22	seven 33:22 119:3	93:21 98:20 114:2	38:14 95:13 135:7
sea 73:4	selecting 191:17	severe 22:16	118:11,12 130:1	solutions 157:6
seat 7:7	selection 14:18	share 191:5	130:12 138:2	solve 38:14 106:18
seats 17:21	50:10 130:1,13	Sharp 1:21 18:3,5	sited 94:10	134:4,5
second 8:10 10:15	Senator 15:7 65:18	sheet 8:20	sites 14:14 29:19,20	solving 133:9
20:21 36:16 47:6	77:21 86:14	shift 115:8	36:10 37:3,16,19	somebody 18:20
77:14 115:12	176:21	shipments 128:19	38:1 39:6,9 48:18	59:15,22
148:1 183:22	Senior 5:17,17 6:17	128:20,21 131:1	49:4,5,10 84:5,5	somewhat 23:4
secondly 89:22	169:10,10 189:8	142:20	115:18 136:2	25:3,22 27:19
154:3 182:5	sense 97:4 137:12	shipping 130:10	138:11 139:8	40:13 41:12 43:7
184:22	149:1,7 155:20	short 171:12	142:4,5 155:16	102:19 103:4
seconds 181:10	177:13 190:7	shortcircuit 176:1	178:12 190:21	soon 122:3
second-guess 31:21	sensitive 29:6 30:9	show 111:20	192:16,17	sooner 80:16
Secretary 10:10	31:4 191:20	166:21	siting 41:9 90:17	sorry 15:7 53:8
11:3 122:18	sent 146:1	showed 145:9	91:22 92:18 93:18	55:10 58:21 106:9
Secretary's 126:1	sentence 47:10,22	shut 37:17 175:5	96:12 117:22	180:11
Secretary/Treas...	separate 52:10,13	shutdown 10:16	118:1 124:9	sort 20:13,16 26:6
5:7 150:2	111:9 112:2	39:6 48:18 49:9	125:17,20 127:18	26:15 30:2 35:1
section 59:5 97:19	113:12 117:21	66:18 175:4	128:3 170:12	40:18,20 52:12
139:19	125:1 129:9 154:6	sick 152:5	situation 77:15	73:13 78:12 96:18
sector 133:9,13	155:10 160:3	side 80:2 192:22	115:11 118:15	155:5,15
134:13	separately 113:2	sidelined 167:14	six 154:17 177:13	sorts 25:18 178:4
Securad 4:22 132:2	113:15 154:20	sides 81:17 114:21	sixth 92:19	sound 193:1
secure 156:18	separating 154:4	134:17	size 27:5	sounds 180:11
159:17	154:19	signed 123:10,13	skepticism 96:14	source 134:10
security 29:10 30:4	sequence 159:14	significant 39:9	skimpy 41:12	146:17 190:19
31:12 34:16 39:7	series 12:5 20:14	52:8 56:7 89:3	slide 20:13,19 48:2	sources 12:3 71:7
39:11,11 57:12	31:12	96:13 101:13	63:12,18 110:10	Source-Term
79:6 137:15	serious 18:6 82:16	172:2,3 178:12	slides 18:18 20:21	172:15
see 13:6 28:21 29:2	129:6 168:11,14	179:2	87:13	South 84:6 113:3
31:19 34:20 42:17	183:1 189:11	significantly 76:2	slowed 118:2	143:15

southern 116:4	57:12 66:19 70:16	173:2	185:14	storing 178:16
so-called 30:10	71:10,14 73:8	starting 48:14	statute 46:17,20	story 25:21
35:20	99:12 106:20	state 4:19 5:8 12:8	121:12	stranded 37:1 38:4
space 184:15,19	116:19 128:19	12:21 15:8,13	statutory 115:20	38:11
speak 8:20 9:7	148:3,22 151:9,17	16:4,6,21 17:9	stay 37:9 38:15	strategic 65:9
17:21 156:8	153:8 173:1 183:9	50:7 55:17 80:19	135:6	67:17
speaker 9:5 123:11	185:19	91:1 92:22 93:22	stays 184:13	strategy 11:12 69:4
123:14 131:20	spent-fuel 21:18	94:5,13,17,21	steam 175:21	71:22 136:8
135:16 140:18	22:12,15 23:4,13	95:2,5,12,14,17	stellar 133:5	168:13
144:14 149:17	23:18 24:3,4 52:7	97:15 98:4 101:17	step 10:7 136:5	stream 114:13
153:13 156:5	54:18 56:5 113:1	104:6,17 105:7	steps 100:20	streams 185:2
160:22 165:15	173:5,16 178:17	108:9,10,16,16	159:15	strengthened 23:14
169:6 171:6	spokesperson	112:14,19 113:14	step-by-step	strengths 65:4
176:13 181:13	177:6	115:17 127:9,11	185:10	strenuously 148:9
186:13 189:5,6	sponsoring 126:5	127:16 130:19	Steve 114:15	strictly 121:13
speakers 9:3 82:1	spot 143:19	131:4,14 150:3,11	Stohl 172:9,9	stringent 102:14
123:13	spraying 173:1,6	161:12 178:20	stop 186:9	104:6
speaker's 132:4	stability 101:22	179:11,16,18,19	stopping 66:18	strong 77:12
speaking 87:17	stable 65:1 159:3	stated 98:18	70:15,16	159:21
146:7 177:6	staff 13:3,22 14:5	statement 11:18	storage 3:14 11:10	strongest 163:20
speaks 120:13	58:10 86:22 87:18	12:1 65:15 162:17	18:2,17 19:10	strongly 114:21
special 107:20	88:10,18 111:12	173:11	20:3 24:2,9 26:5,7	127:16 164:7
176:19 190:19	127:12,14 128:4	statements 167:4	27:4,10 28:8	structure 30:1,2,15
specialists 165:8	131:13 132:13	states 10:21 11:8	29:13,15 30:11	30:20 31:2
167:18	151:5 152:3 169:9	11:15 15:14 21:16	32:18 34:12 35:9	structures 29:21
specific 19:20	169:15,22 189:11	24:4 35:18 37:4	35:11 36:11 37:7	stuck 88:9 116:1
20:14 52:16 84:13	stage 28:11	44:14 50:11 61:15	37:13 38:22 39:3	studied 177:4
85:15 92:20 96:7	stages 130:1	64:22 68:21 70:6	39:17 40:5,10,15	studies 39:20,22
97:22 100:22	stakeholder 180:16	71:19 74:14 75:2	41:3,6,13,18 42:1	40:13 49:14 61:20
108:11,14,15	180:18	75:17 83:15 84:3	42:2,11 43:2	62:1 166:13
138:11,16 139:10	stakeholders 19:2	89:14 90:20,22	44:10 45:3 47:17	study 33:2,4 43:9
189:22	19:3 28:1 72:12	93:3,9 95:6 98:16	48:10 49:20 51:5	53:10 54:4,16
specifically 14:17	97:5	106:2,17 108:3	51:9 52:21 53:12	55:6 57:8,13,21
31:15 109:21	stand 85:14	112:21 130:18	58:3 72:7 76:5	61:14 79:1 99:13
116:16 192:17	Standard 177:8	136:6 166:2,12	92:4 128:9 129:15	124:15 143:5
specificity 26:5	standardization	169:19,20 170:10	129:20 131:2,7	163:19 164:10,14
101:2	27:13,19	173:10 175:1,2	136:3 141:19	166:2 167:6 168:1
specifics 93:20	standardize 27:15	179:9 183:14,16	142:3 143:7	172:6,12
specified 97:19	standards 69:12	185:18 188:12,15	144:10 152:19	stuff 146:22 147:4
spectrum 19:3	103:20 104:4,9	192:1,3,6 193:2	153:6 155:17	stymied 16:10
spend 81:6	187:11	193:10	175:7 176:7	Subcommittee 3:14
spent 11:10 22:17	standpoint 61:22	statewide 94:6,11	178:11,18,22	3:16,20,22,23 4:3
28:17 29:17,21	start 15:18,21 20:6	state-level 104:13	179:5,5,12 186:1	4:5,6,10,12 7:16
31:13 35:22 36:20	86:15 124:11	stating 112:21	store 71:22 184:6	9:9 11:19 15:5
37:6 41:21 44:9	126:10 137:2	statistically-signi...	stored 29:21 52:19	17:15,20 18:2,17
48:17 49:9 52:19	started 7:5 74:9	166:17	121:15 141:22	18:22 19:11 20:11
52:20 53:3,7,13	86:4 114:22 145:2	status 130:22	178:13	29:1 34:4,22 35:5

40:7 44:5 48:10 48:11 53:12 62:12 62:16 63:22 68:16 71:12,16 76:10,11 85:13 86:13,18 87:9 88:16 90:6 94:14 100:1 101:11 109:3,15 109:21 110:1,18 111:3,17 118:17 120:2 124:19 128:10 130:7 170:19 189:20 Subcommittees 7:14 8:9 89:10 101:14 122:16 Subcommittee's 64:21 87:22 93:14 subject 30:20 31:22 32:21 39:22 99:22 102:3,9 131:16 submitted 136:15 170:5 subsequent 20:5 subset 118:13 substance 56:1 89:6 substances 178:13 191:7 substantial 19:14 20:5,9 21:17,19 22:22 23:11 30:6 74:4,18 77:18 83:3 97:17 substantive 105:18 sub-issues 115:3 succeed 61:9 100:4 133:20 succeeded 173:22 succeeding 103:10 success 60:11 99:19 100:5 114:17 successes 151:19 successful 22:21 46:16 60:8,22 116:2 successfully 137:18	169:17 sudden 114:13 suddenly 172:22 suffer 77:20 sufficient 25:13 79:2 95:8 99:5 105:14 sufficiently 22:20 suggest 25:18 26:22 28:14 32:6 36:11 53:8,9 56:16 100:12 101:2 102:8 103:4 107:17 112:20 163:15 165:7 190:4 191:21 192:11,19,20 suggested 19:21 20:1 31:9 37:21 44:2 54:20 72:20 85:15 92:9,16 94:5 95:11 190:2 suggesting 28:22 98:11 100:16 163:14 suggestion 29:22 32:3 41:11 54:16 55:5 95:14 99:2 103:13 160:14 suggestions 7:16 98:13 165:22 suitability 10:12 14:13,14 98:20 suitable 117:19 suite 21:11 summarize 88:22 summarized 160:12 165:2 summary 45:2 58:12 65:14 170:21 Summer 84:5 Superfund 192:16 supplement 45:6 supply 11:2 support 37:12 64:17 65:1 69:8	69:17 70:2,22 74:18 90:1 91:10 98:7 128:3 134:14 134:14,15 137:15 138:22 141:9 143:7 144:7 148:5 148:10,11 161:13 supportable 148:15 supporting 61:11 69:19 supportive 19:18 50:3,18 67:10 supports 127:17 167:12 suppose 182:5 supposed 186:21 sure 13:5 17:3 29:5 29:8 42:19 46:1 47:18 51:3 61:17 80:15 84:11 103:7 135:11 152:5,14 154:22 180:21 182:15 186:6 surefire 186:6 surface 158:2,3,10 158:14 surprised 153:18 154:1 surprisingly 164:19 surrounding 36:20 47:5 surrounds 25:21 survivors 163:19 164:4,16 166:4,15 166:19,21 Susan 1:17 82:6 sustainable 156:17 159:17 sustaining 75:1,18 system 29:14 32:12 33:19 40:9 50:17 72:22 80:10 129:17 133:2 134:20 157:1 158:18 159:5 179:5	systems 27:5 41:18 83:6 84:4 176:1 S-E-S-S-I-O-N 86:1 S-T-O-H-L 172:9 <hr/> T <hr/> table 95:19 101:18 192:22 tacitly 167:12 take 9:9 10:5 22:2 26:13 27:16 37:22 61:14,16 63:9,12 66:22 67:7,20 69:4 71:4 85:4 88:19 96:21 100:21 105:12 122:19 128:13 132:22 133:5 139:2 140:1 176:18 184:21 190:5 taken 69:9,14 71:3 94:14 95:20 122:3 140:6,7 162:7 takes 71:15 talk 50:22 105:9 128:13 134:1 156:10 163:4 182:18 184:1 185:11 talked 52:6 59:10 talking 29:14 tandem 155:18 task 5:10 103:10 127:15 153:16 taxpayer 38:8 49:1 49:6,10 technical 44:16 70:7 76:4 117:5 118:5 124:12 146:13 149:1,4 177:14 180:19 182:3 technically 149:8 technically-emin... 149:9,11	technically-trained 75:13 technicians 181:1 technologies 64:19 67:12,14 68:3 71:2,8,20 72:11 72:15 73:11 74:5 74:20 77:6 83:12 149:6 178:3 technology 12:11 65:3 72:22 73:5 73:13 74:1,12 83:17 136:2 141:17 144:10 telephone 18:13 tell 118:16 121:12 152:13 temperature 22:15 175:12 tend 117:5 term 146:17 terms 31:7 58:1 74:1,15 106:16 110:21 118:17 191:12 193:3 terrible 21:1 terrific 131:9 terrorism 129:5 terrorism-related 23:10 terrorist 30:5 31:18 Terrorists 143:1 test 59:22 114:19 testified 124:18 testifies 178:21 testimony 128:17 testing 130:10 text 47:2,5 84:17 thank 7:8 8:2 9:10 13:16,17 15:3 17:5 18:10 45:9 45:12 57:4 62:6,9 64:6,6 65:16,17 76:15 81:18,18 85:18 86:10,16,18 87:3 101:4,5
--	---	---	---	--

106:21 108:21	46:2,18 48:11	threats 191:11	147:16 157:20	72:7 128:9,14,18
110:4,5,15 119:17	49:8,12 50:14	three 82:1 116:19	161:4 170:5,15,20	129:9,14,19 130:5
119:21 122:7	51:16 53:15,18	130:2 146:18	171:19 181:16	130:16,17 142:15
127:1,2,6 131:17	54:2,21 56:9 57:9	156:14	194:1	143:11 185:7
131:18 134:21	57:14,22 60:19	three-quarters	today's 163:6	transportation-r...
135:14 140:15,16	61:6,7 62:2 64:15	150:18	Tom 170:1	44:11
144:11,12,21	66:3,21 67:3 70:4	threshold 164:4,7,8	ton 144:2	transporting
145:1,12 146:10	70:11 72:4 76:20	165:4	tone 81:22	179:19
149:14,15,21	77:6,8,16,19	thrilled 140:12	tons 11:10 99:11	traveled 143:14
153:10,11 156:2,3	79:14 80:18,19,21	thrust 19:16 40:22	143:14 144:2	Treasurer 165:19
156:7 160:19,20	81:2,6,20 83:14	44:20 61:7 80:7	146:21 175:11	treat 192:2
161:2,20 165:12	85:3 86:20 89:5	Tim 1:23 3:3 7:19	top 30:20 174:18	treated 32:15 162:9
165:13 169:3,4,21	100:21 101:11	86:11 132:13	topic 111:9 163:11	treating 154:19
171:3,4,9 176:10	102:11 103:13	time 9:5 17:2 22:2	topics 68:6 182:15	treatment 154:4
176:11,15,16	104:2,12,21	24:13 35:20 37:10	touch 182:14 191:3	167:16
181:8,11 182:6	105:16 106:5	38:10 41:21 50:11	toxic 156:15	Treichel 2:12 5:9
186:10,11,15	107:10,11,16	52:1 61:17 62:15	track 28:3	149:18 153:13,15
189:2,3,10,16	108:7,11,13,14	64:7 70:18 85:15	tracks 143:18	153:15 156:4
193:16,19	114:7 117:2	86:19,21 87:1	tradeoff 92:6	tremendous 12:11
thanking 86:22	120:13 121:5	88:4 113:18	tradeoffs 31:7	tribal 92:22 150:4
thanks 48:7 88:15	131:8 132:7,11	114:19 116:2	158:18	150:17 151:7,11
133:16 135:13	133:7,13 134:9	132:4 135:5 136:6	trades 159:5	tribe 151:12 152:5
194:2	137:6 145:10	139:7 147:17	train 143:14,17,19	152:10,21
theme 26:12,20	147:2,10,21 148:1	148:19 151:22	144:1,3	tribes 44:15 93:3,9
90:15	148:8 149:12	162:18 163:8	trains 143:2,20	97:20 106:3,17
themes 9:20 13:7	154:3,6,10 161:21	171:12,15 182:7	trajectory 11:14	130:18 170:10
19:18 65:20 68:7	164:21 170:7,8	186:16 189:2	transcribed 145:6	183:14,16
76:7,7 87:7 89:1	182:21 183:16	191:22	transit 187:19	Tribune 142:17
theory 121:8	184:3 185:21	timeframe 111:2	transitional 82:17	TRU 116:6 137:7
thermal 184:10,16	186:1	timeline 100:22	translated 58:11	true 14:15 77:8
thing 16:8 53:20	thinking 43:18	times 146:19 147:6	transparency	truly 151:3 152:21
55:20 78:5 110:11	third 20:21 90:7	147:6 162:6	138:4 181:5	trust 97:1 126:10
114:4 119:2 135:2	Thirdly 185:11	184:13	transport 44:8 46:1	136:5 156:12
148:1,12 155:16	thorium 74:9	timing 25:11 92:11	46:16 59:7,18	183:1,6 185:17
180:12 185:21	thorough 33:4	94:17	72:1 142:19 143:3	try 13:7 81:5
192:19	thought 55:1 60:5	tiptoe 193:8	144:2 155:8,9	101:22 182:14
things 17:10 26:17	88:4 90:18 113:12	tired 152:6	transportation	193:12
45:19 55:19 56:10	155:1	title 37:22 38:13	3:14 18:2,17	trying 72:14 174:1
59:10 79:11	thoughtful 9:14	49:5 172:11	19:10 20:3 27:11	179:14 183:3
183:10 192:14	52:2	titled 160:13 184:9	32:12,15,18 33:5	tsunami 21:3,17
think 13:1,7,12	thoughts 45:6 57:3	today 7:9,13 8:16	33:6,19 34:2,4,5	168:8
14:1,22 15:10	79:21 87:21 161:3	9:18 12:12 13:8	43:6,15 44:3 45:2	tumors 164:5
18:21 19:2,15	170:7	16:19 18:8 27:6	47:19 48:9,15	tunnels 159:13
20:9 22:10 25:7	thousands 9:10	34:1 59:2 83:4,22	50:4,17,22 51:5,8	turn 15:5 40:5 86:7
29:4,19 35:1	19:7 142:20 147:6	88:22 118:22	51:18 53:11 55:15	109:1 110:2
38:11,13 42:6,9	147:8 178:17	122:17 136:13,16	55:17 59:11 60:6	123:15
42:11,19 43:19,20	threat 151:12	141:2 146:3	60:20 61:1,4,19	turning 63:12

turns 36:3
two 9:22 12:9 77:2
 82:1 113:6 114:14
 129:18 148:7,8
 151:1 155:9,18
 158:22 170:7
 174:4 177:11,17
twofold 8:6
type 61:18 70:8
 73:13
types 41:13 83:19
 118:7
typical 24:4

U

Udall 192:8
ultimately 82:19
 94:16 106:16
 192:5
unable 187:1
unaffiliated 5:12
 156:10
unclear 23:16
 27:16 38:22
unconditionally
 95:22
undermines 93:12
understand 16:1
 22:11 62:17 78:2
 81:10 84:13
 100:19 120:8
 145:18 147:16
 152:1 163:12
 178:11
understanding
 18:4 21:15 45:16
 73:21
understood 52:10
undertaken 25:7
undertaking 44:13
underway 21:1
undoing 114:18
undue 28:18 92:5
 100:16
unduly 126:6
unequivocally
 64:20

unfortunately
 181:6
Union 172:8
 174:10
Unit 173:2,5 175:4
United 10:21 11:8
 11:15 15:14 21:16
 24:3 35:18 37:4
 61:15 64:22 68:21
 70:6 71:13,19
 74:14 75:2,16
 83:15 84:3 89:14
 98:16 112:21
 169:19 173:10
 175:1,2 188:12
units 93:22 96:2
unmanageable
 171:16
unmingle 114:9
unmingled 110:20
 117:13
unnecessary
 142:11
unpaid 132:6
unparalleled 81:2
unreasonable
 53:19
unresolved 117:3
UNSCEAR 168:4
unwelcomed
 151:12
update 76:10
upheld 93:9
uphold 104:17
upriver 159:13
uranium 73:2
 147:4 184:14
 192:17
urge 10:16 27:19
 28:2 98:12 129:7
 167:15 184:20
urged 28:6 30:9
 34:13 40:18 91:12
 92:2 98:14 109:11
urgency 56:11,15
 56:16 171:20
urgent 38:4

urging 30:9
usage 35:17 38:7
use 9:18 10:21 27:6
 66:14,15 72:3
 73:2,4 92:2 94:11
 97:22 100:15
 110:22 121:14
 143:7 157:15
 178:3,20 186:2
used-fuel 133:10
useful 14:22 41:15
 51:12,13 103:15
uses 38:8
usual 77:21
utilities 36:7 78:11
 83:21
Utility 114:7
U.S 21:13 65:2,3,10
 69:16,20 71:10
 75:1 83:2,9,10
 109:16 171:17

V

V 1:16
validated 164:8
Valley 116:18
 121:16
valuable 57:9
 106:7
value 27:12 70:5
 105:15 160:9
vanishingly 167:1
variety 19:2,13
 27:3 69:13 88:19
various 28:1,6
 39:20 72:11 133:3
 144:3
vast 19:16
vendors 69:14
Vermont 175:10
versions 53:4
versus 16:21,21
 191:15
vertical 41:18
vessels 143:13
Vice 161:9
vicinity 52:19

Vicky 1:15 48:6
 50:1 51:12 107:22
view 10:3 38:3
 55:18 94:15 95:20
 157:1 170:13
views 109:17
 122:17
VII 187:6
violation 125:21
Virginia 159:10
visible 160:3
vision 156:13,16,22
visit 71:12 150:7
visited 29:19,20
visits 88:20 93:14
vital 176:2
vitrified 136:21
Vogle 84:5
volumes 26:18
 116:20
volunteering 135:4
 182:7
volunteers 124:17
 132:6
vote 56:20
vulnerability 31:16

W

wait 59:16 80:14
 85:6 119:1 137:2
 137:13 143:2,5
waiting 88:9
wake 143:20
walk 20:16 64:10
 87:15
wander 85:16
want 7:8 12:14
 13:9 15:8 16:5
 50:3 55:13 59:12
 59:13 61:10 63:22
 80:13 81:4 86:15
 88:15 103:7 120:7
 122:12 133:5
 134:15,21 140:4
 145:11,19,20
 146:6,9 185:22
wanted 14:9 57:2

59:3 119:20 145:1
 153:17 158:7
 183:22
wanting 15:18
 146:15
warming 161:16
warranted 107:7
Washington 1:10
 111:11 112:18
 171:14
waste 5:10 10:18
 27:4 44:9 46:14
 50:17 55:15 71:18
 78:11 89:16 90:9
 91:16,22 92:21
 93:5 96:3,11 97:1
 97:9,16 99:4,6,14
 99:18,20 100:5,7
 100:10 105:3
 106:20 107:5
 109:4 110:20
 112:2,3,22 113:1
 113:6,8,13 114:13
 115:22 116:3,6,16
 116:18 117:14,15
 117:17,18,18,22
 118:7 121:4,10,13
 121:22 124:21
 125:5,15 126:10
 126:11,17 127:18
 127:21 129:16
 131:6 136:3,8,18
 136:20 137:4,7,13
 137:18,21 138:2
 138:21 139:8,13
 139:16,20 141:6
 141:20,21 142:4
 142:14 144:9
 146:21 147:15
 148:15 153:16
 154:5,5,8,12,14
 154:19 155:3,4,10
 155:19 156:14
 157:1 169:18
 174:4 175:12
 179:19 180:10
 182:3,20 184:4,7

185:2,6 186:9 187:16,18 191:2 192:5,9 wastes 4:10 8:14 11:13 116:13,13 116:18,21 117:7 117:10,12 121:15 146:10,16 148:10 183:10 watch 55:21 watching 182:11 water 22:14,17 23:1,13 56:5 57:18,19 73:4 147:7,8 173:1 174:3,18 175:15 175:19,22 water-level 175:13 way 7:18 11:16 20:2 25:22 29:14 43:15 45:9 49:3 58:11 71:11 81:9 89:2 110:14 120:3 120:5 121:20 122:4 125:3 126:9 131:15 154:11 158:13 160:2,4,6 186:1,2,6 ways 23:12 81:16 83:17 weakness 161:22 weapons 143:2 190:20 web 165:5 webcast 145:7 webcasts 182:10 website 8:16 39:19 111:14 160:13 188:22 weeks 9:13 14:2 172:7 weighed 42:7,8 weighing 143:13 weight 77:8 143:17 144:3,5 173:16 174:2 wells 190:16	well-established 163:2 well-taken 82:5 103:21 went 12:16 39:20 70:1 85:21 113:10 123:1 174:17 194:6 West 116:18 121:16 whatsoever 149:1 wide 19:1 66:5 70:22 73:10 widespread 89:13 162:12 willingness 93:12 94:21 189:12 Wilson 159:11 wind 161:18 winded 53:9 window 150:20 winds 155:6 WIPP 5:18 16:15 94:9 116:5 130:15 137:7 157:5 169:11 wise 132:11 134:2 wish 9:6 11:18 86:17 wishes 8:20 withdraw 10:13 98:21 withdrawn 24:1 withstand 143:4 withstood 114:19 women 187:4,7,12 187:22 188:21 wondered 45:21 wonderful 14:6 16:13 word 45:20 46:3 92:2 100:15 162:5 170:3 wording 45:17 words 34:10 118:1 156:19 189:17 work 9:16 16:19	19:9 20:8,22 22:4 25:16 31:14 32:1 33:8 45:2 46:15 51:7 58:9 60:6 65:11 69:21 75:14 78:15 96:16 101:13 105:15 106:16 109:2 117:15 120:7 132:5 140:10,12 145:2 157:2 180:5 182:1 189:11 190:13 192:14 worked 61:22 102:17 106:8 workers 129:1 working 43:13 68:6 96:7 119:14 122:2 131:12 135:1,22 152:3 177:8 works 41:13 90:14 160:5 world 56:2 67:21 69:12 70:10 73:22 74:5,13 134:7 worldwide 69:7 world's 70:21 worry 61:1 102:19 worst 153:2 worth 56:17 write 169:14 writing 136:15 written 36:4 182:16 wrong 126:3 wrote 145:21 www.brc.gov 8:17 www.nirs.org 188:22 <hr/> X <hr/> X 59:11 Xenon-133 172:12 x-rays 187:19 <hr/> Y <hr/> Yakama 113:11 145:22 146:2	Yankee 175:10 year 81:7 84:3 148:6 158:17,18 158:20 159:4 184:8 189:12 190:18 years 43:10 96:21 97:7 124:15,16 134:6 137:3,10 142:1,17 143:6,16 150:12 151:15,22 152:8 156:15 157:8,10 159:1 162:22 164:18 166:5 168:11 169:9 173:13 174:5 175:10 177:1,14 186:8,8 186:8 193:4,4,4 yielded 83:3 you's 64:6 you-go 40:20 Yucca 10:7,12,14 14:11,13,22 91:11 91:13 98:8,12,20 115:21 125:2,5,19 126:2,21 131:6 142:7,19 146:20 157:5 162:8,10,15 179:9 188:8 Yucca's 163:1 <hr/> \$ <hr/> \$77 99:12 <hr/> 1 <hr/> 1 63:18 175:3,4 1:15 123:1 1:30 8:22 1:31 123:2 10 143:6 151:21 159:1 169:9 184:13 193:4 10:52 85:21 100 80:12 134:6 142:1 144:1 157:8 186:8 100,000 156:15	157:10 101 4:8 107-ton 173:15 174:2 109,000 99:11 11 3:8,9 11th 21:2 110 4:9,12 119 4:13 12 172:21 12,000 166:3 12:30 85:16,16 12:33 85:22 86:2 123 4:15 124 4:16 127 4:18 13th 109:13 132 4:21 1331 1:10 134 4:23 14 3:10 172:20 140 5:3 144 5:5 149 5:6 15 3:12 62:20 172:20 15-minute 122:19 153 5:9 156 5:11 16-18 132:7 161 5:13 165 5:14 169 5:16 171 5:19 97:19 176 5:21 18 3:13,15 124:22 181 5:22 186 5:23 189 6:16 19 172:21 1961 157:16 1982 192:8 1983 148:6 1985 109:7,16 111:22 115:7,11 128:6 1995 174:11
---	---	---	--	--

2	5			
2 1:6 134:11 175:11	50 134:6 166:5			
2nd 8:3	187:7 188:15			
2.32 177:8	500 144:2 175:11			
2:41 194:6	53 164:18			
20 62:20 63:8 97:7	6			
124:16 137:10	60 151:21			
193:4	64 3:19,21			
20th 111:10 113:19	65,000 11:9			
171:14	66 3:23			
200 151:22	7			
2003 142:7	7 3:2 165:3			
2004 53:3	70,000 146:21			
2005 173:15	77 3:25			
2006 44:13 53:4	7900 164:17			
130:4 143:5 187:7	8			
2007 99:13	8 3:5			
2008 99:9	850 164:19			
2011 1:6 150:9	86 4:2,4			
24 175:1	88 4:6			
25 134:6 168:11	9			
28th 150:9	9:30 1:9			
29th 19:6	9:31 7:2			
290 143:13	99 170:22			
3				
30 124:15 137:10				
151:21 193:4				
302 139:20				
31st 19:1				
340-kilowatt				
150:20				
346 162:6				
35 181:18				
4				
4 130:14 173:2,5				
40 151:15 152:8				
164:6 174:5				
175:10 186:8				
40-year 151:19				
400 186:8				
400,000 162:22				
43 173:17				
45 3:17				
49,000 164:16				

C E R T I F I C A T E

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In the matter of: Blue Ribbon Commission on
America's Nuclear Future

Before:

Date: 12-02-11

Place: Washington, DC

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