

BLUE RIBBON COMMISSION ON AMERICA'S
NUCLEAR FUTURE

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MEETING

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THURSDAY,
JANUARY 27, 2011

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The Commission convened at 8:30
a.m. in the Carousel House at the Pecos River
Village Conference Center, 711 Muscatel
Avenue, Carlsbad, New Mexico, Brent Scowcroft,
Co-Chair, presiding.

MEMBERS PRESENT:

BRENT SCOWCROFT, Chair
MARK AYERS
VICKY A. BAILEY
PETE V. DOMENICI
ALLISON MACFARLANE
PER PETERSON

JOHN ROWE
PHIL SHARP

ALSO PRESENT:

TIM FRAZIER, Designated Federal Official
DALE JANWAY, Mayor of Carlsbad, New
Mexico

ANDREW WALLACE, On behalf of Senator Tom
Udall of New Mexico

TIM KEITHLEY, on behalf of
Representative Steve Pearce of New
Mexico

SUSANA MARTINEZ, Governor of New Mexico
WENDELL WEART, WIPP

DENNIS POWERS, Consulting Geologist
JIM CONCA, WSCF Labs

ALSO PRESENT(Cont'd):

DAVID MARTIN, Secretary of the New
Mexico Environment Department
JAMES BEARZI, New Mexico Environment
Department
DON HANCOCK, Southwest Research and
Information Center
GARY KING, New Mexico Attorney General
CARROLL LEAVELL, New Mexico State
Senator
VERNON ASBILL, New Mexico State Senator
CASEY GADBURY, DOE Carlsbad
ANNE deLAIN W. CLARK, New Mexico Waste
Consultation Task Force
MARGARET CARDE
NED ELKINS, Los Alamos National
Laboratory-Carlsbad
ROGER NELSON, WIPP
JOHN HEATON, Former New Mexico State
Representative
ROBERT FORREST, Former Mayor of
Carlsbad, New Mexico

PUBLIC COMMENTERS:

MICHAEL REYNOLDS
ROBERT DEFER
JERRI McTAGGART

JOE EPSTEIN
THE REV. DAVID WILSON ROGERS
JUDI WATERS
GEORGE DUNAGAN
ALLEN SARTIN
MARK SCHINNER
WESLEY CARTER

CHRISTOPHER JONES
HARRY BURGESS
JACK VOLPATO
JAY GRANGER
JOHN WATERS
DAVE SEPICH
ROXANNE LARA

JODY KNOX
SHERI WILLIAMS
RICHARD LOPEZ

PUBLIC COMMENTERS(Cont'd):

RUSSELL HARDY

TOM MARTIN

RICHARD DOSS

DAN MURPHY

DON GEORGE

DAVID SHOUP

RON SINGLETON

SAM SPENCER

GREGG FULFER

GARY DON REAGAN

CLINT WOLFE

TIM HAYES

GEORGE MULHOLLAND

STEVE LAFLIN

SOFIA MARTINEZ

GUY LUTMAN

BILL BADGER

ROSE GARDNER

MARCUS PAGE

CHELSEA COLLONGE

MARK DOPPKE

JANET GREENWALD

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

2 8:33 a.m.

3 MR. FRAZIER: First of all, I'd
4 like to welcome you all here for this meeting
5 of the Blue Ribbon Commission on America's
6 Nuclear Future. My name's Tim Frazier. I'm
7 the designated federal officer and as such I'm
8 welcoming you here. We had a great tour
9 yesterday and - out at the WIPP site. So
10 today we're here to hear a number of broad
11 perspectives in regards to WIPP and the
12 lessons that we've learned from the siting and
13 operation of WIPP. For the speakers, just a
14 note about our lighting system. There's a
15 green/yellow/red light. The green light
16 you're good. When you've got two minutes left
17 the green light starts blinking. When you
18 have one minute left the yellow light will
19 come on, and when the red light comes on
20 you're going to know it, so. Because it
21 buzzes loudly. Okay. One other comment about
22 the microphones for the commissioners as well

1 as any of the panelists that we have. They
2 are off. There's an on/off switch so you'll
3 have to turn them on to speak. Try to turn
4 them back off when you're done speaking
5 because none of us want to hear any ancillary
6 comments. So thank you very much and General
7 Scowcroft, you ready, sir?

8 CHAIR SCOWCROFT Ready. Thank
9 you, Tim. I want to add my good morning to
10 you and thanks for a wonderful day yesterday.
11 And I want to thank you all for coming to this
12 meeting of the Blue Ribbon Commission on
13 America's Nuclear Future. The commission was
14 formed by the Secretary of Energy at the
15 direction of the President. The commission's
16 purpose is to conduct a comprehensive review
17 of policies for managing the back end of the
18 nuclear fuel cycle and recommend a new plan.
19 That is what we're working to do. We would
20 like to remind those with us today we are not
21 a siting commission. We should also point out
22 that our commission's charter does not include

1 the details of the Department of Energy's
2 ongoing operations at WIPP or elsewhere in New
3 Mexico, although we certainly recognize the
4 importance of these federal responsibilities.
5 In keeping with the commission charter we
6 decided to visit New Mexico because we wanted
7 to learn more about the history and lessons
8 from the WIPP experience that may help us in
9 devising a new plan for managing spent fuel
10 and high-level waste. Yesterday's tour of
11 WIPP was most informative and we're grateful
12 to all who helped make our visit so
13 productive. We'd also like to thank the
14 Carlsbad Department of Development and the
15 community at large for a wonderful reception
16 last evening.

17 We will hear first this morning
18 from local and state elected officials. We
19 will then hear from a series of panels which
20 will help us understand the history of the
21 WIPP facility, lessons learned from the siting
22 process and state and local experiences

1 related to the transportation of waste to
2 WIPP. We recognize there are many other
3 individuals and organizations in this region
4 and across the county who care deeply about
5 the issues before this commission. We of
6 course cannot hear from all of them during our
7 visit. We look forward to hearing from more
8 people in groups going forward. We encourage
9 anyone with an interest in our work to submit
10 a written comment to the commission now or at
11 any point in the process. Your comments will
12 be posted on the commission website and will
13 be made available to the full commission. We
14 remind our invited speakers that they are
15 asked to keep their formal presentations to
16 their allotted time as identified by Mr.
17 Frazier. The remaining time will be used for
18 questions and discussion with the commission.
19 We appreciate the time and effort the speakers
20 have put into their presentations and we look
21 forward to hearing what they have to say.

22 We're webcasting this meeting as

1 we have done for all of our meetings. We want
2 people who are not able to get to our meeting
3 locations to be able to follow our
4 proceedings. The video transcript from this
5 and all commission meetings will be posted on
6 the commission website. At the end of today's
7 session we will hear from any member of the
8 audience who wishes to speak. We have allowed
9 for an extended public comment period at the
10 end of the meeting in light of the very large
11 number of people who have commented on our
12 previous meetings. A sign-up list for public
13 comment is available now and will be available
14 till 1:00 p.m. Of course, the amount of time
15 we can allot to each speaker will depend on
16 the number of people who wish to speak. With
17 that I will open the floor to the
18 commissioners for any statement or comment
19 they wish to make before we hear from our
20 first speaker. Senator Domenici, you wanted
21 to comment?

22 MEMBER DOMENICI: Mr. Chairman, I

1 know that we have so many people to hear from
2 that it is your desire and certainly concurred
3 in by the commission that each of us speak a
4 minimum and that we maximize the opportunity
5 for those who have something to share about
6 this repository and about what's been going on
7 here for the last 15-plus years. But I would
8 like to just take a couple of minutes. You
9 commissioners were with me last night and that
10 permitted you to get a glimpse I think of what
11 the people of this county and this part of the
12 state think about me, and maybe you even got
13 a glimpse of what I think about them. It was
14 a pretty wonderful evening to have 200 or 300
15 people, whatever it was, together to host us
16 and to be so good and kind to cater to us with
17 such a distinction that I have to say to all
18 the leadership of Eddy County and Lea County
19 thank you very much. And I think I can thank
20 them for all the commissioners, Mr. Chairman.

21 Let me say, however, that there's
22 no doubt that the Waste Isolation Pilot

1 Project has a great deal to offer to the
2 United States. I understand that of late this
3 facility is even offering ideas and technology
4 to other countries who have all of a sudden
5 found that here in New Mexico the United
6 States federal government - the United States
7 federal government is and has established an
8 underground facility. Embedded therein is
9 transuranic waste, military transuranic waste
10 and that we have shown how that can be done.
11 There is no question that this facility and
12 the money we have spent and the expertise
13 that's been applied to it and the many
14 agreements and understandings that have
15 preceded the construction and that go on to
16 this day with reference to the government, the
17 State of New Mexico, the City of Carlsbad and
18 the county surrounding this facility. All of
19 that has created an enthusiasm not necessarily
20 just for WIPP, but an enthusiasm for the
21 proposition that the United States of America
22 can and has here in eastern New Mexico

1 established, sited and built a facility that
2 proves up that underground - using salt
3 underground is an exciting modum, an exciting
4 way to get from where we are to where we might
5 want to go as a nation. It really should not
6 be a surprise because for those of us who have
7 been compelled by our jobs to study the
8 history, the geological history, we have found
9 out that the National Academy of Sciences, a
10 rather premier American science body,
11 recommended over 50 years ago that the
12 disposal of radioactive waste could be and
13 perhaps should be handled by embedding it deep
14 underground in salt that has not moved in the
15 opinion of some for over 200 million years.
16 That's what has excited people as they tour
17 this facility and see where the American tax
18 dollars have been converted to rather exciting
19 engineering pieces underground that have been
20 planted into this salt, the long-lived waste
21 that comes from the military but has not
22 reached the high-level stage because by

1 definition it was agreed at the beginning on
2 this to start with that we would use military
3 transuranic waste. I don't believe that this
4 is the time to analyze and solve the problem
5 of what is the ultimate use of this facility.
6 Are we bound forever to what was established
7 years ago in the agreements regarding WIPP?
8 I don't know, but I don't believe that this
9 commission is going to solve that problem. I
10 think that's a problem of the future, and I've
11 talked to a number of commissioners. I think
12 they tend to agree that that's not going to be
13 solved by us charged with something completely
14 different, or somewhat different from that.
15 That should not prevent us from asking us the
16 experts who appear before us what they think
17 about the capacity of this salt to handle
18 radioactive waste, and how big is the gap
19 between what we are now doing and what high-
20 level waste - what high-level waste if it were
21 to be deposited would need. Those kind of
22 questions are currently either defined or

1 under the process of being defined, and that's
2 very important for this commission because it
3 tells us what we can do. So once again let me
4 say thanks to the commissioners. I am
5 absolutely certain for those who saw WIPP
6 yesterday - I can't speak for today yet
7 because we haven't heard the witnesses, but I
8 can tell you with reference to yesterday this
9 was an exciting day for nuclear power because
10 these commissioners that I am fortunate to
11 serve with have really seen something as they
12 viewed and talked with - viewed the premises
13 and talked to the experts of where we've gone
14 over the past decade with federal dollars,
15 federal talent, the talent of our laboratories
16 and the support of the state and the local
17 community. We have indeed taken some giant
18 strides. Thank you for listening and most of
19 all commissioners, thanks for taking of your
20 busy time from the many scheduled events of
21 this commission to choose this one to come to.
22 I actually believe yesterday and today were

1 the right two days for any commissioner that
2 really wants to learn about it, and I hope if
3 some missed the tour they might seek from you,
4 Mr. Chairman, an opportunity to come down here
5 and tour it on their own with assistance like
6 we had so they can get an understanding of it.
7 I believe if they ask us who did it we might
8 recommend that some who have not had a chance
9 will take it upon themselves to do it. Again,
10 thank you friends and citizens of this region
11 for the warmth you've shown towards me and
12 equally as important, thanks for your
13 enthusiasm for good things for your community.
14 That's what you are, enthusiasts for the
15 future. Thank you. Thank you, Mr. Chairman.

16 CHAIR SCOWCROFT: Thank you very
17 much, Senator Domenici. Do any other
18 commissioners wish to comment? If not, our
19 first speaker this morning will be Dale
20 Janway, the mayor of Carlsbad, New Mexico.
21 Mr. Janway, you may proceed.

22 MAYOR JANWAY: Good morning.

1 First I want to extend a warm welcome to the
2 Blue Ribbon Commission, their staffs and our
3 honored guests. I'm pleased you're in
4 Carlsbad and I appreciate your willingness to
5 hear about the many challenges the community
6 and government overcame to open the Waste
7 Isolation Pilot Plant. I'm extremely proud of
8 our many accomplishments at WIPP which is
9 helping to close the nuclear cycle and we want
10 to do more. We like to think of ourselves as
11 visionaries. Decades ago one of our city
12 leaders, Joe Gant, had the foresight to
13 recognize a win-win situation for our
14 community and the country. At that time the
15 Atomic Energy Commission was trying to figure
16 out what it should do with all the nuclear
17 waste that was in temporary storage around the
18 country. Joe read about the government's
19 struggles with Project Salt Vault near Lyons,
20 Kansas. Joe knew we had lots of embedded salt
21 in the area so he contacted his good friend
22 the late Congressman Harold Reynolds and asked

1 why not Carlsbad. It took more than 30 years,
2 but Joe's dream was realized when the WIPP
3 received its first waste shipment on March 26,
4 1999. Before we agreed to have WIPP as our
5 neighbor we wanted to be sure the project and
6 transportation system would be safe. We asked
7 the Department of Energy to do extensive
8 testing in the WIPP underground. They kept
9 their promise. The Nuclear Regulatory
10 Commission stepped in to ensure the shipping
11 containers were safe and DOE adopted a robust
12 satellite tracking system to monitor all waste
13 shipments no matter where they are in the
14 country. DOE also made a commitment to openly
15 communicate with the residents of this
16 community so we could solve problems together.
17 I can honestly say DOE and all the WIPP
18 participants have kept us informed from the
19 very beginning. After almost 12 years of safe
20 operations I think anyone who knows WIPP would
21 have to say the project is a resounding
22 success. We're very proud of the WIPP success

1 because it was this community that sought out
2 the project when the favorite phrase at the
3 time was "not in my backyard." We showed the
4 country and the world a model for successfully
5 siting a nuclear waste facility that is
6 protective of its workers, the public and the
7 environment. We're willing and able to assist
8 the commission in determining America's
9 nuclear future. All the ingredients for
10 success are here: a supportive community,
11 miles of salt, an experienced workforce,
12 infrastructure and more.

13 In closing I would again like to
14 thank the commission for visiting our great
15 community. We all recognize the huge
16 responsibility you have in front of you and
17 wish you the very best. Thank you.

18 CHAIR SCOWCROFT: Thank you very
19 much, Mr. Mayor. We appreciate it. Our next
20 statement will be on behalf of Senator Tom
21 Udall and be made by Andrew Wallace.

22 MR. WALLACE: Thank you. Again,

1 my name is Andrew Wallace. I'm Senator Tom
2 Udall's staff member responsible for energy
3 and environmental issues in Washington. And
4 he is attending business in Washington right
5 now so he sent me here to read a letter on his
6 behalf.

7 "I would welcome you and your
8 staff here to Carlsbad. I would like to
9 especially recognize Senator Domenici for his
10 continued service in these areas. While I am
11 in Washington this week on Senate business, I
12 know you will hear from a number of interested
13 New Mexicans with valuable insight and nuclear
14 expertise during this meeting. As you know,
15 the history of the management of the nuclear
16 fuel cycle in America is complex. We will not
17 be able to tell where we are going unless we
18 know where we have been. With that in mind no
19 assessment of American nuclear policy can be
20 complete without an understanding of New
21 Mexico's nuclear history. From the Manhattan
22 Project to uranium mining to the operation of

1 WIPP and the new URENCO LES enrichment
2 facility. I trust your visit will be
3 productive and I look forward to hearing from
4 the commission's recommendations. Thank you."

5 CHAIR SCOWCROFT: Thank you very
6 much. We will next hear from the office of
7 Representative Steve Pearce and speaking on
8 his behalf will be Tim Keithley.

9 MR. KEITHLEY: Good morning. My
10 name is Tim Keithley. I'm district director
11 for Congressman Steve Pearce. I have a new
12 position. I've been in the community for some
13 time hosting a radio talk show that Senator
14 Domenici was an often - a guest on our show.
15 So I thank you and welcome you for coming to
16 Carlsbad. Congressman Pearce wishes to thank
17 you as well for coming to his 2nd District.
18 You have in your packet a letter from
19 Congressman Pearce. I just wanted to read one
20 of the paragraphs.

21 "Over the last decade New Mexico
22 has embraced the tremendous potential of

1 nuclear energy. Our communities led the
2 nation in the safe handling and disposal of
3 radioactive materials. Moreover, the growing
4 interest in a safe, reliable form of energy
5 coupled with strong local support led to the
6 establishment of the National Enrichment
7 Facility in Eunice. I am certain that upon
8 the conclusion of your visit to New Mexico you
9 will have no doubt regarding this state's
10 commitment to an efficient, economically
11 viable and safe nuclear energy sector. Thank
12 you."

13 CHAIR SCOWCROFT: Thank you very
14 much. We will next hear from the governor of
15 New Mexico, the Honorable Susana Martinez.

16 (Applause)

17 GOV. MARTINEZ: Good morning.

18 CHAIR SCOWCROFT: Good morning,
19 Governor. We're delighted to have you with
20 us.

21 GOV. MARTINEZ: Well thank you for
22 having me. My apologies. I stopped to grab

1 a cup of coffee.

2 CHAIR SCOWCROFT: Well, we moved
3 you up because some of your other colleagues
4 are not here yet.

5 GOV. MARTINEZ: See what happens
6 when you fly versus drive? I arrived last
7 night about - a little after 12:00 -

8 CHAIR SCOWCROFT: Oh my.

9 GOV. MARTINEZ: - but had a good
10 full day.

11 CHAIR SCOWCROFT: Well, we're
12 delighted to have you with us.

13 GOV. MARTINEZ: Thank you for
14 having us and Senator Domenici, how are you,
15 sir?

16 MEMBER DOMENICI: Fine, thank you
17 for coming.

18 GOV. MARTINEZ: Well, thank you
19 for having me. It is my pleasure to be here.
20 Chairman, I appreciate the invitation, other
21 members of the commission, in particular
22 former Senator, United States Senator

1 Domenici. My pleasure.

2 As members of the - President
3 Obama's Blue Ribbon Commission on America's
4 Nuclear Future you've been charged with making
5 an important recommendation on how our country
6 disposes of radioactive waste. It is likely
7 that months of research, study and hearings
8 just like this one will provide the basis for
9 your final determination concerning the
10 qualifying factors involved in waste disposal.
11 Your task no doubt is a complex one and you've
12 likely received input from a variety of
13 experts and sources who are well studied in
14 the science involving waste disposal. Today
15 I am grateful to speak on behalf of the State
16 of New Mexico during this process, and I have
17 a simple, very simple request. My request is
18 that any final recommendation this commission
19 makes concerning waste disposal be based on
20 the very best possible scientific data.

21 As you know, New Mexico has a long
22 history with America's nuclear industry,

1 dating back to World War II and continuing
2 today. Currently, Carlsbad hosts the United
3 States Department of Energy's Waste Isolation
4 Pilot Plant (WIPP) which started waste
5 disposal operations in 1999. It is the
6 nation's only deep geological repository for
7 the disposal of transuranic nuclear waste.
8 Its opening was the result of more than 20
9 years of research and its subsequent operation
10 has occurred without mishap. In the audience
11 today is a great citizen of New Mexico,
12 Wendell Weart, where is he? There he is. Mr.
13 Weart was involved in the WIPP from its
14 conception. I understand you will hear from
15 him later today. He is truly the father of
16 WIPP and many think that without his
17 intelligence, integrity and persistence we
18 would not be here today. As governor I
19 congratulate him for his years of dedication
20 to WIPP and to the nation.

21 While siting WIPP took an
22 extraordinary amount of time, it ultimately

1 prevailed because it was backed by sound
2 science and because New Mexico's political
3 leaders supported the facility. As a result
4 of this collaboration New Mexicans provide a
5 valuable service to our national security
6 interests by disposing of defense-related
7 transuranic waste. We do so safely, we do it
8 responsibly and we do it permanently, and WIPP
9 plays a critical role in the permanent
10 disposal of long-lived defense radioactive
11 waste. Scientists will likely tell you that
12 the geological composition of this region is
13 unique, making it an ideal location for
14 disposal activities. Its large underground
15 salt deposits allow for waste containment
16 below the surface in an environmentally
17 responsible way. The storage rooms are nearly
18 a half mile below ground, providing a safe
19 storage solution. The facility is further
20 complemented by its unique location, close to
21 the URENCO uranium enrichment facility, the
22 first private sector uranium enrichment

1 facility built in America in a region that
2 understands these types of projects.
3 Ultimately sound science, transparency and
4 citizen engagement has prevailed and enabled
5 these facilities to be located in this very
6 community, resulting in facilities that are
7 vital to the nation and responsible for making
8 significant economic improvements to the
9 surrounding community. This includes the
10 creation of jobs, good jobs, and skilled
11 workforce, roads and other infrastructure.
12 Over the years WIPP has earned an impressive
13 reputation with New Mexico's larger scientific
14 research community, and it has demonstrated
15 how successful partnerships can be formed
16 between the federal government, state
17 government and regulatory agencies. When you
18 consider these partnerships, do not overlook
19 the vital role that local government and that
20 citizens play. WIPP's local supporters have
21 never wavered and this community support is
22 largely responsible for the support of New

1 Mexico's political leaders. WIPP also has an
2 impressive record of safety. I visited WIPP
3 not that long ago and it was fascinating to
4 see not only the safety record, but the
5 science behind making sure that this community
6 remains safe. Since its creation there have
7 not been any major incidences that have
8 occurred while transporting materials from
9 various sites to this facility. WIPP has
10 built up a robust infrastructure, including
11 roads, utilities, and emergency response
12 capabilities.

13 If a nuclear facility is done
14 right, and by that I mean the science is sound
15 and the community and state have been
16 consulted and engaged, new nuclear facilities
17 can be built and they can be built safely.
18 We've had the experience with WIPP and we have
19 had the experience with the URENCO enrichment
20 plant and it has been a positive experience.
21 Both have provided excellent jobs, economic
22 growth and they have been good neighbors.

1 Because of the success of these facilities I
2 am certain that - I am certain the United
3 States will find sites willing to accept
4 future waste disposal facilities, and if it is
5 done right, New Mexico may be interested in
6 the future. I thank you for the opportunity
7 to be here. I think the engagement certainly
8 of the local community and certainly the State
9 of New Mexico is a positive one. We must be
10 engaged, but at the end of the day the science
11 must be the decision-maker. At the end of the
12 day it must be the science that will lead us
13 to the best decision that will be in the best
14 interest of this community and of our nation.
15 I thank you greatly for inviting me to be
16 here. It is my great pleasure to participate
17 in this process. Thank you so very much.

18 (Applause)

19 CHAIR SCOWCROFT: All right. We
20 have other local and state officials who have
21 not yet arrived so we will convene our first
22 panel at this time. I want to thank you

1 gentlemen for agreeing to appear. We have on
2 the panel Mr. Wendell Weart who's already been
3 introduced by the governor, the former manager
4 of scientific programs at WIPP, Mr. Dennis
5 Powers, consulting geologist, Mr. Jim Conca,
6 the director of WSCF Labs, Secretary Dave
7 Martin and Chief Regulator James Bearzi, New
8 Mexico Environment Department, and Don
9 Hancock, Southwest Research and Information
10 Center. You may begin in any order you wish
11 but I suggest Mr. Weart.

12 MR. WEART: Good morning. I'd
13 like to thank the commission for giving me the
14 opportunity to address you. I have a very
15 personal attachment to the WIPP having worked
16 on it directly for 25 years plus and followed
17 it closely in the last 10 years since I've
18 been retired. I've decided to - in case any
19 of you are following my handout to you, I'm
20 not going to follow my handout. I'm going to
21 reverse the order because given that there's
22 10 minutes and I dread the red light flashing

1 I'm going to start with what I think is most
2 important to this panel and that is talk about
3 some of the lessons learned. But in the
4 course of doing that I will address the
5 history, some of the science and experiments
6 that have been conducted, and try to weave it
7 together that way.

8 You've already heard and
9 personally witnessed the strong support of
10 this community. I would like to offer my
11 personal perspective on how helpful that was
12 over the course of addressing WIPP to the
13 State of New Mexico. The first few years of
14 my work on WIPP I spent at least half of my
15 time traveling around the state addressing
16 communities, organizations and missed very few
17 of the cities in this state. It was always
18 very helpful to be able to say that the people
19 most directly affected from the standpoint of
20 safety and economic issues were greatly in
21 support of the facility. All the while they
22 maintained that it must be done safely and

1 with due concern to those kinds of issues.
2 You've heard that the first approach in fact
3 was made not by the AEC to the people in this
4 area, but by the people in this area to the
5 AEC, and given what's transpired over the last
6 35 years, I can't begin to tell you how
7 meaningful and useful that was in your
8 deliberations on procedures for how to go
9 about selecting a site. Being a scientist I
10 once thought if you do the science right
11 that's what's needed, but I've learned since
12 that that's only a part of the issue. You
13 must also convince the public and receive the
14 support of the public in order to make it a
15 going concern.

16 Let me talk now about the site
17 itself. When we started our site selection we
18 did not have the benefit of regulations, EPA
19 had not even begun their consideration in a
20 serious way, and so we had to develop some of
21 our own thoughts about how to go about this.
22 We thought since we don't have regulations,

1 let's make sure we do this in as safe a way as
2 possible. We selected for instance a
3 criterion that the site should not be
4 disrupted by natural processes for at least 10
5 half lives of plutonium 239, about a quarter
6 of a million years. Using that as the basis
7 we looked for a site where the natural
8 processes that affect the geology, dissolution
9 of salt being one of the most important, would
10 not have an impact on this facility within
11 that time span. In fact, we found out as our
12 studies progressed that the site is good not
13 only for a quarter of a million years, but
14 that natural breaching will not occur for a
15 few million years if things proceed over the
16 next millennia and over the next few million
17 years as they have in the past.

18 One of the issues that we paid
19 great attention to when we first looked at
20 this area because we had been given a site
21 handed off to us by Oak Ridge National Lab and
22 they had selected a site which was free from

1 boreholes that penetrated through the salt
2 into underlying areas. This was because at
3 Lyons, Kansas, boreholes were a major problem
4 for them. When we inherited this site from
5 Oak Ridge National Laboratory we continued
6 their drilling program. They had drilled two
7 holes. We drilled in 1975 a third hole on the
8 corner of this site and much to everyone's
9 surprise, including ours, it encountered
10 geology that was unexpected, steeply dipping
11 beds, brine reservoir at depth and we
12 concluded that this was not an area where we
13 could develop a site. We quickly reoriented
14 our program to start site selection anew. We
15 looked at several areas within the Delaware
16 Basin where the original site was. We did a
17 number of studies to determine what the cause
18 of the unexpected geology was and we were able
19 to use that information to move the site to an
20 area closer to the interior of the basin, away
21 from an underground feature called the Capital
22 Reef, and started through that geophysical

1 investigation and a subsequent borehole to
2 confirm that this was indeed apparently an
3 area that we could look at and pursue further
4 studies on.

5 In addition to avoiding boreholes
6 we also looked at the presence of natural
7 resources and tried to minimize the conflict
8 with those. Because we did know that there
9 were potential resources in the area, both
10 potash and natural gas, and so we paid great
11 attention to that. We found that it's
12 impossible to avoid all of them and the
13 subsequent studies done for the EPA to look at
14 compliance considers what would happen if in
15 fact a borehole should be drilled through the
16 salt at some later period in time, breaching
17 the repository, would it have any safety
18 consequences. Well as you might expect,
19 seeing that WIPP is indeed in place and
20 operational, the EPA agreed with us that the
21 safety concerns from that fell well within
22 their standards. Another factor that I think

1 was useful in the eventual success of WIPP was
2 the strong and continued leadership of key
3 players. Sandia Labs was the science advisor.
4 They've had that program for Sandia for 25
5 years and I think having a stable and
6 recognized entity that could speak to the
7 science and the safety of the facility in
8 those early years was very important.

9 I think that the DOE leadership in
10 the later years, being able to work directly
11 with upper management in Washington was
12 helpful. The early years I can't say that the
13 Washington leadership was a plus because many
14 of our angst moments and delays were
15 occasioned by the fact that the AEC and its
16 successor agencies couldn't quite make up its
17 mind what they wanted the WIPP to be. Was it
18 a defense facility for true waste, or was it
19 a facility where we would place some amount of
20 high-level waste? Maybe defense high-level
21 waste? And the mission of WIPP alternated
22 several times within the first five years.

1 This led I believe to a concern within the
2 State of New Mexico and certainly impacted our
3 program, the science program, because no one
4 knew quite where WIPP was heading in those
5 days. In fact, we nearly lost the WIPP
6 several times because of arguments between
7 Congress and the Administration. It was
8 finally settled in 1979 and `80 when Congress
9 authorized WIPP only as a defense waste
10 facility, one that was to be unlicensed by the
11 NRC and this meant that the facility would be
12 used for defense transuranic waste and not
13 high-level.

14 One of the other aspects that
15 affected WIPP was the existence, once it was
16 established, of a regulatory regime that was
17 established and did not vary with time. This
18 is important because it affects not only the
19 programs but it affects our relationship and
20 the trust in the community. That scientific
21 trust and credibility is very important. The
22 fact that we relied upon a number of oversight

1 peer groups, the EEG, the National Academy,
2 lent credibility to the program. We also used
3 peer groups in other ways. Let me finally say
4 that one of the things we found to be most
5 useful when it was finally developed was the
6 use of performance assessment, not only to
7 show compliance of the program with the EPA
8 standards, but to help direct and modify the
9 program and to assure that the right things
10 and the adequate things were being done.

11 Thank you.

12 (Applause)

13 CHAIR SCOWCROFT: Thank you very
14 much, Mr. Weart. Dennis Powers?

15 MR. POWERS: I'd like to thank the
16 commission for the opportunity to speak to you
17 briefly about the geological background for
18 the WIPP. My objective here this morning is
19 to illustrate the extensive, intensive and
20 even in some cases leading edge nature of the
21 investigations over the past 35 or 36 years.
22 I'm going to do this by starting with a very

1 brief overview of the last 500 million years
2 of geological history. You'll get that at the
3 rate of about 10 million years per second.
4 Following that I will take a brief look at a
5 slice of those rocks at 250 million years in
6 which the WIPP is located. And last, I'll
7 make a comment or two on lessons learned. I
8 don't intend to turn anyone other than Dr.
9 MacFarlane into a geologist this morning so
10 just hang on.

11 About 500 million years ago this
12 southern part, southwestern part of the United
13 States was a major subsiding basin. Oceans
14 were transgressing, we were getting marine
15 deposits of varying types, sand shales,
16 limestones. About 325 million years ago - can
17 you see that? About 325 million years ago the
18 Central Basin platform started to rise and
19 separate this major basin into two separate
20 basins, the Midland Basin to the east, the
21 Delaware Basin to the west. The WIPP is
22 located in the northern part of the Delaware

1 Basin. About 270 million years ago algae
2 began to form a reef around the edge of the
3 Delaware Basin. That major reef, the most
4 important one and the best known one is called
5 the Capitan Reef. It encircled the Delaware
6 Basin and you see in the little inset there a
7 kind of a very diagrammatic relationship of it
8 to the basin deposits to the left which is
9 where the WIPP is located. That reef was very
10 successful, so successful it killed itself by
11 cutting off circulation to the ocean which
12 then resulted in solutes of that brine and
13 ocean water beginning to concentrate,
14 eventually depositing salt and the other
15 evaporites of the Castile Salado and Rustler
16 Formations. Following that, Triassic red beds
17 of continental origin swept across and then
18 not a whole lot seemed to have happened for
19 about the next 200 million years. A very
20 minor incursion of marine environments at
21 about 100 million years and then we sat here
22 and eroded a little bit and didn't accumulate

1 a whole lot of anything.

2 About 15 million years ago the
3 basin tilted slightly to the east, the
4 Guadalupe Mountains were raised on the west,
5 the Salt Flat graben was dropped on the west-
6 hand side and the Pecos River began its
7 headward erosion to form the current Pecos
8 Valley. Now that middle slice, about 250
9 million years ago when the reef was
10 successfully closing of circulation to the
11 ocean and killing itself resulted in these
12 three formations, the major ones, the lower
13 one, the Castile, the middle orange-ish one
14 the Salado in which the WIPP is located, and
15 the upper evaporite bearing unit, the Rustler
16 Formation. The Rustler Formation is important
17 because it contains the most important
18 hydraulic unit above the repository and that
19 is called the culebra dolomite. Now in the
20 slight enlargement there in the middle we see
21 a culebra and there are four members or parts
22 of the Rustler Formation that also include

1 salt. As Dr. Weart mentioned, salt
2 dissolution was an important concept in the
3 beginning, and we thought that that
4 dissolution of salt from the Rustler is what
5 contributed to the great variability of the
6 culebra dolomite hydraulic properties.

7 One of the more recent efforts in
8 the last few years, 10 to 15 years, has been
9 to define the margins of the salt in the
10 Rustler Formation because it turns out that it
11 does control the hydraulic properties of the
12 culebra, but not in the way we thought.
13 Hundreds of geophysical logs have been used to
14 make the map of the margins. That upper
15 right-hand map shows colored margins. Those
16 are the westernmost extent of each one of the
17 salt units. To the west of that, to the west
18 of those lines, each of those units is
19 represented by a mud flat. Its equivalent in
20 time and but not in equivalent in environment
21 to the salt.

22 One of the things that began to be

1 possible was in 1984 we were able to map some
2 of the large diameter shafts at the WIPP site,
3 and map them up close and personal. These
4 rocks are not as well exposed at the surface
5 as they are in the underground. What we found
6 was different. First, we thought that again
7 these mud flat deposits or these mud stone
8 deposits were the residue after we dissolved
9 all of the halite of the laterally equivalent
10 units. Instead what we found were continuous
11 bedding channels. We found soil features
12 indicating that the mud stone had been exposed
13 to the atmosphere during permian time, and a
14 very consistent picture began to be developed
15 about the Rustler Formation. And that picture
16 is that to the east we had salt pans or brine
17 lakes, a little bit like what you saw
18 yesterday from your bus only a thousand or
19 more times larger and without much relief
20 around them. This is an example from Death
21 Valley showing a desiccated salt pan with the
22 polygons of salt and a very flat surface. The

1 upper illustration is of a channel, very well
2 exposed in the middle member of the Rustler
3 Formation and indicating that there were
4 currents, erosion and filling events during
5 the time of exposure. So a very consistent
6 picture of a shallow brine lake that dried up
7 at times and laterally it made a transition
8 from that to a little beach. Nobody would
9 have wanted to have been there because I can
10 tell you the conditions would have been
11 horrendous, but going through a beach and then
12 into the mud flat area, and further away in
13 areas we don't have any outcrops, presumably
14 some slightly higher areas that were shedding
15 sediments into this area.

16 Now, that's really fun and it's
17 fun to figure these things out, but the reason
18 this is important is that understanding the
19 distribution of salt helps us solve the -
20 solve our desire or satisfy our desire to know
21 why the culebra dolomite varies so greatly
22 over the site area. There are four factors

1 that we have resolved that contribute to this.
2 One of them, the distribution of salt which is
3 the second one here I've just described, and
4 we have found that when the culebra dolomite
5 is sandwiched between salt beds it is
6 virtually impermeable, not quite, but nearly
7 so. Another important factor is that the
8 hydraulic properties of the culebra vary with
9 depth. It's a very big one. The deeper it
10 is, the more overburden there is and the
11 fractures are squeezed tighter, the porosity
12 is squeezed, and so the permeability of that
13 unit is less. A third one is that to the west
14 of us particularly in Nash Draw which you
15 drove across yesterday going to and from the
16 WIPP site is a solution feature and it is
17 created by the solution of upper Salado salt.
18 The last is the diagenetic effects that have
19 occurred since then. And those four factors
20 have a very, very high correlation with the
21 hydraulic properties. That means we can take
22 those and turn them into a computational model

1 by which we can describe fluid flow and
2 potential transport at the WIPP. Very
3 important.

4 Now, I just want to say one thing
5 here out of this. Dr. Weart already talked
6 about the performance assessment standards.
7 I regret as a sedimentologist we didn't get to
8 that model earlier so that we could have maybe
9 made progress more quickly and gotten to this
10 conceptual model that allows us to really have
11 a robust performance assessment of the culebra
12 and the transport - potential transport of any
13 nuclides that might escape. They're not going
14 to, but we have to figure out what might
15 happen in the future. So I leave you again -

16 MEMBER DOMENICI: Sir?

17 MR. POWERS: I'm sorry?

18 MEMBER DOMENICI: I was just going
19 to ask you a question.

20 MR. POWERS: Yes.

21 MEMBER DOMENICI: You talked about
22 the conceptual model being delayed. Can you

1 just talk about that a little more? When you
2 - what was the importance of that? What would
3 have happened had it not been delayed, had you
4 found out sooner?

5 MR. POWERS: Well, let me give you
6 the bottom line. We actually had a conceptual
7 model early on and we did performance
8 assessment the first time for the EPA and we
9 got a good result based on just geostatistics,
10 that's just the statistics of the distribution
11 of the hydraulic properties. Now what we have
12 is a more robust model. The results are more
13 or less the same, they're not particularly
14 better, they're certainly not worse, but
15 they're more robust and they're much better
16 defendable for the future and they show the
17 pathway towards how you relate geology and
18 hydrology to create such a model. That's why
19 they are in essence a kind of a leading edge,
20 a combination of the great hydrology and the
21 geology that we've done.

22 MEMBER DOMENICI: Thank you.

1 MR. POWERS: Yes. Other
2 questions? Thank you.

3 CHAIR SCOWCROFT: Thank you very
4 much. The next presentation is Jim Conca.
5 Incidentally we'll do questions to the panel
6 in general after all the presentations.

7 MR. CONCA: Chairman General
8 Scowcroft, commissioners, thank you so much
9 for letting me talk about environmental
10 monitoring. It's very exciting to actually be
11 monitoring an operating geological repository
12 instead of thinking about the theoretics of
13 doing something in the future.

14 I had the privilege of being the
15 director of the Carlsbad Environmental
16 Monitoring and Research Center for the last
17 six years, CEMRC. It is the independent
18 monitoring facility for the WIPP site and its
19 mission is to monitor air, water, soil, people
20 in a 100-mile radius of the WIPP facility.
21 And we also do research in scientific support
22 of the project, but essentially we monitor

1 air, water, soil and people in a 100-mile
2 radius of WIPP. We analyze for everything you
3 might actually want to see in this waste and
4 we do it to very, very low levels. The
5 purpose of this facility is to - is for
6 science, not compliance. So the purpose is to
7 actually get as low as you possibly can to see
8 below background so you can understand what is
9 actually going on, not wait until something
10 happens that comes up above compliance or
11 action levels. So the mission of WIPP was to
12 implement an independent - and when we say
13 independent, it's independent of the contract
14 or it's independent of DOE, it's an academic-
15 based program. So the whole point is to
16 determine whether or not WIPP operations have
17 had some kind of effect on the environment and
18 on the people living in the area. The point
19 was to begin monitoring before WIPP opened so
20 you have a before and after. It's the only
21 nuclear facility in the world that has a
22 before and after on its environment and on its

1 citizens. And again, this is science not
2 compliance so compliance levels are too high
3 for this purpose. You actually want to see
4 really what is going on. And very important
5 is full academic freedom. So if you see
6 something you want to talk about it. And also
7 it's a very nice way to talk to the public and
8 to educate them on environmental issues as
9 well as nuclear and radiological issues.

10 Now, we did citizen surveys in the
11 '90s to try to determine what the public cared
12 about because this is a public program. And
13 what's interesting is that people felt the
14 most important vector out of this, although
15 they didn't put it in that terms, the most
16 important vector out of the repository is air.
17 That's the only way anything's going to be
18 released to the public in the next, you know,
19 hundreds and thousands of years. So they
20 wanted to know what they were breathing and
21 they wanted to know if they were contaminated
22 themselves. So the two most important aspects

1 was monitoring air and monitoring people.
2 Now, a distant second was drinking water.
3 They understand that drinking things can
4 affect you, but they understood that by the
5 time it gets to drinking water it's already
6 gone through the air, and so air and people
7 are the most important things. And a distant,
8 distant third, fourth and fifth was soil
9 sediment and surface water.

10 Now, one of the - therefore, the
11 most important public aspect of this program
12 is called a Lie Down and Be Counted program.
13 It's very cute. Anyone who lives in a 100-
14 mile radius of WIPP can simply walk into our
15 facility and say, "I'd like to be counted. I
16 want to know if I'm hot" okay? And that's the
17 whole point. So this is the best whole-body
18 counter in the world and unfortunately you
19 haven't had time to look at it, but as you
20 drive out of town it'll be on your left. If
21 you want to take five minutes you can come and
22 look at it. It's the best whole-body counter

1 in the world, 10-inch thick pre-World War II
2 stainless steel from an old 1906 railroad car
3 cut up into pieces. It's very interesting.
4 And so you come in, you get counted and again
5 you find out if you have absorbed any dose.
6 Now we're all hot, there's no question about
7 that, we're all hot, there's radioactivity in
8 the environment. Mainly it's gamma emission
9 from your muscles where potassium-40
10 concentrates, so the more pumped up you are
11 the hotter you are.

12 (Laughter)

13 MR. CONCA: And we're all
14 breathing plutonium. Right now everyone in
15 this room is breathing plutonium. It's no big
16 deal, it's at the femtocurie level - I never
17 get to use that prefix - but you know, so it's
18 very, very low, but it's there, and if you
19 want to look at it you can see it. It's very
20 low, it's very hard to look at so instead of
21 counting for a few minutes or a few hours you
22 have to count for 5,000 minutes, but it's

1 worth it because you actually see what is
2 going on. In the end the most important thing
3 is that you need a before and after, otherwise
4 you can't really say much.

5 So to just recount the Lie Down
6 and Be Counted program, we recruited 700
7 citizens. Now these are citizens, not
8 workers. We also do workers, we also count
9 all the workers, but they have an occupational
10 dose. They are, you know, have the
11 possibility of getting contaminated at some
12 point, although we never see that, but
13 citizens are not supposed to have a dose, an
14 occupational dose. They're just supposed to
15 be ordinary citizens, and that's what this is
16 focused on. So we had the - before WIPP
17 opened we had a baseline of 367 volunteers
18 that we counted, and then they come back and
19 be recounted. Now, the bizarre thing is it's
20 hard to get people to come back to get
21 recounted. They're not hot, they lose
22 interest and it's very hard. So we would put

1 things in the newspaper, please come back,
2 please get recounted because you want a
3 baseline. And so it was very hard to get
4 people to come back more than once or twice,
5 which is - I guess that's a good thing. But
6 so as of the present we've not seen any
7 effect. There's no effect for the existence
8 of WIPP, of course. What is interesting is
9 that in a certain fraction of the population
10 we see bomb fallout components like cesium-137
11 which has a 30-year half life. We've been
12 monitoring so long that we actually see the
13 decay in the citizenry of bomb fallout cesium-
14 137 which is very interesting. And then again
15 we do workers as well.

16 Now, if you think about as you're
17 filling up WIPP. Okay, WIPP is filling. So
18 we're told about the 425,000 cubic feet per
19 minute air that's flowing into the
20 underground, moves over workers, moves over
21 waste and then comes out the exhaust shaft.
22 So if anything's going to be released from

1 WIPP it's going to be in the air exhaust. And
2 so the primary site, the most important
3 monitoring site is the air leaving the
4 repository. So this is Station A. And we had
5 different probes that constantly monitor the
6 air coming out of the site. We go out and
7 collect samples every day. Now, the
8 contractor does as well, you know, watching
9 two solutions, the state does as well and then
10 we do. So there's multiple monitoring going
11 on at the site. And this - just to throw out
12 some data, this is what happened. So WIPP
13 opened here, red is prior to operation.
14 Essentially this is gross alpha. So this is
15 the total alpha activity which is mainly
16 naturally occurring radioactive materials like
17 uranium, thorium, stuff in this podium here,
18 stuff in the floor, stuff in the walls.
19 Again, there's radioactivity everywhere, it's
20 no big deal, it's very low but nothing has
21 changed. In fact, it kind of went down a
22 little bit in the first years of operation

1 mainly by dilution of salt dust because the
2 Salado salt itself has nothing in it. It's
3 very pure, it's pure salt and it has no -
4 almost no radioactive material in it.

5 Now, because this is mixed waste
6 we also look at RCRA constituents such as
7 lead, uranium, thorium, cadmium, and again,
8 this is pre-operational phase, this is
9 operational phase. Nothing has happened.
10 Now, it's interesting, you can see a little
11 bit of - let me back up here - you do see a
12 little bit of seasonal variation in terms of
13 big dust storms tend to throw a lot of dust
14 around and that dust has global fallout, bomb
15 fallout from aboveground nuclear tests in the
16 '50s. So every time we have a huge dust storm
17 you see a little peak in alpha activity, a
18 little peak in plutonium, a little peak in
19 everything because it's just blowing around
20 the earth, has been for 50 years, will be for
21 the next 10,000.

22 We also have onsite, near-offsite

1 and very far offsite air monitoring
2 facilities. So we actually monitor the air,
3 we collect dust, you know, continuously
4 blowing through it. So we have onsite,
5 offsite and way offsite. And again, this is
6 plutonium. It's plutonium, it's no big deal,
7 it's blowing around, it's very, very low.
8 Notice this is background per meter cubed of
9 air, so it's one disintegration, one atom
10 disintegrating per meter cubed of air moving
11 through the filter or moving in and out of
12 your lungs. So it takes, you know, 100
13 million seconds to see one atom
14 disintegrating. So these are very, very low
15 levels and no one ever gets to this level.
16 And again you see slight seasonal variations,
17 dust storms occur. And again, onsite, offsite
18 and way offsite, and basically the offsite
19 shows more bomb fallout, more radioactivity
20 than onsite which is ironic.

21 Now again, these - we also monitor
22 aluminum which is a proxy for dust, so

1 plutonium always tracks with aluminum as does
2 americium-241. So this is simply dust. I
3 keep saying that over and over. This is dust
4 blowing around. Now, you can do nuclear
5 forensics, it's kind of difficult because it's
6 hard to get enough plutonium to do that, but
7 essentially, depending upon the neutronics of
8 the situation - so you have plutonium being
9 formed during various nuclear reactions, but
10 you can tell the different ratios of the
11 different isotopes and whether or not it's
12 been through a detonation, whether it's bomb-
13 related or it's reactor-related because
14 reactor fuel has never been through a
15 detonation. WIPP waste has never been through
16 a detonation. So again, if you look at the
17 nuclear forensics - I don't want to dwell on
18 this - both in soil and in dust particles,
19 aerosols that you've been collecting,
20 everything looks like fallout or there also
21 was a 1960s Plowshares underground nuclear
22 test nearby, about 10 miles away, and again,

1 it was a low-yield atomic device as opposed to
2 a high-yield aboveground thermonuclear device
3 that most of the fallout is from. But again,
4 these have all been through detonations.
5 There's no WIPP waste signature here, okay?
6 So the bottom line is from the perspective of
7 zero, okay, everyone jokes that we measure
8 zero really, really well. So yes, from a
9 perspective of a radiological effect we cannot
10 see if you work at WIPP. There's no effect.
11 You can't see if you live near WIPP and you
12 can't see that WIPP even exists. There's no
13 signature to WIPP. Now, we can see of course
14 if you smoke, okay, so you always have a
15 little hotness if you smoke. We can see if
16 you live near Chernobyl. I hired someone who
17 was in the vicinity. There's a nice little
18 Chernobyl peak. You never see anything so
19 it's very interesting. Again, it's very low.
20 China tends to dump a lot of junk on us during
21 big dust storms on us, we see that, and we see
22 if you have big muscles because you have a lot

1 of potassium-40. We can see these signatures
2 which are very low, very unimportant, but we
3 can't see that WIPP exists. So from an
4 operational standpoint we're not willy-nilly
5 breaching drums and throwing stuff around.
6 We're doing this safely. So environmental
7 monitoring really is an operational issue as
8 opposed to a performance issue where the 250
9 million-year-old crytographically trapped sea
10 water is your performance indicator, how well
11 it's going to act, but environmental
12 monitoring is an operational indicator. Thank
13 you.

14 CHAIR SCOWCROFT: Thank you very
15 much.

16 (Applause)

17 CHAIR SCOWCROFT: Mr. Dave Martin.

18 SEC. MARTIN: Mr. Chairman,
19 members of the Blue Ribbon Commission,
20 distinguished guests and fellow citizens, I
21 appreciate the opportunity to come before the
22 commission. My name is Dave Martin. I'm the

1 designee for the Secretary of the New Mexico
2 Environment Department. I've been in that
3 capacity a little over two weeks so I'm the
4 new kid on the block if you can consider
5 somebody my age a kid, but I met some of you
6 last evening, hope to meet more of you today.
7 Please recognize who I am and come up and say
8 hello and pass on whatever information you
9 have. Our objective here today is to give a
10 perspective from the Environment Department on
11 the WIPP project and like I say, I've been
12 here a little over 12 days. Fortunately we
13 have somebody that's worked on the WIPP
14 project for over 12 years so it's my pleasure
15 to announce James Bearzi who is our bureau
16 chief of the Hazardous Waste Bureau and Jim,
17 I'll let you make the presentation.

18 MR. BEARZI: Thank you, Mr.
19 Secretary. Mr. Chairman, distinguished
20 commissioners, members of the audience, good
21 morning, appreciate the invitation to provide
22 some remarks about WIPP's history and

1 specifically about some of the factors that
2 New Mexico believes led to a successful
3 opening of WIPP. As Secretary Martin said,
4 I've been with the Hazardous Waste Bureau for
5 12 years now and so I've been with WIPP,
6 paying attention to WIPP since its opening.
7 As the host state to the nation's only deep
8 geologic repository for the disposal of
9 nuclear waste New Mexico does have a unique
10 perspective on the siting, opening and
11 operation of a nuclear waste repository.
12 Perhaps then there are some lessons that can
13 be learned from New Mexico's experience with
14 the development and operation of the WIPP
15 site. We've heard three excellent
16 presentations on some of the science behind it
17 and so I'm not going to focus on that. It's
18 rather what are some of the other experiences
19 that perhaps we can learn that will be the
20 focus of my remarks.

21 We believe that at least some of
22 the factors that led to the successful opening

1 of WIPP include supportive local communities,
2 and you've heard many comments so far and
3 you'll hear many more about that, effective
4 outreach to community groups and the public,
5 and with that comes the primary factor of
6 public participation. Visibility and
7 transparency are crucial as well as
8 substantive involvement in the NEPA process.
9 Public confidence in a nuclear waste
10 repository is based on a range of issues but
11 foremost on sound science. Nevertheless,
12 natural resource use and availability, social
13 and economic factors, transportation safety,
14 road improvements, waste characterization and
15 cooperation from generating facility also play
16 significant roles. New Mexico believes that
17 economic development in the local community
18 and the state as a whole is also paramount.
19 Policymakers must seriously consider all of
20 these factors to reach anything that sounds
21 like consensus. Moreover, all of these issues
22 need to be addressed early on and

1 collaboratively by elected officials,
2 scientists, community leaders, regulators and
3 the public.

4 So then what are some of the
5 lessons learned from New Mexico's experience
6 that we think should be considered in future
7 repository siting efforts? Any effort should
8 involve seeking early involvement of all
9 potentially affected parties. There should be
10 an attempt to articulate a clear but flexible
11 mission for the facility at the outset to
12 guide any licensing or permitting phase. For
13 example, some of the key questions would be
14 will the facility accept civilian waste,
15 military waste or both? Will it accept high-
16 level waste, spent nuclear fuel or both? Will
17 all waste be accepted, or only some? Will
18 there be allowances for expansion into the
19 future? Another key factor is to maintain
20 openness and transparency throughout the
21 entire process with multiple public
22 participation opportunities. As you heard Dr.

1 Weart mention, you have to develop and
2 maintain trust and credibility. Seek
3 consensus early, seek consensus often,
4 recognize that you may not always achieve it,
5 and recognize the multifaceted nature of the
6 project, including technical, political,
7 social and economic factors. And reveal and
8 discuss scientific and technical problems
9 openly as they arise.

10 Secretary Martin will touch on
11 many of these same issues in his presentation
12 tomorrow in Albuquerque. To allow plenty of
13 time for questions I wish the commission well
14 as it deliberates this important issue and
15 look forward to questions on the panel later.
16 Thank you.

17 CHAIR SCOWCROFT: Thank you, Mr.
18 Bearzi.

19 (Applause)

20 CHAIR SCOWCROFT: Mr. Hancock?

21 MR. HANCOCK: Good morning
22 commissioners. Welcome again to New Mexico

1 and a lot of people will also want to welcome
2 you tomorrow at Albuquerque so I'm pleased
3 that you're going there as well. WIPP's
4 mission includes four essential elements:
5 start clean- stay clean to dispose of up to
6 175,564 cubic meters of transuranic waste.
7 You've heard a lot about the starting clean-
8 staying clean. The limit that you see there
9 is established by Congress including Senator
10 Domenici as a cosponsor of the WIPP Land
11 Withdrawal Act that set the number. Second,
12 safely transport transuranic waste through
13 more than 20 states without serious accidents
14 or releases. Third, to safely clean up
15 transuranic waste at the Department of Energy
16 sites, numerous sites around the country. And
17 fourth, to safely close, decontaminate and
18 decommission the site at some point in the
19 future currently scheduled to be around 2030
20 or perhaps before. WIPP's mission is not
21 storage/transportation/disposal of high-level
22 waste. WIPP's mission is not

1 storage/transportation/disposal of spent
2 nuclear fuel or any commercial waste. So how
3 do we judge the success? You've heard this
4 morning, you heard last night about the
5 success of WIPP. Well, we have four factors,
6 four parts of the WIPP mission that I've
7 talked about. Time doesn't allow me to go
8 into all of those things, but three issues
9 that I want to focus on some this morning are
10 repository design and use, the transuranic
11 waste inventory and the Department of Energy
12 and contractor performance.

13 You heard yesterday about Panel 1,
14 the first panel that was opened at WIPP. My
15 organization and a lot of other people had a
16 lot of concerns about the stability of that
17 panel because it was mined more than a decade
18 before waste was actually put in it. So a
19 number of us thought that it really wasn't
20 safe to use and fill up fully, and I'll come
21 back to that in a minute. The factual matter
22 to understand is less than 60 percent of the

1 capacity of Panel 1 was used. Another thing
2 that's happened as a result of that is now the
3 mining of additional panels is done much
4 closer to the time that it's anticipated waste
5 will be put in it. This is a very busy chart,
6 the commissioners hopefully have a printed
7 copy of that, but what it illustrates is the
8 permitted capacity of the panels and you've
9 heard four panels have been filled up. Others
10 are there. What's the permitted capacity
11 under the state hazardous waste permit of the
12 Environment Department and how much waste has
13 been put in. And what you see in the first
14 four panels that you visited about 81 percent
15 of the capacity was filled, about 19 percent
16 of the capacity was not filled, so
17 approximately 14,000 cubic meters of that
18 capacity that we talked about in the first
19 slide of the mission has not been used at the
20 WIPP site. That's for the contact-handled
21 waste. With remote-handled waste it is a
22 much, much, much larger percentage of the

1 capacity. Obviously the remote-handled waste
2 is a much smaller portion of the total
3 inventory coming to WIPP, but much of the
4 remote-handled waste capacity of WIPP has not
5 been used up to now.

6 Just to remind people of what you
7 saw yesterday and you've seen before, the four
8 panels that I just talked about that have been
9 filled. Panel 5 that most of us were in
10 yesterday that's being filled. Panel 6 that
11 comes next that's been mined, Panel 7, Panel
12 8. And I'm going to be mentioning a little
13 bit Panels 9 and 10, the area which I may or
14 may not be able to do to show, but the area in
15 the middle between the panels have been
16 designated as Panels 9 and 10. The reason I
17 mention those is we don't really know whether
18 Panels 9 and 10 as they were designed are
19 going to work. As recently as last week the
20 Department of Energy and its contractors
21 informed us that they're reconsidering whether
22 those panels would work, so that's one of the

1 ongoing issues that will be discussed through
2 public processes with DOE and its contractors,
3 the Environmental Protection Agency and the
4 state's hazardous waste permit. So those
5 panels may not be used, there's a question of
6 whether other panels might be needed which
7 brings me to the transuranic waste inventory.
8 What is this waste that we're bringing? As
9 you can see, this is waste from the Rocky
10 Flats plant in Colorado which is the source of
11 much of the transuranic waste coming to WIPP
12 and how it was originally dumped, as the word
13 shows, in Idaho. Well, here's another example
14 of how the federal government handled this
15 waste from Rocky Flats to Idaho and now some
16 of it is coming to WIPP. As a result of that
17 we had situations like this and like this. So
18 how do we know, given that history, how do we
19 really know what's in the transuranic waste
20 inventory? That, as I mentioned, has been one
21 of the continuing and frankly ongoing issues
22 that WIPP is still trying to deal with.

1 Currently - the Department of
2 Energy, currently the latest inventory they've
3 released, they're releasing it annually, the
4 latest inventory that DOE released last
5 November says the volume of contact-handled
6 transuranic waste that currently exists to be
7 put - that is in WIPP or to be put in WIPP is
8 about 140,000 cubic meters, remote-handled
9 waste about 5,400 cubic meters. Good news is
10 that's 146,000 cubic meters less than that
11 limit that Congress established. But one of
12 the things that's being found, particularly in
13 the last couple of years is a lot of the waste
14 that's been managed as transuranic waste at
15 the DOE sites around the country is turning
16 out not to be transuranic waste. Since it's
17 not transuranic waste it doesn't come to WIPP.
18 Perhaps Mr. Gadbury in the next panel will
19 talk more about this because he and I have
20 been having ongoing discussions to try to
21 figure out what's going on with waste that is
22 being characterized for WIPP that is found not

1 to be able to come to WIPP. From the
2 statistics I have so far from Mr. Gadbury it
3 looks like in the latest two full years,
4 Fiscal Year 2009 and 2010 about 27 percent of
5 the waste that was thought to be able to come
6 to WIPP has not come to WIPP. It's been
7 disposed - it's being disposed as low-level
8 waste at other sites.

9 A surprising problem occurred in
10 the underground at WIPP. We first found out
11 about it because of the requirement of the
12 hazardous waste permit that Mr. Martin and Mr.
13 Bearzi talked about which regulates hazardous
14 chemicals, and there are hazardous chemicals
15 in the waste coming to WIPP. So in July of
16 2009 for the first time as a result of the
17 permit there was a notification given by the
18 Department of Energy and its contractor to the
19 state saying we have hit the limit that
20 requires us to notify you of carbon
21 tetrachloride, a carcinogen that's in the
22 waste, known to be in the waste, but it's in

1 the air in this case more than 165 parts per
2 billion volume. That's very low levels, but
3 the permit requires notification if that
4 happens. So we got a notification. The state
5 got a notification so the public got a
6 notification in July of 2009. It turned out
7 that in further reflection it was found out
8 that the problems or the exceedances of carbon
9 tetrachloride actually did not start on July
10 1, 2009, which was the notification to the
11 state, it actually started more than six
12 months before, but they weren't detected for
13 that period of time. I could go into this a
14 lot more but the reason this has been an issue
15 of public concern is VOCs, carbon
16 tetrachloride have been known to be in that
17 inventory all along. After a decade the
18 monitoring provided incorrect erroneous
19 results for more than six months in the WIPP
20 underground air. The carbon tetrachloride
21 problem wasn't adequately addressed in my view
22 and ultimately it required significant

1 operational changes at WIPP and it shows the
2 importance of independent regulation.

3 I could go on but I'll skip
4 through the cost and schedule issues except to
5 point out that the Department of Energy in
6 2002 started a program to increase the money
7 going to WIPP. Congress did its part, it
8 provided more money than the Department of
9 Energy asked for so that WIPP could accelerate
10 the waste coming to WIPP, get it here faster,
11 but the performance management plan that went
12 with that said that 10,000 cubic meters of Los
13 Alamos, New Mexico, contact-handled waste
14 would be disposed at WIPP by September 30,
15 2010. That date's past so we know less than
16 half actually came to WIPP despite the
17 increased amount of money, 106 percent of the
18 money asked for by the Department of Energy
19 was funded by Congress. The results with LANL
20 have frankly not been good. That performance
21 management plan said virtually all the
22 contact-handled waste would be disposed at

1 WIPP by September 30, 2012. That won't
2 happen. More money was provided by Congress,
3 \$172 million, through the American Recovery
4 Reinvestment Act. Quickly, what I could talk
5 about more but what cost and schedule has
6 shown with WIPP, these are lessons that we
7 have learned, waste disposal costs more than
8 it's estimated to cost - keep that in mind for
9 the future. Waste disposal takes longer than
10 planned, even with extra funds for
11 acceleration, and capacity space at a facility
12 like WIPP can be lost and has been lost
13 because of trying to accelerate the schedules
14 rather than optimizing and placement. One of
15 the things that wasn't talked about yesterday
16 is some number of drums, at least more than
17 6,000 drums are disposed of at WIPP even
18 though they contain no waste.

19 So importantly for the commission
20 and its recommendation, there's another
21 important lesson. The past support - you've
22 heard a lot about the importance of community

1 support. The past support from Carlsbad has
2 also contributed to delaying WIPP mission
3 being accomplished and preventing an expanded
4 mission. Thirty years ago in 1981, informed
5 by the enthusiasm of local supporters and the
6 advice of DOE and its contractors, the Reagan
7 Administration decided to proceed with WIPP
8 and ignore technical constraints, oppose legal
9 requirements and dismiss the opinions of the
10 majority of New Mexicans. As a result, the
11 Department of Energy in 1981 announced that,
12 quote, "By approximately 1990 all existing
13 waste stored at Idaho" - I showed some of that
14 - "will have been removed to WIPP and the WIPP
15 facility will be in a position to receive and
16 dispose of transuranic waste from other
17 defense generating facilities. In addition,
18 WIPP will include an experimental facility for
19 conducting experiments on defense waste
20 including small volumes of defense high-level
21 waste" end quote. Thirty years that was the
22 plan. What happened instead was that a

1 significant portion of Idaho and Los Alamos
2 waste is still not here more than 20 years
3 late and that the experiments on high-level
4 waste did not happen. It would be too bad for
5 the nation and the current enthusiasm of local
6 supporters from Carlsbad for high-level waste
7 if that prevents some of what I believe the
8 Blue Ribbon Commission needs to recommend.
9 Three recommendations. Federal policy should
10 continue the prohibitions on high-level waste
11 and spent nuclear fuel on WIPP and New Mexico.
12 Second recommendation to the commission,
13 WIPP's operational and decommissioning phases
14 should be completed before other geologic
15 disposal sites are selected. We need to know
16 that WIPP accomplishes those four missions
17 before people will accept, in my view, other
18 repository sites. And thirdly, if the federal
19 government builds nuclear weapons for decades
20 into the future that's going to create more
21 waste, that's not part of that WIPP legacy,
22 the true legacy that WIPP is supposed to

1 address. So if the federal government is
2 going to do that in terms of more nuclear
3 weapons for decades into the future it needs
4 to have a new program for transuranic waste
5 and not expand the lifetime of WIPP to get in
6 the way of that fourth mission requirement of
7 WIPP. Thank you.

8 CHAIR SCOWCROFT: Thank you, Mr.
9 Hancock. Are there questions, comments from
10 the commissioners? Allison?

11 MEMBER MACFARLANE: Okay, thank
12 you very much. That was a very informative
13 set of talks. Let me start off with a couple
14 of questions and then if time permits after my
15 colleagues have a chance I'll jump back in
16 with some more detailed questions. Two main
17 questions and I'd like to start off with Mr.
18 Bearzi because you mentioned some of these
19 things to begin with to answer these questions
20 and then maybe Don and Jim and Wendell want to
21 jump in. First of all, you mentioned
22 consensus being important and I think we agree

1 that that's very important when you site a
2 repository, but I want to know what it means,
3 okay? I want to know what you mean by
4 consensus. And so maybe first of all you
5 could give me - somebody could give me a fact,
6 and that fact is what percentage of the local
7 population either in Carlsbad or in the county
8 support WIPP right now and in the past. So
9 that's Question A and then Question B is
10 what's the best role for the state in this
11 process, particularly in regulation, and what
12 should, in your view, should the state have
13 control over.

14 MR. BEARZI: We're on. The - I
15 don't know the percentage of the local
16 population however that's defined that's
17 supportive. Anecdotally it would appear to be
18 substantial and continuous for the last 12
19 years. Our experience through different
20 developments with the permit for example, you
21 know, every time we have a permitting action
22 we bring a lot of parties together and when we

1 start there's hardly anyone has any hope for
2 success. And I think back and I look at
3 former Senator Domenici on the Section 311
4 public law in 2005 and 2006 and we went into
5 a negotiation and there was only one person I
6 think in the country who felt that there was
7 a chance of success and that was me, and
8 actually had to convince the Department of
9 Energy headquarters to come to the table for
10 negotiations, and about two years later there
11 was success. And I think that if anybody had
12 looked at the beginning at the end result and
13 said I would never, I would never agree with
14 that. And so I think maybe consensus is - not
15 even maybe. Consensus is too strong a word.
16 It's more of informed consent, that you lay
17 out the alternatives and through the course of
18 discussion with everybody openly and providing
19 information and not hiding the ball, everybody
20 says okay, given the range of alternatives
21 this is the best alternative, or this is
22 something that everyone can live with, and

1 then you move forward and then you end up with
2 what is success. And I think that we got
3 there. We used the same model later with the
4 permit renewal and actually from the date that
5 the first application was sent in to permit
6 issuance was 19 months which is, as anyone
7 knows in a major federal permitting realm,
8 that's record speed. And the same parties
9 were there with many of the same issues and
10 still you reach an informed consent. So
11 consensus I think is too strong a word. Not
12 everybody likes everything, but they can live
13 with it and I think that's the best that can
14 be hoped for.

15 MEMBER MACFARLANE: Okay, all
16 right. So the second question was about what
17 in your view, you know, WIPP aside, what do
18 you think is the best role for the state to
19 have in how much oversight, regulation, you
20 know, however you want to describe it. What
21 control should the state have over a
22 repository?

1 MR. BEARZI: I'm not really in a
2 position to answer, you know, what our
3 regulatory role should be, but I can tell you
4 that the state provides a very important role
5 because it was the state that facilitated all
6 of those discussions. There was the
7 Department of Energy that had a certain
8 position, there was certainly congressional
9 intent that everybody was trying to tease out,
10 there were advocacy groups like Don's that
11 were at the table, and there were many
12 observers as well including our congressional
13 delegation, the attorney general's office and
14 I think - and the state was the facilitator of
15 bringing all those parties together, including
16 advocating the state's interest as well. So
17 whatever role the state ends up having, what
18 a state would have, it would have to be one
19 that results in being recognized as the leader
20 in bringing the parties together for licensing
21 or for certification, at least that which is
22 vested by Congress and in this case it was for

1 the RCRA piece. I think the state played a
2 key role and possibly such a success could not
3 have been achieved without the state.

4 MEMBER MACFARLANE: Maybe some of
5 the others of you have comments on that last
6 question? Or the first question.

7 MR. HANCOCK: Well, of course I
8 have comments to make.

9 MEMBER MACFARLANE: What a
10 surprise.

11 (Laughter)

12 MR. HANCOCK: A couple of things I
13 think are important to keep in mind. On your
14 first question of what public opinion is, I
15 don't live in Carlsbad, I haven't seen recent
16 public opinion polls so I have no way
17 scientifically to judge about that. Clearly
18 as you saw last night and see today there are
19 lots of people in Carlsbad who are willing to
20 come and have been willing to come to lots of
21 meetings and hearings over the years to say
22 they support WIPP. So that's clearly factual.

1 The - however, when you look at the history of
2 WIPP in other parts of the state the public
3 opinion polls show strongly that the large
4 majority of people in the state oppose high-
5 level waste, they opposed high-level waste in
6 1981 and decisions were made to try to
7 overcome that which didn't succeed. All the
8 public opinion polling and the meetings that
9 have been held for more than 30 years have
10 shown that's still the case in the state so
11 regardless of support of a local community,
12 when you have majority of population in a
13 state opposing, the decisions that were made
14 in 1981 as I pointed out, you know, weren't
15 accomplished. Laws had to be changed to
16 provide for state legal authority which wasn't
17 going to be - wasn't recognized in 1981 to go
18 forward. And then Attorney General Jeff
19 Bingaman, now senator, in fact he was elected
20 - in 1981 he sued to prevent WIPP going
21 forward, that 1981 decision from going
22 forward. The attorney general of the state

1 sued to block that from happening, to
2 recognize a role from the state. And first a
3 consultation and cooperation agreement and
4 later the legal work that ended up having
5 state authority, the RCRA permit. So in 1981
6 he sued and in 1982 he won statewide election
7 for U.S. senator over an incumbent U.S.
8 senator, Harrison Schmitt, despite - or I
9 would argue in part because of his position
10 and his actions related to WIPP that certainly
11 showed statewide support for that. So that's
12 a very important issue that you need to keep
13 in mind. The state's role is very important.
14 State regulation for the kinds of things that
15 Mr. Bearzi mentioned in terms of representing
16 the fact that the federal government and its
17 contractors on a federal repository are going
18 to have a point of view, are going to have
19 cost and schedules to meet whether they can
20 meet them well or not, are going to have
21 regulatory requirements to meet. The state's
22 interests need to be protected. The citizens

1 of any state, Nevada, New Mexico, other states
2 have argued, Utah in the case of the licensed
3 centralized interim storage facility in Utah
4 that was licensed, still not been allowed to
5 operate because of opposition from people in
6 the state there. I think it's clear that
7 that's a very important role.

8 It's very important also to
9 recognize the role of the public. My
10 organization and numerous other organizations
11 in this state have spent a lot of time and
12 effort to promote the safety of this facility.
13 The reason that some of the things are in the
14 permit that are in the permit is because of
15 scientific and public views that were
16 different than the Department of Energy and
17 its contractors. To their credit in numerous
18 cases, as Mr. Bearzi pointed out, after very
19 long hours and discussions we have come to
20 agreements so that issues that were very
21 contentious to the public have become much
22 more acceptable because of specific provisions

1 that have been put into the state's permit.
2 In my longer written statement - two
3 statements that hopefully the commissioners
4 will look at. I pointed out some other
5 specific examples of that sort of thing. One
6 of the other things, lessons has been learned
7 that I want to congratulate the Department of
8 Energy and its contractors as well as the
9 state and the Environmental Protection Agency,
10 we've brought about some very innovative
11 public participation processes for WIPP that
12 involve not just the local citizens, but also
13 people from a much broader geographic area
14 around the state. I think that's helped in
15 two ways. It's helped to inform and involve
16 people about what's going on and when there
17 are proposals for changes in the WIPP mission
18 they get discussed. Frankly at this point as
19 I alluded to today there are some significant
20 changes in design operation issues at WIPP
21 that are going to have to be addressed going
22 forward. Those give us some possibilities to

1 have discussions, to have debates even before
2 any kind of regulatory decisions are made.

3 MEMBER MACFARLANE: Great, that's
4 very helpful. I don't know if anybody else
5 wants to?

6 MR. CONCA: It's funny, talk about
7 consensus. The favorability rating is better.
8 It's how you turn the questions of course that
9 you get these numbers.

10 MEMBER MACFARLANE: Of course.

11 MR. CONCA: And the ones I saw in
12 the '70s and '80s was somewhere between 60 and
13 70 percent in the community, in the region.
14 In the last year the numbers are 95 and 96
15 percent. So the favorability rating is quite
16 high. But it's interesting to - when you talk
17 about society and how well it handles these
18 kind of major issues, nuclear waste is the
19 ultimate test of how well a society deals with
20 issues because it is about as cross-
21 paradigmatic as you can get. It involves law,
22 it involves science, it involves social, it

1 involves economics and it involves every
2 aspect of society to deal with something like
3 nuclear waste. And it's interesting to note
4 that the loss of capacity that Don talked
5 about is attested with how well the science
6 worked and how well the repository works
7 because legally, bureaucratically you delayed
8 opening of the repository for up to 19 years
9 and the salt was still doing what it was
10 supposed to, it was closing. The whole point
11 of putting it in the salt is that it's
12 plastic, it creeps closed, and it creeps
13 closed fairly fast. So if you hold it up for
14 19 years the loss of capacity simply attests
15 that it's actually working the way it's
16 supposed to. It's supposed to close. You're
17 not supposed to wait 20 years before you put
18 something into a panel. The whole reason you
19 wait to cut panels out, you wait till the
20 previous one is almost filled. Then you cut
21 the next one because you don't want it to
22 close before you get waste into it. So it's

1 actually a very nice test of whether or not
2 this repository worked as planned is that it
3 actually closed while you held it up in
4 bureaucracy and legal challenges. So again,
5 there's the scientific issues and then there's
6 the social issues and they're very different,
7 very complex and humans are very interesting
8 in the way they deal with these things.

9 MEMBER MACFARLANE: Wendell?

10 MR. WEART: Just a couple of very
11 brief comments because we discussed this issue
12 quite lengthy. On consensus, if you're going
13 to be developing a process, not selecting a
14 site, but developing a process consensus is
15 not going to be easy to obtain at the
16 beginning of a site selection process. You
17 take a poll of people where the question is
18 we're considering bringing dangerous
19 radioactivity waste into your site. Are you
20 for it or against it? Well, that question
21 alone is not going to get a very favorable
22 response so you need to think carefully about

1 at what stage you ask for this opinion of the
2 public and the community. Perhaps you need to
3 - at the time you ask them you need to tell
4 them about the benefits that might accrue from
5 this, tangible benefits, jobs, ancillary
6 programs that will increase employment, things
7 that mean a great deal to the community and to
8 the state. So I think you have to consider
9 that in whether or not you need consensus at
10 the beginning.

11 As to the problem of state
12 regulation, dual regulation, not talking about
13 WIPP now, I'm talking about the future, I
14 think dual regulation is to be avoided if at
15 all possible. First of all, you've got NRC.
16 You don't have readily dispersable RCRA
17 constituents in high-level waste and I think
18 if you can isolate the radioactive
19 constituents you've taken care of the problem.
20 And so I would avoid dual regulation which can
21 greatly increase the time to get to a
22 resolution. That's all I wish to say.

1 CHAIR SCOWCROFT: Thank you very
2 much. I think, you know, this question, this
3 issue is maybe at the heart of some of the
4 dilemmas. We talk about consensus, informed
5 consent, societal issues, but you have
6 expanding circles of interest from the site to
7 the local community to the county to the state
8 to the region and to the American society as
9 a whole, or maybe the world society. At what
10 point do you draw the lines around informed
11 consent? Who's informed consent? Because the
12 interests of the various consenters is very
13 different as you go from the site out in terms
14 of their knowledge of it and so on. So it's
15 a very important issue for us.

16 MR. HANCOCK: Mr. Chairman, I
17 totally agree with you, it's a very important
18 issue. One of the realities though that you
19 all are facing is the world's a little
20 different, and I want to reemphasize the
21 second recommendation that I gave. One of the
22 real ways to establish or not that the federal

1 government and its contractors can have a
2 mission for geologic disposal and carry it out
3 to completion, four aspects that I laid out
4 there was to show that it can be done. Right
5 now you can show the public and New Mexico and
6 around the country and around the world that
7 WIPP was able to be open for transuranic waste
8 for 12 years, and there haven't been
9 accidents, releases at the site or in
10 transportation. That's a great record. We
11 have other examples as recently as last year
12 in the Gulf of Mexico where things that we've
13 done for a very long time, in this case the
14 companies, oil companies, rather than the
15 federal government thought they knew how to
16 drill for oil in the Gulf - in deep water, the
17 Gulf of Mexico in this case, and despite those
18 efforts and the years of experience and all
19 the money involved in it there was a problem.
20 That's why we need to take WIPP to its
21 completion, see if it can do its job, if it
22 can do its mission, opening, the operating,

1 the safe transportation, the cleaning up of
2 DOE sites because promises have been made,
3 legal commitments have been made, state
4 regulation have been made to people of New
5 Mexico and other states with this waste that's
6 supposed to come to WIPP that haven't been
7 complied with yet. Why should those people
8 believe? You need to do that. You need to
9 show also - this was mentioned by Dr. Hanson
10 yesterday - that yes, you can close the
11 facility up so it's safe so people know, okay,
12 we can be next because it can be done, federal
13 government and its contractors have shown that
14 they can do it, the community has shown that
15 it has long-term support. All of these DOE
16 sites that we've talked about, Rocky Flats had
17 community support in the '50s when it was
18 founded and it lost that community support
19 because of contamination from that site.

20 CHAIR SCOWCROFT: Per.

21 MEMBER PETERSON: Thank you, I
22 have two questions I'd like to pose to the

1 panel. The first is a technical question that
2 relates to things that one needs to do, that
3 would be valuable to do in preliminary site
4 characterization so that one can make an
5 informed decision about whether to proceed to
6 do detailed site characterization in select
7 sites. And this is the role of the drilling
8 of boreholes to gain information about what
9 the subsurface conditions are. And at least
10 my understanding is that you learn a lot from
11 drilling boreholes, and that it's better to do
12 it earlier than later so that you would want
13 to assure that when you're doing preliminary
14 site characterization the capacity to drill
15 boreholes as a part of the activity would be
16 an important thing to make sure that you can
17 do. Would that be correct and maybe to
18 discuss a little bit what you learn from
19 having boreholes versus the other types of
20 geophysical investigation that you can do from
21 the surface without boreholes?

22 MR. WEART: I can speak to that.

1 Is this on? This is a question that all of us
2 who've worked in the early stages of
3 repository siting have had to address and it
4 I believe depends a great deal on what
5 particular type of sites you're considering.
6 Some sites are more dependably characterized
7 by only a minimum of underground exploration,
8 others may require a great deal. Salt, bedded
9 salt is continuous over great areas and so a
10 few boreholes may characterize that salt very
11 well. Hydrology on the other hand as you
12 heard this morning may require a large number
13 of boreholes. And granite because of its
14 unique characteristics, fractures, may be very
15 important in controlling what goes on. It may
16 be that you can never drill enough boreholes
17 to make sure you've discovered every fracture,
18 but perhaps you can use advanced geophysical
19 methods. So I think you have to look at it
20 from the standpoint of a site. The question
21 whether you can ever qualify a site without
22 some underground information I don't believe

1 you can. I think you always have to go
2 underground to some degree in order to be
3 certain that the site is what you expect.
4 Even in salt, not every salt is the same and
5 we found for instance when we got underground
6 in WIPP the creep rate was a factor of three
7 greater than we had expected based on
8 information from the potash mines, from
9 underground studies in salt domes. And so
10 each site is individual and you have to look
11 at its unique characteristics before you
12 decide that you have done enough. The fact
13 that you have done a job good enough to
14 initially characterize a site for further
15 exploration doesn't mean that you won't get
16 surprised later and that detailed studies
17 won't find things that you might not have
18 anticipated. We certainly found that in WIPP,
19 but I think if you select a very robust site
20 to begin with you can accommodate these few
21 surprises that may come up.

22 CHAIR SCOWCROFT: Thank you.

1 Vicky?

2 MR. POWERS: I'd like to - I'd
3 like to respond a little bit as well, echoing
4 the comments that Dr. Weart made. I've drawn
5 and shown an illustration at times to people
6 and I have jokingly called it Powers' Law of
7 Confidence in a Repository Site. And
8 basically when you make that initial site
9 selection you can count on it having high
10 confidence in it or you wouldn't have selected
11 it. Whatever you know about it, how little or
12 how much you know about it you'll have great
13 confidence in it. And in general I think you
14 can expect when you get into the details of it
15 that that confidence is going to drop a little
16 bit because the first thing you're going to
17 look for are all the bad characteristics you
18 think might exist, and you're going to look at
19 them in more detail with that preliminary site
20 characterization, whatever stage you call it.
21 And so the question is whether that site is
22 going to survive that down-drop in the curve

1 and come back in its confidence curve. We
2 need to have the performance assessment - I'm
3 sorry, the performance criteria to determine
4 whether it meets it or not. And one of the
5 early things that we kind of did at WIPP would
6 be called the fatal flaw, and I don't like
7 that approach. It was what we knew to do kind
8 of at the time. Is there some feature that's
9 really so bad we have to just leave the site?
10 And there was one in particular we spent a lot
11 of time and money trying to find out about.
12 It turns out that the characteristics of those
13 things are - hydraulic characteristics are
14 such that I don't think they would have been
15 a problem had there been one at the site.
16 Fortunately there was none and we were able to
17 go on without facing up to that problem. But
18 this, how you decide what an acceptable site
19 or suite of sites might be to further
20 investigate is - it really is dependent on the
21 site that you start with and what you know.
22 Here we had this massive regional database

1 that gave us a great deal of confidence before
2 we got there.

3 MEMBER PETERSON: Thank you. My
4 next question relates to how one should
5 approach the problem of waste classification.
6 Now, there's - in the United States we
7 classify waste mainly based on the source of
8 origin, military versus civilian, chemical
9 versus radioactive, and so on. We don't
10 classify waste in general based on hazard.
11 Now, the upshot of that in the end is that we
12 treat different wastes differently and some
13 waste will be disposed of in ways which
14 perhaps is not as safe as one would achieve if
15 you were to use a hazard-based classification,
16 an example being that in Europe for example
17 hazardous chemicals, things that remain
18 permanently hazardous like heavy metals are
19 generally disposed of in geologic disposal.
20 Germany places hazardous heavy metals into
21 deep geologic disposal, in salt for example,
22 and in the United States our practice is that

1 we place it in the shallow land disposal which
2 essentially guarantees that over the time that
3 it remains hazardous it will get back out into
4 the biosphere and probably cause some harm to
5 the public. Now, on the other hand the
6 source-based approach provides a point of
7 leverage for local communities and states to
8 control what's being done in disposal
9 practice. So you have this question of what's
10 the best approach societally in terms of waste
11 classification and something that our
12 commission has to grapple with. The specific
13 one actually, and the question is for Don,
14 apparently some of the defense waste that
15 might have come to WIPP turned out can't be
16 classified as being transuranic waste and
17 therefore being treated as low-level waste and
18 being sent therefore to DOE shallow land
19 disposal facility instead of being placed into
20 a geologic repository where the isolation
21 would be better. I guess my question is is
22 that really a great thing to be doing because

1 of the fact that it doesn't fit into a source
2 bin, send it to a place where the long-term
3 isolation will not be as good and therefore
4 the level of safety is being reduced as a
5 consequence of making that decision.

6 MR. HANCOCK: You don't really
7 want to hear me lecture for an hour about
8 those very important questions.

9 (Laughter)

10 MR. HANCOCK: So let me TRACE to
11 give three quick things. I'm certainly
12 delighted to have continuing discussions with
13 the commissioners or staff about them. The
14 waste classification issue is extremely
15 important, and if the commission is going to
16 take on that knotty issue in terms of your
17 recommendations I would encourage you to think
18 very strongly about that will change 50-60
19 years of activity in this country. If you're
20 going to change 50 or 60 years of activity in
21 this country, how things are classified, how
22 they're regulated, how they're considered,

1 that it's going to take some time to do that.
2 And if you're going to take on that issue, and
3 I and other people have recommended in the
4 past to groups to do that, if you're going to
5 take that on you're going to need to give it
6 time. So that's the first point. Goes back
7 to my second recommendation about time that
8 you need to give for some things.

9 Second point with waste
10 classification is since you are in New Mexico
11 where 40 percent of all the uranium mined in
12 the United States for nuclear weapons and
13 nuclear power has come from you need to look
14 at how the hazard of those wastes are not
15 being handled. And as we speak today there
16 are people sick and dying in New Mexico
17 because those uranium wastes have not been
18 cleaned up and that's unacceptable. And
19 frankly, part of why New Mexicans in some
20 other parts of this state have a very
21 different perspective on the nuclear
22 enterprise than folks down here are is because

1 of sick and dying people. If the commission
2 would like to spend a day in Church Rock, New
3 Mexico, for example there are lots of people
4 there who would be delighted to talk to you
5 about the continuing problems they have and
6 how the fact that uranium mill tailings -
7 uranium mine tailings are classified in a way
8 as if they're not hazardous where they're
9 still killing people, that's part of that
10 waste classification issue that you also need
11 to look at. So I don't want you to back away
12 from that, but if you're going to take it on,
13 if you're going to recommend that the NRC or
14 whoever, the National Academy of Sciences,
15 takes on that task, you've got to also
16 recommend that it's going to take time and
17 effort and money because there are lots of the
18 industry, there are lots of the Department of
19 Energy, there is the nuclear power industry,
20 there are the uranium folks and there are
21 people around the country that have a very
22 important vested interest in what happens with

1 that. And if you're going to do that you
2 better also be saying and until we figure that
3 out we need to handle waste better where it is
4 which goes to your third point. I spent a lot
5 of time working with folks around those other
6 Department of Energy sites. Susan Gordon who
7 you'll hear from tomorrow in Albuquerque is
8 the director of Alliance for Nuclear
9 Accountability that works with more than 30
10 community groups from around the country
11 around those sites, and one of the things
12 you'll hear is people from those sites - go to
13 Fernald, Ohio, for a classic example of it -
14 have said yes, it's not the best solution
15 necessarily to leave it where it is but it's
16 also not the best solution to take it off
17 someplace else that may not be a better
18 solution. And the folks at Fernald have made
19 the very hard choice of saying we're going to
20 keep a lot of the waste that we have rather
21 than shipping it to Texas or New Mexico to
22 dispose of it, but we want to ensure that it's

1 going to be disposed at our site, it's going
2 to stay there for a long time, forever, at the
3 Fernald, Ohio site above the Great Miami
4 aquifer, a major water supply for a lot of
5 people in the Cincinnati area, but it's got to
6 - the decision to do that had to be made with
7 feds, state, local people, and they were
8 involved in the design of the facility that
9 was going to handle that waste that they knew
10 was going to be there in their backyard
11 forever. So that's another example. If you
12 want to look at examples of how to deal with
13 different kinds of waste at DOE facilities, go
14 to Fernald.

15 MEMBER DOMENICI: Mr. Chairman,
16 I'd just like to comment if you don't mind.
17 Who asked the last question, was it yours?

18 MEMBER PETERSON: Yes, I did.

19 MEMBER DOMENICI: I regret that I
20 have to do this, but I'll just try to take two
21 minutes. I really get kind of tired of
22 hearing Mr. Hancock who I assume has a

1 reputation of some significance as a
2 scientist, but I really regret that whenever -
3 when we're having a hearing of the type we're
4 having, when we're talking about a willingness
5 on the part of Congress and the President of
6 the United States to spend literally billions
7 of dollars cleaning up waste, and when we're
8 talking about the tail end of the fuel cycle
9 and how much we are going to improve it, to
10 have somebody impose on us a long sermon about
11 how we have sites in the United States that
12 haven't been cleaned up, how are they ever
13 going to get cleaned up if we don't finish
14 WIPP kind of projects? Where are you going to
15 put the waste? You have to do something
16 before you can solve his problems and he
17 doesn't want to solve the problems the way we
18 do so he wants to bring up before us how bad
19 things are where he's over there holding up
20 things. Why do you think we're behind
21 schedule on some of the proposals we're
22 talking about - that he's talking about here

1 this morning? Why do you think that? Because
2 he and his people delayed it. Of course when
3 it's delayed you don't get it done so you come
4 here and say they're not doing their job.
5 Well who was it that caused them not to do
6 their job? I bet on some of them he did. Now
7 he'll come back here if you let him, go on all
8 night telling you how he was doing it in a
9 wonderful way that was terrifically good for
10 the American people, that's why he was
11 delaying it. But he isn't even willing to
12 admit that before him here we have a site for
13 low-level transuranic defense waste that is
14 absolutely one of the most significant
15 projects man has ever built, in all respects
16 defies those people who say you can't do this
17 by actually doing it, and doing it in such a
18 way that countries are coming here quietly and
19 borrowing what we're doing so they can do it
20 themselves. We have Germany wanting to borrow
21 what we're doing at WIPP and my friend Mr.
22 Hancock talking about how many people are not

1 yet cleared of all kinds of problems at
2 Fernald and other places so he can get out
3 into the public this notion of a relationship
4 of radioactivity to people getting sick. Well
5 we're trying to make it so they won't get sick
6 and yet we have that permeate when the
7 American people had made up their mind in the
8 last three or four years - some might be very
9 angry about it - that they want us to move
10 ahead in nuclear power. They have changed
11 their mind and I would bet in terms of
12 disposal if you could tell them what we have
13 here and what we're spending our money to do
14 the American people would overwhelmingly
15 support it. There's just no way that we ought
16 to be arguing any longer about ability to have
17 permanent underground disposal of waste, high-
18 level, military, civilian or otherwise,
19 because we can do it and WIPP proves that it
20 can be done in a very, very special way.
21 Excuse me for using so much time. I promise
22 I won't ask any more questions, maybe for an

1 hour or so.

2 (Applause)

3 MEMBER PETERSON: I think Jim
4 Conca also had a response to my question, so
5 I'd appreciate that.

6 MR. CONCA: It's very interesting
7 that you should talk about this arbitrary
8 categorization of different waste streams and
9 their effect. That's why you like to think of
10 geology. I mean think of a deep geologic
11 repository, even shallow geologic repository,
12 it's about the geology. I mean, you try to
13 take advantage of something Mother Nature's
14 already engineered for you so you don't have
15 to reinvent the wheel, and if you pick a
16 geologic formation that is robust enough so
17 the waste type form anything, you know,
18 characteristics, hazard makes no difference to
19 the performance of that repository. That's
20 the best thing. So the whole idea is you've
21 made a bureaucratic conundrum sort of that
22 makes it difficult to figure out what to do

1 with different waste streams, but if you have
2 sufficient geologic formations in the country
3 that can minimize that so the effect is not
4 important, it doesn't matter what you put in
5 there, that the performance is independent of
6 the waste, independent of the hazard,
7 independent even of the form, then you've
8 eliminated a whole bunch of issues that you
9 would ordinarily have to deal with. So that's
10 the whole point of having a deep geologic
11 repository.

12 MEMBER PETERSON: Right, and also
13 the special characteristic is the fact that
14 the geologic media creates the principal
15 barrier and you don't need an expensive
16 engineered barrier system on top of the
17 geology to provide effective isolation which
18 in turn makes it affordable and does in some
19 sense open the possibility of placing into
20 geologic disposal materials today that we
21 routinely put into shallow land disposal which
22 will over the time scales that we're talking

1 about for radioactive waste likely cause
2 future harm. So salt actually is a very
3 special media from the perspective of how it
4 provides isolation, and I think it does -
5 these sorts of capabilities do place us -
6 create the ability to in the end deal more
7 holistically with the hazards of both chemical
8 and radioactive materials and perhaps dispose
9 of things in a more appropriate way than we
10 have in the past. But a part of that is to
11 look at things from the perspective of what
12 are the hazards, not what the source of origin
13 is. It's a tough - that is a big change and
14 it's a difficult thing to do, but in the end
15 it's probably the right thing to do.

16 CHAIR SCOWCROFT: Vicky.

17 MEMBER BAILEY: Thank you. This
18 has been extremely helpful, this panel, as it
19 relates to giving us this background and
20 history. It's been helpful to me. I was
21 extremely impressed by the tour yesterday and
22 I've been impressed by the community

1 involvement. I want to explore just really
2 one area, and I don't want it to take very
3 long, but Dr. Weart and the governor and
4 others, Dr. Weart in your materials that you
5 gave us you said the public must clearly
6 perceive that site selection and
7 characterization is science-based and not a
8 political process. And I'm hearing this over
9 and over here, you know, science-based. Mr.
10 Hancock, I'm not sure if you have issues with
11 the science per se or are there science
12 issues. I may need some clarification from
13 you on that. I want to make sure I hear what
14 you want me to hear. And then I - or is it a
15 capacity issue as it relates to accepting more
16 waste. I want to make sure I understand that.

17 Also, Dr. Powers, as you noted we
18 have our own resident geologist and - but I
19 want to understand what you mean by you would
20 have wanted a more robust performance I guess
21 it was assessment or acceptance of the culebra
22 area. So I want to explore those areas and

1 others can contribute as well from the
2 standpoint of monitoring. I might not be able
3 to lie down and take that - it sounds lovely,
4 but I may not be able to do that, but you
5 know, to the extent that there is a perception
6 that all of this is in the air and as Mr.
7 Hancock has pointed out, people are - they get
8 sick, they have issues, you know, so there's
9 not a natural acceptance that maybe what
10 you're doing is allaying the fears that there
11 actually are issues. So you know, this issue
12 of you know basing decisions - and we're not
13 a site selection, but you know, Senator
14 Domenici, he has an incredible legacy here,
15 but I also hear from him in his opening
16 remarks and in everything he says he is the
17 future as well. He talks about the future.
18 And I'm excited about the fact that the
19 atmosphere I hear here is a sense of
20 acceptance, an atmosphere of openness and
21 transparency and you want to move forward.
22 You know, I hear that, so that excites me,

1 that's engaging to me. But then I hear this
2 issue of science and people use that either I
3 want the science to prove that this isn't a
4 proper area, or I want the science to prove
5 that it is. So you know, we can use it either
6 way. So I give all of my questions and
7 thoughts to you at once so go for it.

8 MR. CONCA: I have to say, these
9 decisions are never based on science, ever,
10 ever.

11 MEMBER BAILEY: Well, I wanted to
12 - you know, we'll get there because there are
13 a lot of issues I have to consider other than
14 the science, I promise you.

15 MR. CONCA: Science is a necessary
16 but insufficient criteria for anything. The
17 science has to be right, true, that's fine,
18 but society - much more complex issues. I
19 mean, science is easy compared to sociology,
20 easy compared to the law, so maybe that's why
21 I'm not a lawyer. So but these decisions are
22 not based on science. You have to have an

1 underlying fundamental understanding of the
2 science, but the decisions are going to be
3 sociological, always and essentially there are
4 going to be costs. There's nothing like a
5 global economic meltdown to get us rethinking
6 cost. So you know, again, and that's why this
7 panel is very nice. In fact, a lot of my
8 colleagues say well, why don't you have 15
9 Ph.D.'s and I say well, no one will listen to
10 them.

11 (Laughter)

12 MR. CONCA: So you have to have
13 the right mix, the correct mix of science,
14 law, politics, economics and the whole gamut
15 of human society. That's what you need to
16 make these decisions and that's why this is so
17 important and so complex.

18 MR. BEARZI: If I may add
19 something as well. I agree with Dr. Conca, it
20 isn't always about science, but what it is
21 about is risk and risk perception, and a
22 simple model of risk is consequence times

1 probability. What is the consequence if
2 something goes wrong and then what is the
3 probability that something goes wrong. These
4 gentlemen around the table are very well aware
5 of risk assessment, that's what we do all the
6 time and it just depends on your perception.
7 And so it can't be overstated how much getting
8 information out to everybody who might be
9 affected however they think might be affected,
10 sociologically, economically, environmentally,
11 physically, get information to them in a
12 transparent way so that people can make their
13 own risk decisions and then we reach a point
14 where people have enough information that says
15 yes, this is something that we can live with
16 as a society which is really for the greater
17 good. And you kind of subordinate those
18 individual aversions to even the most
19 infinitesimal risk to the larger risk of a
20 community. And so informing that can't be
21 overestimated.

22 MR. HANCOCK: I thought that a

1 number of issues I raised this morning were
2 science-based. The fact that scientific
3 engineering monitoring of the volatile organic
4 compounds at WIPP failed to detect levels of
5 carbon tetrachloride, that's a scientific
6 issue and an engineering issue. The fact that
7 the good scientists, the good engineers that
8 work on WIPP and have designed the repository
9 still have things that need to get fixed is a
10 scientific issue, things that are still not
11 resolved. What to do about Panel 9, that's a
12 scientific issue. What to do - so those are
13 clearly scientific issues. So the hard part
14 is science isn't just understanding what's
15 happened over the last 500 million years that
16 Dr. Powers talked about, that's essential.
17 But science is also about what's happening
18 during these operational phases of WIPP, the
19 decommissioning of WIPP, the what actually
20 happens long-term, those are scientific issues
21 as well that have to be addressed. And as
22 both Dr. Conca and Mr. Bearzi have said, the

1 science of people and how people respond is
2 unfortunately also part of the science.

3 MEMBER BAILEY: Mr. Hancock, when
4 you say you need the phases of WIPP, over what
5 time span are you talking? I mean, what are
6 you saying to me? You'd want me to wait how
7 long then?

8 MR. HANCOCK: I would recommend my
9 July 7, 2010 paper that I submitted to the
10 commission to go into that in more detail so
11 that I don't have to take all of your time
12 here. The time frame I'm talking about, the
13 mission that I talked about there on that
14 slide, the four things, are something that are
15 supposed to - that has been going on for the
16 last 50 years almost -

17 MEMBER BAILEY: So what are you
18 talking -

19 MR. HANCOCK: - 40-plus years to
20 2030 or whenever we get to decommissioning.
21 That's the time frame we're talking about.

22 MEMBER BAILEY: So you're talking

1 another 50 years then?

2 MR. HANCOCK: 2030 is 20 years or
3 less from now, but yes, that's the time frame
4 that I think people are interested in.

5 MEMBER BAILEY: Okay, Mr. Hancock,
6 you also - when you started you had three
7 areas. You had the transuranic waste
8 inventory issue, you also had I think
9 repository design, but you also said something
10 about contractors and I meant to ask you about
11 that. I didn't hear you fully go into that.
12 What was your issue with contractors?

13 MR. HANCOCK: They're essential
14 part - as you heard yesterday, the huge
15 majority of the people who we the taxpayers
16 pay to work at WIPP are contractors, they're
17 not federal employees of the Department of
18 Energy. They are essential to the safe
19 siting, the safe operation of any facility and
20 the people that work on WIPP are very
21 dedicated to making it a safe facility.
22 They're also dedicated, not so much the

1 workers as some of the management, to
2 accomplishing other things that are very
3 important, making a profit for their company.
4 And so the decision in 1981 for example to
5 proceed with WIPP was informed by as I tried
6 to say local enthusiasm of people in Carlsbad
7 and recommendations from DOE and its
8 contractors that yes, the Department of
9 Energy, we can get all of the waste. We know
10 enough about the science, we know enough about
11 the site, we can get all of the waste from
12 Idaho to WIPP by 1990.

13 MEMBER BAILEY: Okay, Mr. Powers,
14 can you talk to me a little bit about your
15 robust performance?

16 MR. POWERS: Yes. If I misstated,
17 what I meant to say was that I believe we have
18 a very strong general conceptual model of the
19 geology and the hydrology and how it works
20 together. It's a very robust conceptual model
21 and that leads to a very strong computational
22 model that allows us to understand what

1 possible fluid flow and transport might be in
2 the culebra. That's a primary pathway that in
3 any scenario that would have a release from
4 WIPP. And so it is very robust and my
5 comparison to the early first performance
6 assessment is that there's very little
7 difference in the outcome of the two different
8 models. What I do believe is that the current
9 model is a stronger model in the sense that we
10 have all the geology and all the hydrology
11 pulled together rather than having to use just
12 a statistical or geostatistical method in the
13 first place.

14 MEMBER BAILEY: And the ability
15 then to, as Commissioner Peterson was going
16 into, the fact that this natural - well, this
17 resource, the salt, the media of salt, its
18 ability to - if we were looking at high-level
19 waste. So in your mind and in what you're
20 talking about does that lead me to believe
21 that it would be able to contain?

22 MR. POWERS: Isolate it. Yes,

1 we're - again, that fundamental property, that
2 one that really starts us all off on salt is
3 its ability to creep, its plasticity, its
4 ability to close in the open space and to hold
5 things in their proper place. There is
6 another factor we haven't talked about here
7 that's also important and that is that bedded
8 salt tends to resist the influx or
9 infiltration of any fluid from outside because
10 the creep and the fluid pressures in that salt
11 are greater than the fluid pressures outside.
12 So it provides a natural protective barrier.
13 And in fact that's part of the reason why salt
14 hangs around even though, you know, if you
15 drop it in your soup it dissolves very
16 quickly.

17 MEMBER BAILEY: Thank you.

18 MEMBER SHARP: Mr. Chairman, I
19 know we are way over time here so I just would
20 like to say a couple of things and forego the
21 opportunity to probe more with these good
22 folks. First, I think it's clear the nation

1 owes an enormous thanks to the people in this
2 community and this state who have worked
3 through not easily a whole host of technical,
4 political questions in order to actually get
5 something that's functioning. And I found it
6 very impressive yesterday not only seeing
7 physically what was there, but just hearing
8 from the whole variety of points of view and
9 this morning as well. One thing I'd like to
10 recommend to our staff, I think we're on this
11 path, is that we collect together an inventory
12 of the various techniques that have been used
13 to engage the public here at WIPP, at Hanford,
14 at Savanna River where we have visited that's
15 been done differently in different places. It
16 almost always has resulted from some kind of
17 internal struggle in the state, it never came
18 automatically at the beginning of anything and
19 we also had this transition from the Cold War
20 which - and these defense establishments into
21 more public entities. So, but getting - we
22 learned a lot in that 30-year or 40-year or

1 50-year process and we ought to just collect -
2 we don't have time to write the history -
3 we've read the history of WIPP for example,
4 but get together just what are the latest
5 techniques that are being utilized so that
6 when people make a decision on siting and on
7 operation they can have available these
8 different things? And they are different,
9 they're local, some imposed by state
10 governments and some grew up naturally in
11 negotiations and some the Department of Energy
12 took initiative on. But the second part of
13 that, I find the more complex and difficult
14 part of that is public participation that
15 engages scientific questions is always
16 difficult. And so you have to have other
17 entities that are overseeing the science that
18 the public can engage with, get information
19 and answers from, and have some confidence
20 that it's independent from the financial
21 interests or the thrust of trying to drive
22 ahead. That strikes me that, Mr. Conca,

1 that's what you have in this monitoring
2 situation in which you've monitored before and
3 after kind of proposition, and I can imagine
4 that's extremely important. I guess I would
5 like to ask the question as to whether or not
6 - and by the way, we set up the Nuclear Waste
7 Technical Review Board at Yucca Mountain. I
8 don't know whether that actually applies here
9 or not, I think it's only at Yucca Mountain
10 that it applies. It does apply here too? No,
11 it does not, yes. Precisely to try to
12 overcome the historic more than skepticism,
13 belief that - a very broad-based belief that
14 the science was being perverted by the drive
15 to get that repository done and so people
16 wanted a place they could go and ask - have
17 serious questions examined by people who would
18 be knowledgeable about them on a more
19 independent basis, and that's one technique.
20 But you have a technique here on this
21 monitoring the individuals and I guess what
22 I'd ask is is that independence agreed upon

1 broadly that it exists? Secondly, do you have
2 opportunities for critique to engage in you,
3 whether you're doing the job and catching the
4 things that you were meant to catch?

5 MR. CONCA: Yes. In fact, it was
6 fully - the community demanded an independent
7 academic-based monitoring program because the
8 contractors do, the government does. I mean,
9 there's industry, government and academia and
10 of course a lot of people don't trust industry
11 or government so of course academia is the one
12 you look to for independence in that regard.
13 But academia is about full academic freedom,
14 it's about transparency. You publish, you
15 know, papers, you have colleagues from around
16 the world come in and evaluate so the nice
17 thing about academia, it is fully always
18 talked about, always overseen, that's the
19 whole purpose of academia. So whether there's
20 a nuclear waste technical review board type of
21 thing or not, I mean, everyone is looking at
22 this and everyone has a chance to talk about

1 it. The nice thing about the Lie Down and Be
2 Counted program as well as just coming in to
3 be counted, you actually have a dedicated one-
4 on-one discussion with a scientist about
5 anything you want. So of course a lot of that
6 is about WIPP and about radiation, but it's
7 also aliens and Roswell and everything else.
8 So it's kind of funny.

9 (Laughter)

10 MR. CONCA: You get every kind of
11 question you can imagine, but the whole idea
12 that you simply can sit down and talk to a
13 scientist about anything you want is
14 incredibly relieving because no one ever talks
15 about science in our society. Certainly no
16 one talks about nuclear because most people
17 don't know about it and it's kind of scary,
18 and you know weapons, energy. We never talk
19 about the distinctions and the details on all
20 of this, we just lump everything together and
21 it doesn't go very well towards educating the
22 community and the citizenry at large about

1 scientific issues that are really, really
2 important.

3 MR. WEART: I'd like to make just
4 a couple of points as it applies to WIPP on
5 this public acceptance issue. First is that
6 one of the things that was very helpful to us
7 in WIPP in trying to convince the state and
8 the public that we indeed were doing a proper
9 program is to have a state agency, the
10 Environmental Evaluation Group, whose charter
11 was to look at all the science that was going
12 on in our program, to review it and not only
13 to review it but to suggest additional things
14 that they felt would bring more confidence to
15 the issue of site characterization and the
16 underground scientific program. The public
17 perceived this group because they were a tough
18 but honest group, that they were indeed having
19 their interests looked out for. And so the
20 Environmental Evaluation Group, while often
21 perceived as a thorn in the project's side I
22 think was a tremendous benefit in the sense of

1 conveying that feeling to the state and to the
2 people that their interests were being duly
3 considered.

4 MEMBER SHARP: Well, it seems to
5 me there is this critical need both in the
6 decision about where you're going to do things
7 and then in the operational decision after
8 that there's unquestionably independent
9 oversight that people have access to. But Mr.
10 Conca, with all enthusiasm, I mean you're
11 terrific in multiple ways here. I taught at
12 two major - well, at one state university,
13 Ball State University, and then at Harvard and
14 I have a lot of confidence in a lot of those
15 people, but I don't trust them any more than
16 I trust the government or anybody else.

17 (Laughter)

18 MEMBER SHARP: So I want to make
19 sure - I want to make sure that they can be
20 challenged, the government can be challenged,
21 the contractors can be challenged and those
22 opportunities exist. I think the fundamental

1 strength of this country has been our capacity
2 politically and economically, not at all
3 times, but to challenge, challenge, challenge
4 and to create and innovate and do different
5 things differently. And the high risk of all
6 these things is how do you maintain the safety
7 culture, how do you maintain an oversight
8 culture that continues on a good basis. And
9 the senator and I know from Congress is
10 getting anything done on a consistent basis
11 there is damned difficult.

12 MEMBER PETERSON: Let me echo
13 that. Coming from Berkeley, especially that
14 statement about Harvard.

15 (Laughter)

16 CHAIR SCOWCROFT: I would like to
17 thank the panel very much for a stimulating
18 and educational session. We really appreciate
19 it. Thank you very much.

20 (Applause)

21 CHAIR SCOWCROFT: And we will now
22 - our next commenter will be the attorney

1 general of New Mexico, Mr. Gary King.

2 MR. KING: Thank you, Mr.
3 Chairman. I didn't want to take the time and
4 excuse me for not going down the line and
5 shaking hands with every single one of the
6 members of the panel, but we're so proud and
7 happy to have you all here in New Mexico to
8 deal with an issue that I think is a very
9 important issue here in New Mexico. And
10 Senator Domenici and I have known each other
11 for a good long time. I'm going to talk just
12 a little bit about that, Mr. Chairman, with
13 your dispensation. I'm going to talk about
14 the history of the facility and it starts when
15 I was fairly young, whenever the senator and
16 I have known each other for many years.

17 It is my understanding that my
18 comments are to be fairly short today and so
19 I don't intend to make long comments, but I
20 want to talk a little bit about my history
21 with regard to the WIPP facility, the facility
22 here in New Mexico because I think it'll tell

1 you a little bit about how long we've all been
2 working on this. But around 1973 I was a
3 student in chemistry at New Mexico State
4 University. My father was the governor of New
5 Mexico and he called me one day and he said
6 Gary, he said that Lurette Locke who was a
7 friend of his here and some folks in Carlsbad
8 have called me to talk to me about an
9 interesting proposal that they have and it
10 involves science and you're the only member of
11 the family who's - I'm paying to send you to
12 college to be a chemist and so, you know, I
13 want your point of view on this. So I came
14 over here to Carlsbad, spent a couple of days
15 with the group here in Carlsbad at which point
16 they talked about this facility, the WIPP
17 facility, and their desire to propose to the
18 federal government that this would be a good
19 site for them. After two days I went back to
20 my father and I said you know, I think that
21 this is really a doable thing. I think that
22 the technology is there, from what I knew from

1 being a sophomore in chemistry, and I do
2 believe that that influenced my father who was
3 the governor to be supportive of the facility
4 down here.

5 Well, fast forward a little bit.

6 I actually ended up - I went to the University
7 of Colorado and got a Ph.D. in chemistry, I
8 have a Ph.D. in organic chemistry, and then I
9 went on to the University of New Mexico Law
10 School and became a lawyer, and started my own
11 law firm and intended to do environmental law
12 primarily, but also ran for the state
13 legislature and served 12 years in our state
14 legislature where I was on what was called the
15 Interim Committee on Radioactive and Hazardous
16 Materials. By that point in time the WIPP
17 project was mature enough that our legislature
18 was interested in a lot of the issues that you
19 all have been talking about here and sort of
20 the political issues as well as the scientific
21 issues. And during that time period I was
22 able to have some discussions with Leo Duffy

1 who was the assistant secretary for
2 environmental management in those days, and
3 there have been a lot of - I think that by
4 that point in time around 1988-1989, and you
5 all have the history there, there already was
6 some preliminary drilling and bore studies and
7 such, and we were starting to work on the
8 permitting. And the assistant secretary
9 talked about how important he thought that it
10 was for the federal government and the state
11 government to be working together on this
12 issue, on some of the peripheral issues such
13 as transportation, the training of our local
14 emergency responders, and the kinds of things
15 that the state had to have as infrastructure
16 to deal with the issue of transportation and
17 disposal of nuclear waste. And at that point
18 in time we began negotiating about the utility
19 of the impact funds for WIPP. And those
20 impact funds, that discussion started when we
21 had - Garrey Carruthers was our governor at
22 that point in time, Senator, you'll recall and

1 so I carried that proposal to Governor
2 Carruthers and he said well Gary, he said I
3 think your dad's going to be the governor
4 again pretty soon, which he was. This would
5 have been approaching 1970 or a - wow, how far
6 back was that. It was - yes, it was in '79-
7 '82 I guess. But - in '90 actually. And so
8 we negotiated for the impact money. And one
9 of the things I want to talk about is that -
10 that that was when the Department of Energy
11 agreed that they would send actually the
12 original proposal was for \$60 million a year
13 for 10 years to deal with the impacts in the
14 State of New Mexico, to build roads, to do
15 training and all those kinds of things. We
16 ended up only being able to negotiate for \$30
17 million a year for 15 years and the reason I
18 mention that is because Senator Domenici
19 actually included that legislation. I think
20 that was part of the Land Withdrawal
21 legislation. And so my father who was the
22 governor at that point in time and Senator

1 Domenici worked together to develop that
2 impact funding for the State of New Mexico.
3 And I think that that was one of the things
4 that really helped us to prepare for those
5 issues at WIPP. We did training of a lot of
6 our local personnel, we four-laned Highway
7 285, we built the Santa Fe bypass with those
8 impact funds. And I think that that helped us
9 to be very successful in the state in dealing
10 with that.

11 So after leaving the legislature I
12 actually became for a year what was called the
13 policy advisor for environmental management at
14 the U.S. Department of Energy. So I worked on
15 the - developing the plan for the accelerated
16 cleanup at Rocky Flats for instance, among
17 other projects. And I heard the panel there
18 talking about the importance of the federal
19 government assuring that they're going to
20 clean up all those facilities, but we never
21 would have been able to do the accelerated
22 cleanup at Rocky Flats were it not for the

1 fact that WIPP had by that point in time
2 successfully opened and we had a facility
3 where we could bring that waste. And so we
4 were able to do that. Then after that I
5 served as the director of the Office of Worker
6 and Community Transition. I think the
7 important thing that I learned as the director
8 of the Office of Worker and Community
9 Transition was that was the part of the DOE
10 that worked with local governments to deal
11 with the impacts of the DOE facilities and the
12 waste.

13 And so all of that brings me to
14 the point that I want to make to you real
15 quick which is that we have always worked the
16 best in New Mexico and all around the country
17 in cleaning up the nuclear waste legacy which
18 there is, and now I think Senator Domenici has
19 been a leader in trying to use that knowledge
20 to deal with the nuclear waste that's
21 generated from the commercial industry. And
22 we in New Mexico really want to work with you

1 all, with the federal government, with the
2 public, with all of those other agencies to
3 develop a plan so that we can clean up the
4 nuclear waste legacy from the commercial
5 industry as well as there is still some
6 remaining nuclear waste legacy from the
7 Department of Defense. And I certainly have
8 been working - I think next we're going to
9 have a couple of legislators from here in this
10 area, but as the attorney general I am the
11 official in New Mexico right now that
12 represents the State of New Mexico in any kind
13 of litigation, in any lawsuits that might
14 occur, civil or criminal, and I think that our
15 office is going to be important in working
16 with these issues with you all as well.

17 So if I could with a couple more
18 minutes Mr. Chairman, and I'll be happy to
19 answer questions if you have any questions
20 too, but it's been sort of my own philosophy,
21 not as the attorney general of New Mexico,
22 that WIPP was probably not the best place from

1 my perspective to permanently dispose of -
2 well, I should say this. It's a great place
3 to permanently dispose of spent fuel, but I'm
4 not sure that permanent disposal of spent fuel
5 is the best idea for spent fuel. And I don't
6 know whether Senator Domenici, I think he
7 agrees with me. I think that spent fuel
8 should be put in a position in this country
9 for awhile so that if we decide we're going to
10 reprocess that we have the opportunity to
11 reprocess. And so I believe that southeastern
12 New Mexico would also be a good place to put
13 something similar to what we called the
14 Monitored Retrieval Storage Facility
15 previously to store the waste and then make
16 that decision over the course of the next I
17 don't know how long it will take, Senator, 20
18 years or 30 years as to whether we want to
19 reprocess that spent fuel or whether there are
20 other cheaper alternatives. But I believe
21 that nuclear power is going to be very
22 important in this country and in the world.

1 I think that having a cogent idea of how we're
2 going to deal with the spent fuel is going to
3 be very important there, and I think that
4 southeastern New Mexico is going to be a major
5 player in those decisions that are made over
6 that course of time. I think that another
7 thing that we worked with in New Mexico with
8 regard to the Department of Energy that they
9 helped us with is to develop not only
10 infrastructure to deal with nuclear materials
11 here in this part of the state, but also to
12 train young people to have that expertise to
13 deal with nuclear materials. And so we have
14 the training center here that the Department
15 of Energy helped us to create. And we have I
16 think in New Mexico more nuclear expertise and
17 we're bringing up young nuclear expertise.
18 You know, I'm one of those people, like I
19 said, I was 20 years old when I started
20 working on the WIPP issue and I'm 56 now, so
21 for 36 years we've been dealing with these
22 nuclear issues. But I think a lot of the

1 people that have a specialty in nuclear
2 materials are now 50, 60, they're getting
3 ready to retire and so we need to train young
4 people to deal with nuclear materials. And
5 they're doing that right here in southeastern
6 New Mexico and doing a great job of it. So I
7 believe that if we all work together that once
8 again, that this community who has been very
9 supportive for all these years with regard to
10 dealing with the country's nuclear legacy will
11 continue to be major players in that. And so
12 I'm hopeful that as you all work on this, it
13 may be by the time you come up with your
14 recommendations. I won't be the attorney
15 general anymore, I have four years left in my
16 term so I don't know how long this will take,
17 but I certainly want to commit that, you know,
18 as the attorney general and I apologize. We
19 had some mechanical problems and didn't get
20 here on time this morning so I didn't get a
21 chance to hear the governor's statements, and
22 since she's new I haven't had a chance to talk

1 to her about her feelings on these issues, but
2 certainly I believe that we in New Mexico are
3 committed to working with you all to do things
4 that are good for the State of New Mexico. We
5 certainly don't have any desire to have any
6 industry that would be hazardous to the health
7 of folks in New Mexico, but I believe that
8 WIPP has proved that we can handle nuclear
9 materials, we can transport nuclear materials,
10 we can store and dispose of nuclear materials
11 in a way that's safe for the people and for
12 the environment in New Mexico. But we are the
13 watchdogs and we will want to continue to work
14 to make sure that all of the federal laws are
15 followed, that all of the state laws are
16 followed. When I was in the legislature we
17 worked on legislation that made sure that New
18 Mexico had primacy in the area of mixed waste
19 and I believe that we in New Mexico want to
20 still have a lot of say in how these materials
21 are handled and transported through our state.
22 I have always thought that the State of New

1 Mexico, that the states have a particular
2 amount of primacy with regard to the issue of
3 transportation. And so we want to continue to
4 work with you on that too, but I do think that
5 all of us working together can make this a
6 good place.

7 And I'm sorry, Mr. Chairman, I got
8 a little bit off track. The one problem I
9 have with permanently putting spent fuel in
10 the salt beds is because I think that they'll
11 seal up and we won't be able to get it back
12 out. And so I think that that's an important
13 consideration. I thought that Yucca Mountain,
14 that the salt was a good place to store spent
15 fuel so that we could get it back out, but -
16 so I don't want the folks out there to think
17 that I'm saying that I don't think that we
18 should dispose of spent fuel in the salt beds
19 here because I think that that would be
20 perfectly all right, but I just feel like
21 scientifically that it would be better to have
22 those materials where we can - where we can

1 retrieve them. But it's my understanding that
2 the community here is interested in a
3 retrieval storage system as well, so. Mr.
4 Chairman, I'm happy to answer any questions if
5 you have questions.

6 CHAIR SCOWCROFT: Thank you very
7 much, Mr. Attorney General for a very
8 thoughtful statement. Are there questions for
9 the attorney general?

10 MR. KING: Okay, thank you, Mr.
11 Chairman.

12 CHAIR SCOWCROFT: Thank you very
13 much.

14 (Applause)

15 CHAIR SCOWCROFT: We will next
16 hear from two state senators from New Mexico.
17 The first will be Carroll Leavell.

18 SEN. LEAVELL: Thank you very
19 much, Chairman, and I want to add my welcome
20 to the Blue Ribbon Commission. It's a real
21 pleasure for me to be here with you today. I
22 had some serious questions earlier this

1 morning that we would be. I was to be on the
2 same plane with the attorney general and
3 obviously the time frame didn't come about
4 quite as soon as we thought.

5 As I said, I am State Senator
6 Carroll Leavell. I'm starting my 15th year in
7 the New Mexico State Senate and have had the
8 honor to represent Senate District 41 during
9 all of that time. One thing you will find in
10 Lea and Eddy Counties, and Senate District 41
11 encompasses roughly the south half of Lea and
12 Eddy County, but one thing that you will find
13 in Lea and Eddy County is that "nuclear" is
14 not a dirty word. It's probably - the
15 citizens of southeast New Mexico are probably
16 the best educated on nuclear energy of any
17 single group of citizens in the United States.
18 Nuclear has to be an important part of our
19 future as a nation, both for defense and for
20 our nation's energy security. I have serious
21 concerns that if we do not move forward that
22 we're going to find that a generation down the

1 road is going to have serious problems
2 supplying themselves with nuclear power. And
3 we have go to move on this and we have got to
4 do it as soon as possible because time is of
5 the essence to us.

6 Without the final solution the
7 waste disposal, nuclear cannot continue to
8 advance and solve our energy needs in America,
9 and I think nuclear has got to be a major part
10 of that. WIPP has been critically important
11 for the past many years to the economy of
12 southeast New Mexico and to - it's added to
13 the quality of life in southeast New Mexico.
14 Nuclear has brought jobs, now our children
15 have an opportunity to return home after their
16 education. They find good jobs here and
17 they're good-paying jobs.

18 One thing that our citizens do
19 know, this has basically been for years and
20 years the mining district for the potash and
21 the oil and gas, and certainly oil and gas is
22 far away from a very safe industry. It is

1 becoming safer by the year, but it cannot
2 compare with the history of nuclear. And I'll
3 tell you that if you will look at the history
4 of the WIPP site and other nuclear facilities
5 here within the United States, the safety is
6 second to none. Because of the Waste
7 Isolation Pilot Project and the knowledge that
8 our citizens did gain about nuclear, when we
9 were attempting to bring URENCO and interest
10 URENCO in developing a uranium enrichment
11 plant we had strong support from the citizens
12 of southeast New Mexico, both Eddy and Lea
13 County, and we also had one other factor. We
14 had the strong leadership of Senator Pete
15 Domenici, and welcome home, Pete. It's
16 wonderful to see you here today. Thank you.
17 But with this we were able to proceed further
18 and URENCO found a home and whenever they -
19 near Eunice, New Mexico, which is about 70
20 miles from here, right on the Texas state
21 line, and they developed the uranium
22 enrichment plant. According to the original

1 permitting on that it was to be - produce
2 about 20 percent of our needs for nuclear rods
3 in the United States. That is now up with the
4 changes and the additions that they have added
5 up to over 50 percent of the required enriched
6 uranium that will be necessary for the power
7 rods in our 100-plus power plants in the
8 United States. Now we have international
9 isotopes that have announced their plan to
10 start construction of a facility between
11 Carlsbad and Hobbs during the coming year, and
12 it will take depleted uranium hexafluoride and
13 process it into commercial purposes. We're
14 seeing the advance, but all of it came about
15 and all of it started because of WIPP and the
16 education that it gives to our citizens.

17 We appreciate the tremendous
18 challenge this commission is tasked to to make
19 recommendations on the solutions to our
20 nuclear fuel cycle. Without solving this part
21 of the cycle nuclear power cannot expand.
22 Southeast New Mexico can be an important part

1 of that solution. Talking about the strong
2 support, going back to the GNEP Initiative,
3 Lea County, Eddy County, Hobbs, and Carlsbad
4 came together to form the Eddy-Lea Energy
5 Alliance. That alliance is still very active,
6 it's very strong today and with that they
7 actually purchased a thousand acres of land
8 about halfway between Hobbs and Carlsbad. And
9 that was characterized and presented as part
10 of the GNEP proposal. That is still available
11 today and could be used for interim storage or
12 other processing as might be necessary.

13 Again, I do think that southeast
14 New Mexico can be a major part of the
15 solution. I welcome you to southeast New
16 Mexico. I do not envy you in all your
17 decisions, but I will tell you that we the
18 American people are very appreciative of the
19 task that you have before you, and it's one
20 that needs to certainly go forward. Thank you
21 for the opportunity to let me be with you
22 today and I thank you very much for that.

1 Thank you.

2 (Applause)

3 CHAIR SCOWCROFT: Thank you very
4 much, Senator Leavell. We appreciate it.
5 Next we have Senator Vernon Asbill.

6 SEN. ASBILL: Mr. Chairman,
7 members of the commission, thank you very much
8 for the opportunity to speak to you today.
9 Welcome to southeast New Mexico, to Senate
10 District 34 which you are sitting in at this
11 present time. The WIPP site is in Senate
12 District 34 and I've represented it for the
13 last seven years and am proud of the fact that
14 we have this industry in southeast New Mexico
15 and the support. I trust that you had a
16 wonderful tour of the facility yesterday, that
17 it was interesting and very informative, and
18 I hope you enjoyed the reception last night.
19 I'm sorry that we were not able to attend, but
20 we were in session and hopefully we'll be
21 excused today as we come down here to present
22 this. What I have, I think you experienced

1 tremendous support from this community for
2 this WIPP project that is in our community,
3 but what I bring to you today, I serve on the
4 Interim Radioactive and Hazardous Material
5 committee for the state legislature, and I
6 bring a letter to you from them in support of
7 your decision that you're going to make, in
8 particular to change the Waste Isolation Pilot
9 Plant Land Withdrawal Amendment Act which will
10 allow us to expand to a new project for that
11 16 square miles, also for the performance
12 assessment of a repository for high-level
13 waste, and to approve funding to construct the
14 interim storage facility. That comes from the
15 Interim Radioactive and Hazardous Material
16 committee and I want to provide the commission
17 with that particular letter of support from
18 our legislature. Also I wanted to provide you
19 with a document from both the House of
20 Representatives which welcomes you to
21 southeast New Mexico and with your assessment
22 of where you have to go with this particular

1 issue that you are confronted with, but also
2 from the Senate a very definite commitment
3 from them with signatures that basically says
4 that they support the opportunity for other
5 potential missions for southeast New Mexico to
6 adequately address the disposal of defense
7 high-level waste, commercial high-level waste,
8 greater than Class C waste and surplus
9 plutonium waste as well as the interim storage
10 of spent nuclear fuel. Mr. Commissioner and
11 members of the commission, this is more
12 support from the State of New Mexico, not just
13 from southeast New Mexico, not just from
14 Carlsbad, but senators that will be working
15 with you to make a determination on a very
16 difficult decision that you're going to have
17 to make. But I think you will see that
18 through the years that have been spent through
19 WIPP we have garnered a tremendous amount of
20 support for additional projects that I know
21 the decisions that are going to have to be
22 made. We wish you well in your travels. I

1 know you're headed to Albuquerque tomorrow.
2 Hopefully if I can get away from our session
3 there I'll try to be there also to listen to
4 the comments, but I wish you well in your
5 travels and again welcome to southeast New
6 Mexico, and thank you very much.

7 (Applause)

8 CHAIR SCOWCROFT: Thank you very
9 much, Senator. We're very appreciative. In
10 view of the fact that we're seriously behind,
11 we're going to skip the break and continue
12 right now to Panel 2 dealing with WIPP
13 transportation issues. If the panelists would
14 come forward.

15 MR. FRAZIER: We're looking for
16 Ned Elkins. I know you're here, Ned, I saw
17 you earlier today.

18 CHAIR SCOWCROFT: All right, if I
19 could ask everyone to take their seats so we
20 can begin. Our panel is on WIPP
21 transportation dealing with operations and
22 issues and local impacts. Our panel members

1 are Casey Gadbury, the DoD Carlsbad Field
2 Office and Clark Coordinator of the New Mexico
3 Radioactive Waste Consultation Task Force,
4 Margaret Carde, a private citizen of New
5 Mexico, and Dr. Ned Elkins from Los Alamos
6 National Laboratory. Mr. Gadbury, you may
7 proceed.

8 MR. GADBURY: Thank you, Mr.
9 Chairman. Mr. Chairman, commissioners,
10 audience, my name is Casey Gadbury and I
11 currently work for the Department of Energy at
12 the Carlsbad Field Office as the director of
13 the Waste Isolation Pilot Plant (WIPP) site
14 operations. Today I'll be speaking about the
15 success of the Transuranic (TRU) Waste
16 Transportation Program. At today's meeting
17 you'll also be hearing from Dr. Ned Elkins,
18 Los Alamos National Laboratory, Carlsbad
19 operations manager, who will discuss the TRU
20 waste mobile loading process which is an
21 integral part of the TRU Waste Transportation
22 Program. At tomorrow's meeting you'll also be

1 hearing statements from Mr. Bill Mackey,
2 Carlsbad Field Office institutional affairs
3 manager, regarding the institutional affairs
4 program which is a key program that laid the
5 groundwork by communicating with and training
6 many different stakeholders regarding the TRU
7 Waste Transportation Program, and also from
8 Mr. J.R. Strobel, Carlsbad Field Office,
9 director of the National TRU Program regarding
10 the National TRU Program which is a higher
11 tier program within which the TRU Waste
12 Transportation Program is implemented. These
13 statements will demonstrate the full
14 integration of TRU waste management processes.

15 Since the first shipment of
16 transuranic (TRU) waste departed the Los
17 Alamos National Laboratory on the evening of
18 March 25, 1999, to safely arrive at the newly
19 opened Waste Isolation Pilot Plant (WIPP) site
20 in the wee hours of the morning on March 26,
21 1999, the TRU Waste Transportation Program has
22 successfully and safely completed over 9,200

1 shipments to the WIPP site for permanent
2 disposal, facilitating the de-inventory of
3 legacy TRU waste from 17 sites. Those
4 shipments have safely carried over 72,000
5 cubic meters of transuranic waste to the WIPP
6 site, traveling 11 million miles in almost 12
7 years of operation. That is equivalent to
8 about 440 trips around the equator of our
9 planet Earth, or about 23 round trips to the
10 Moon. But with all of those very large
11 numbers to express its accomplishments, the
12 most impressive number that the Transuranic
13 Waste Transportation Program has accomplished
14 is zero. Zero is the number of releases of
15 TRU waste to the environment as a result of
16 all of those shipments. Zero is also the
17 number of serious injuries or deaths
18 associated with TRU waste shipments. Although
19 zero generally represents nothing to most, it
20 means everything to the TRU Waste
21 Transportation Program. No one person's life
22 has been significantly impacted in a negative

1 way as a result of shipping TRU waste to WIPP.
2 But those accomplishments did not come without
3 the hard work of a lot of people.

4 The groundwork was laid early in
5 the WIPP site's existence. In the late 1980s,
6 long before the TRU Waste Transportation
7 Program commenced the first TRU waste shipment
8 to WIPP, in the late 1980s and early 1990s
9 relationships were built between the
10 Department of Energy along with its
11 contractors and the various state and tribal
12 governments and regulatory agencies.
13 Agreements were made such as the one between
14 DOE and the Western Governors Association to
15 establish a solid transportation program with
16 the goal of safe and uneventful shipments.
17 Although U.S. regulations exist to provide
18 requirements for safe shipment of radioactive
19 and hazardous waste, the department worked
20 with the states through which TRU waste was
21 projected to travel to the WIPP site to
22 develop a set of protocols containing

1 requirements that provided a robust foundation
2 for making safe and uneventful shipments of
3 TRU waste across our great nation. These
4 protocols ensure, 1) routes are approved as
5 highway route-controlled quantity shipments
6 regardless of the level of activity on a
7 shipment; 2) approved routes are evaluated for
8 safe travel considering weather reports and
9 other impactive conditions prior to departure
10 from generator and interim storage sites; 3)
11 provisions are made to allow for safe parking
12 along the approved routes if a condition
13 warrants stopping a shipment en route prior to
14 arrival at WIPP; 4) advance notification of
15 TRU waste shipments at several different
16 intervals before departure and during transit
17 to WIPP, including constant monitoring of
18 shipment activity and communications through
19 a satellite tracking system with state and
20 tribal access to that system; 5) public
21 information participation which allows venues
22 for the public to actually see the tractor-

1 trailer package configuration; and 6) program
2 evaluations conducted by the states that
3 provide the Department of Energy with a
4 periodic report card from the states. Lastly,
5 the personnel actually performing the work to
6 execute these procedures, processes and
7 protocols epitomize the successful safety
8 performance of the TRU Waste Transportation
9 Program.

10 In addition, the Land Withdrawal
11 Act requires shipping TRU waste in Nuclear
12 Regulatory Commission (NRC) certified shipping
13 containers. The testing required for NRC to
14 certify the packages classified as Type B
15 consists of several drop tests on a non-
16 yielding surface and a spike as well as
17 thermal tests that evaluate the impact of the
18 package in the event of a significant
19 transportation accident, including exposure to
20 fire. Those packages originally consisted of
21 the TRUPACT-II for contact-handled waste and
22 the RH-72B cask for remote-handled TRU waste.

1 The robustness of these packages is a
2 significant design feature of the program
3 which is the primary element preventing
4 release of radioactive and hazardous
5 constituents to the environment.

6 In the event of a significant
7 transportation accident, although the TRU
8 Waste Transportation Program was safe as
9 originally designed and implemented, the
10 Department of Energy has continuously made
11 improvements to reduce risk to the workers at
12 the generator sites and the public. To
13 minimize and prevent further repackaging and
14 resizing of legacy or existing transuranic
15 waste inventories at these generator sites and
16 interim storage sites and to transport the
17 waste to WIPP for final disposition in a
18 timely manner, the TRU Waste Transportation
19 Program has provided additional specific safe
20 packaging capabilities over the years of its
21 operation. The HalfPACTs were NRC-certified
22 and introduced into the program to address

1 heavier waste configurations, making the
2 shipments more efficient. Additional TRU
3 waste container configurations and processes
4 were approved and introduced into the program
5 to facilitate higher activities of TRU waste.
6 Even today that continuous improvement trend
7 continues with the approval and implementation
8 of TRUPACT-III packages to facilitate the
9 processing of even larger waste containers to
10 reduce risk and the approval and
11 implementation of shielded waste containers to
12 facilitate TRU waste configurations with
13 higher dose rates, to reduce worker exposure
14 to radiation for permanent disposition at
15 WIPP. Therefore, the TRU Waste Transportation
16 Program has been successful for over 20 years
17 with the recognition from the National Academy
18 of Sciences of its safety infrastructure in
19 1989 to the demonstration of its 10 years of
20 safety accomplishments as recognized by the
21 U.S. Transport Council in 2009. Thank you.

22 CHAIR SCOWCROFT: Thank you very

1 much. Our next presentation will be by Anne
2 Clark.

3 MS. CLARK: Apparently I'm the
4 shortest one here so far. Okay. My name is
5 Anne deLain W. Clark and I'm the coordinator
6 of the New Mexico Radioactive Waste
7 Consultation Task Force. On behalf of the
8 State of New Mexico and the member agencies of
9 the task force I thank Chairman Scowcroft and
10 the rest of the commission for the opportunity
11 to discuss New Mexico's perspective on and
12 experience with the Waste Isolation Pilot
13 Plant Transportation Safety Program.

14 Once it became clear in 1975 that
15 the citizens of New Mexico would have a large
16 stake in the location of the coming permanent
17 radioactive waste repository, Governor Jerry
18 Apodaca established a governor's advisory
19 committee on WIPP consisting of 10 individuals
20 from New Mexico's scientific and academic
21 community. And in 1979 the New Mexico
22 legislature started the state's formal

1 planning process to deal with the possibility
2 of WIPP by creating the Radioactive Waste
3 Consultation Task Force. By the time
4 President George H. W. Bush signed the WIPP
5 Land Withdrawal Act on October 30, 1992,
6 reaffirming host state regulatory oversight
7 and assuring the provision of financial,
8 technical and other assistance to any state
9 through which shipments were being
10 contemplated, New Mexico and other western
11 states were already deeply involved in
12 planning for shipments to WIPP.

13 In 1988 the Western Governors
14 Association received funding from the U.S.
15 Department of Transportation to prepare a
16 report to Congress on the opinions, concerns
17 and priorities for actions of the western
18 states expected to experience the greatest
19 impact from the initial shipments. The June
20 1989 report to Congress emphasized a
21 collaborative regional approach to planning as
22 key to developing and implementing a credible

1 accident prevention and safety program for
2 transporting transuranic waste. The report
3 also stated the western states' willingness to
4 work together and with the U.S. Department of
5 Energy to resolve identified problems, and it
6 specified that the states' fulfillment of
7 their commitment to shoulder responsibility
8 for the shipping campaign would depend on
9 consistent and assured financial support. The
10 Secretary of Energy agreed that funding
11 western corridor states would be a necessary
12 component to the development and
13 implementation of a successful transportation
14 safety program and created a cooperative
15 agreement with the Western Governors
16 Association in late 1989. Thus, the Western
17 Governors Association WIPP Transportation
18 Technical Advisory Group was born. The
19 technical advisory group states have worked
20 together and collaborated with the DOE to
21 develop the WGA WIPP Transportation Safety
22 Program Implementation Guide, establishing the

1 means for ensuring the group's mission of the
2 safe and uneventful transport of radioactive
3 waste in and through the west. The guide
4 presents the overall transportation issues,
5 objectives, approaches and procedures which
6 were agreed to by the western corridor states
7 and DOE through a memorandum of agreement.
8 The guide, based upon WGA policy resolutions,
9 enhanced safety standards, DOE orders and
10 guidelines and carrier contract agreements
11 includes procedures developed cooperatively by
12 the technical advisory group and the DOE
13 Carlsbad Field Office as was already mentioned
14 by Casey Gadbury. The memorandum of agreement
15 between the western governors and the DOE
16 supporting the guide is of special
17 significance because it focuses on several
18 essential principles such as mutual
19 endorsement of the regional planning and
20 dialogue processes, reaffirming the mutually
21 beneficial objective of safe and uneventful
22 transportation of defense-generated waste, and

1 full endorsement of the principles of the
2 guide as a living document that reflects the
3 continuing agreements in the planning and
4 dialogue processes. The guide was developed
5 to directly correlate to the four main
6 components of the 1989 report to Congress:
7 accident prevention, emergency preparedness,
8 public information and other states and
9 regional topics. The guide was further
10 delineated into 13 functional areas. The
11 sections were developed through years of
12 studying states' needs, public concerns and
13 possible risks connected with radioactive
14 waste transportation. The program's
15 foundation is in the winning of public
16 confidence through ensuring that waste is
17 transported in robust containers, transported
18 safely, and that emergency response
19 capabilities are sophisticated enough to
20 effectively manage the aftermath of possible
21 accidents.

22 Since 1994 the guide has served as

1 a model for the development of transportation
2 protocols for other radiological
3 transportation campaign across the entire
4 nation. The Western Governors Association's
5 approach led the way for other regional
6 collaboration groups across the nation to
7 enter into similar programs for effective
8 management of WIPP transportation issues and
9 negotiations with DOE. These organizations
10 are found in the eastern, southern and
11 Midwestern sections of the nation. Serving as
12 a prototype, the concepts within the guide
13 have been closely mirrored by the other
14 regional organizations so that essentially all
15 states affected by WIPP shipments adhere to
16 the same principles. The WGA Technical
17 Advisory Group along with the other regional
18 organizations continues to meet twice per year
19 to assess the continuing effectiveness of the
20 guide and the WIPP Transportation Safety
21 Program and to deal with ongoing concerns.
22 The states have truly benefitted by the

1 synergy of having combined into regional
2 organizations because each region negotiates
3 as one entity with DOE, creating the perfect
4 illustration of the whole being greater than
5 the sum of its parts.

6 Additionally, regional
7 organizations along with the industry and
8 tribal stakeholders come together twice a year
9 - actually, I'm sorry, that's once a year - at
10 DOE's National Transportation Stakeholders
11 Forum assuring issues across the nation are
12 brought to the table for all parties to
13 discuss and negotiate. Through the combined
14 influence of states joining in regional
15 organizations, individual states gain the
16 strength they need to stand up for states'
17 rights in the transportation of radioactive
18 waste. Along with this participation in the
19 WGA Technical Advisory Group, New Mexico's
20 role as the host state for WIPP is large,
21 dynamic and challenging. In addition to
22 dealing with the transportation issues on all

1 WIPP shipments, New Mexico has elected to take
2 a leadership role in managing WIPP issues in
3 the west. This includes being responsive to
4 the public concerns of all western states and
5 the country as a whole. In keeping with its
6 leadership role, New Mexico's governor has
7 traditionally been the Western Governors
8 Association' co-chair on radioactive waste
9 transportation issues along with the governor
10 of Idaho, and correspondingly the WGA
11 Technical Advisory Group has been co-chaired
12 by gubernatorial representatives from New
13 Mexico and Idaho, I being the one for New
14 Mexico.

15 Beginning on May 1, 1981, DOE and
16 the State of New Mexico held their first
17 meeting of consultation and cooperation to
18 discuss major issues facing the WIPP project
19 and to ensure that sound science was at its
20 foundation. Two months later both the U.S.
21 Secretary of Energy James B. Edwards and
22 Governor of New Mexico Bruce King had signed

1 the agreement for consultation and cooperation
2 which specified that the parties would
3 continue such meetings and they would happen
4 on a quarterly basis. It was 17 years, 8
5 months and 25 days later that WIPP received
6 its first shipment of waste. Without the
7 regular and open exchange of information that
8 ensued from the WIPP quarterly technical
9 review meetings, WIPP might still be waiting
10 for that first shipment. Just last week on
11 January 20 the 113th WIPP Quarterly was hosted
12 in Santa Fe by the New Mexico Environment
13 Department's Hazardous Waste Bureau, and on
14 October 10, 2007, we marked the date of the
15 100th WIPP Quarterly. In the DOE press
16 release regarding the event, DOE Carlsbad
17 Field Office manager Dr. David Moody proudly
18 stated, "The WIPP quarterly meetings are a
19 longstanding part of WIPP history. They
20 helped establish a strong tradition of
21 information-sharing and cooperation with our
22 state regulators, state oversight groups and

1 interested stakeholders throughout the years."

2 The New Mexico public has had
3 severely conflicting feelings about WIPP's
4 existence and location from the moment of
5 WIPP's inception. There has been heated
6 public discussion over the economic benefit
7 from hosting a project such as WIPP versus the
8 perceived risk, especially concerning
9 transportation in parts of the state that
10 receive less than no economic benefit
11 resulting in over 30 years of controversy. In
12 order to effectively manage the concerns of
13 the New Mexico citizenry as the possibilities
14 of WIPP were being considered, New Mexico
15 established the Radioactive Waste Consultation
16 Task Force in 1979 through the enactment of
17 the Radioactive and Hazardous Materials Act.
18 The act specifies five primary duties for the
19 task force. Key of those duties are negotiate
20 for the State of New Mexico with the federal
21 government in all areas relating to siting,
22 licensing and operation of new federal

1 disposal facilities, including research,
2 development and demonstration for high-level
3 radioactive waste, transuranic waste and low-
4 level radioactive waste, identify impacts of
5 new federal disposal facilities and
6 disseminate that information, and coordinate
7 investigations that - coordinate
8 investigations and studies undertaken by all
9 New Mexico state agencies, forwarding results
10 to the governor and the legislature. Over
11 time and in collaboration with other seats
12 through the WGA WIPP Transportation Technical
13 Advisory Group the task force's primary
14 responsibility has evolved into advising the
15 governor on all policy issues regarding the
16 transportation of radioactive waste in and
17 through New Mexico. Membership in the task
18 force includes the state fire marshal and the
19 cabinet secretaries for six other state
20 agencies. The task force is chaired by the
21 Secretary of Energy, Minerals and Natural
22 Resources.

1 There are no other shipments on
2 the U.S. highways that undergo as much
3 scrutiny by transportation safety specialists
4 as WIPP shipments. The success of the entire
5 program has relied heavily upon the commitment
6 of all parties to the concepts of open
7 communication, collaboration and cooperation.
8 The result is a system that meets the diverse
9 needs of its many participants, moving
10 continually toward the goal of safe,
11 uneventful transportation of radiological
12 waste across the United States. As Casey
13 already mentioned, since the first shipment in
14 March of 1999 more than 9,200 WIPP shipments
15 have safely traveled to the WIPP site,
16 traveling more than 11 million miles with just
17 a handful of minor incidents.

18 CHAIR SCOWCROFT: Thank you very
19 much, Ms. Clark. Next we'll hear from
20 Margaret Carde.

21 MS. CARDE: That's perfect I
22 think. Can you hear me? My name is Margaret

1 Carde. I was the former nuclear waste project
2 director for Concerned Citizens for Nuclear
3 Safety in Santa Fe, board member for CCNS and
4 Nuclear Watch New Mexico. And during the
5 process to establish legal and regulatory
6 requirements for WIPP I was privileged to
7 testify before the Senate Natural Resources
8 Committee and the House of Representatives
9 Energy and Commerce Committee. I was
10 appointed to the Secretary of Energy Advisory
11 Board and served on the subcommittees for
12 declassification and openness, or as we like
13 to call it, how DOE could become a better
14 neighbor. I'm an attorney licensed to
15 practice law in New Mexico. My comments will
16 cover three areas, citizen involvement in the
17 WIPP process, transportation and just some
18 comments and recommendations.

19 I had just moved to Santa Fe in
20 June of 1989 when the first WIPP hearings came
21 about. Almost 600 people testified at the
22 Sweeney Center. They testified in the main

1 hall and continuously in the three conference
2 rooms upstairs. I come from New England. We
3 take our town meetings seriously and I was
4 impressed. The amount of research that the
5 citizens had done directly contrasted to the
6 dry statements that DOE was making about the
7 impact and safety of the transportation
8 through Santa Fe. This was at a time when EPA
9 hadn't even considered doing standards for
10 WIPP and I also have visuals. The whole
11 hearing room just swayed with these songs,
12 signs. WIPP must meet new EPA standards. I
13 decided to volunteer at CCNS.

14 The history of WIPP is - owes much
15 to the input of citizens. Citizens tend to
16 have a good idea about what happens in their
17 own background and I think that we should all
18 know how much time, effort and personal money
19 citizens invested into this particular DOE
20 program. Sometimes science can't cover
21 everything that happens in a person's
22 neighborhood. I remember CCNS was commenting

1 on the draft sitewide environmental impact
2 statement for the continued operation of Los
3 Alamos National Laboratory and we recommended
4 that the impact statement consider a
5 catastrophic fire going through the lab. We
6 were told it was a low probability, high
7 consequence event and would skew the curve,
8 but less than - but the Department of Energy
9 LANL did carve a swath of vegetation around
10 many of the technical areas. Less than two
11 years later the Cerro Grande fire went through
12 Los Alamos and we were told that TA-54 would
13 have gone up without that fire wall. The
14 plume from that fire was seen as far as
15 Oklahoma.

16 If it's true that citizens in
17 their own backyards know more about their
18 safety than other people do, then it would
19 follow that the citizens of Carlsbad know more
20 about WIPP than anybody else. Now setting
21 aside the incentives of money and the boosters
22 to the local economy, we knew that WIPP was

1 not just about Carlsbad. The WIPP trucks were
2 going to go straight through the middle of
3 Santa Fe. They were scheduled to go down St.
4 Francis Drive. The possibility of a nuclear
5 accident in the middle of town was a PR
6 nightmare for businesses like real estate
7 agents, hotels, restaurants, biking, fishing,
8 skiing, even professionals, doctors, lawyers
9 and healthcare - well, healthcare
10 professionals. Literally hundreds of
11 businesses in Santa Fe contributed to CCNS and
12 proudly displayed "Another Business Against
13 WIPP." You couldn't go down the main district
14 of Santa Fe without seeing hundreds of these
15 signs. The sheer numbers of businesses and
16 organizations that spent time and energy
17 reviewing scientific documents and I want to
18 name just some of them. Besides CCNS there
19 was SWRIC, Southwest Research and Information
20 Center, CARD, Citizens Against Radioactive
21 Dumping. These are all around New Mexico.
22 This isn't just in Santa Fe. Tewa Women

1 United, Southwest Organizing Project, the
2 Peace and Justice Center, Sierra Club,
3 Physicians for Social Responsibility, New
4 Mexico Public Health Association, Lighthawk,
5 the Elmwood Institute and as I say, many
6 others. These private organizations and
7 citizens took time out of their days and
8 nights to prepare testimony and show up at
9 hearings night and day. They wrote letters to
10 the editor and I was just reminded by Alan
11 that CCNS actually had a daily update WIPP
12 program on the radio. All of this information
13 attracted the interest of our senators and
14 representatives and we want to thank them for
15 supporting our efforts to have EPA standards
16 at WIPP.

17 As a result of citizen pressure
18 against WIPP transportation a Santa Fe bypass
19 was sited and constructed. I talked to
20 somebody - and this is just again, science is
21 wonderful, but it's not everything. I talked
22 to somebody that was analyzing the WIPP route

1 and he said well, we're going to use the
2 bypass, but really it would be safer to go
3 down St. Francis Drive, and I said well, did
4 you look at the fact that there are an average
5 of three accidents a day on St. Francis or did
6 you look at the economic impact of a potential
7 accident? He said no, really the model just
8 shows how long the routes are and since St.
9 Francis is the shortest route that means it's
10 the safest route.

11 Today - that's history, but today
12 people are still wary about nuclear waste
13 transportation. Real estate companies require
14 that every sale of a property on the WIPP
15 route include in the seller's agreement a
16 statement and disclosure that it is on a WIPP
17 route. Concern about our local economy
18 propelled citizens to look at the WIPP site
19 itself. After all, if it weren't a good site
20 there would be no transportation. We did
21 incredible work, volumes, boxes of scientific
22 information was reviewed. We learned that

1 WIPP was to be located in an area that was
2 drilled with oil and gas drill holes, and I
3 remember thinking it looks like Swiss cheese.
4 Since the whole idea of WIPP was that the
5 geologic strata was going to contain the
6 waste, these drill holes seemed problematic,
7 especially if you thought about the idea that
8 future generations might also want to drill
9 into the site. We learned that in 1981 a
10 pressurized brine reservoir was punctured when
11 the original excavations happened and a brine
12 spouted up like an oil gusher through that
13 site. The scientist had to move the site. We
14 learned that hydrology is not an exact
15 science, we heard that this morning, and that
16 WIPP's footprint if moved beyond the
17 established rooms could run into water and
18 again, another pressurized brine reservoir
19 that this time would go through established or
20 already buried waste. We learned that water
21 or brine tends to go toward heat, and that the
22 burial of high-level waste, hot waste, might

1 create a brine slurry that would become
2 radioactive. We learned that WIPP would
3 probably leak within the 240,000 years that it
4 was to be - that the waste was to be - oh my
5 goodness. Okay, I'm going to skip over - I'm
6 at my yellow thing.

7 The important thing about all of
8 this was that some of these concerns, even
9 though they didn't touch the fact that WIPP
10 was going to open, we still - the concerns
11 raised were influential in establishing the
12 limits and conditions upon - that were placed
13 on WIPP's regulatory requirements. EPA
14 standards required that WIPP's footprint or
15 capacity have a finite limit, and any hot
16 waste that was mistakenly taken to WIPP should
17 be put back and no waste from civilian or
18 nuclear activities - or civilian nuclear
19 activities was to go to WIPP. The most
20 important things that we learned about WIPP
21 was first it was not a perfect site. Second,
22 WIPP was never a solution to the nuclear waste

1 problem and believing that WIPP can be adapted
2 to any time frame and any purpose is a
3 dangerous game that risks the short-term
4 viability and safety of the site itself. And
5 finally, I have this final thing to say. WIPP
6 regulations, consultation and cooperation
7 agreement laws must not be changed. To do so
8 would be a betrayal to the whole citizen - all
9 of the citizens who worked so hard to
10 compromise and to create a safer
11 transportation and site during the WIPP
12 process. Thank you.

13 CHAIR SCOWCROFT: Thank you very
14 much. Our last presenter will be Mr. Neal
15 Elkins of Los Alamos National Laboratory who
16 shepherded us around yesterday afternoon.

17 DR. ELKINS: Chairman, Commission,
18 I appreciate the opportunity to speak with you
19 again on a very different topic if my voice
20 will let me get through this. When most
21 people think of Los Alamos National Laboratory
22 and the contributions or association of Los

1 Alamos with the national transuranic program
2 with WIPP, the first thing normally that they
3 think of is the extensive contributions of the
4 laboratory in the areas of material
5 characterization. Los Alamos has developed
6 most of the methodologies and techniques that
7 we use today at WIPP, the national transuranic
8 program, for non-destructible assay of waste
9 which is the isotopic side for the real time
10 radiography or non-destructive examination
11 capabilities in head space gas. Los Alamos
12 also is often thought of in its world class
13 actinide nuclear chemistry programs and I
14 think the finest element of Los Alamos's
15 nuclear chemistry program today actually
16 resides here in Carlsbad. As a result of WIPP
17 being here and the interactions of the program
18 elements here at WIPP we've been able to build
19 and house that at the Environmental Monitoring
20 Center. You heard from Jim Conca a lot about
21 that center. Very proud to be partners with
22 that and the past management systems. I think

1 George Mulholland if he's here today, there's
2 George. He's the current manager up there and
3 it's been an outstanding relationship between
4 Los Alamos and New Mexico State University for
5 the WIPP program. We also often think of the
6 other areas, much more visible than our
7 program are the areas that Los Alamos is
8 primarily supporting here in the WIPP program
9 which I've mentioned a couple and then NDA/NDE
10 evaluative process and the chemistry, but we
11 also manage the complex inventory, complex-
12 wide the inventory of the material that's
13 destined to be coming to WIPP. We also are
14 involved in an area we call difficult and
15 challenging waste analyses. As we work
16 through the WIPP program a lot of the waste
17 that's out there will become more challenging.
18 It's not the normal waste, the waste streams
19 begin to diminish in size and there are more
20 challenges with certification, and we work
21 those on behalf of the program as well as
22 support the acceptable knowledge of the pre-

1 certification component.

2 But all of that aside, the one
3 thing that very few people ever associate with
4 Los Alamos and I wanted to visit with you a
5 minute today is actually the up front element
6 of our transportation program. It's Los
7 Alamos through the Central Characterization
8 Project as a part of the national transuranic
9 program. Los Alamos runs a fixed and mobile
10 loading capability which is central in the
11 loading of waste and the highway
12 transportation capability before they come to
13 WIPP. So it's really before the rubber meets
14 the road with that piece element and from that
15 standpoint maybe should have been first
16 instead of last because it's before the
17 outstanding transportation system Casey went
18 through, before anything gets on that highway
19 the thing that we don't often see is the
20 process of getting that waste from whatever
21 configuration and management system in a site
22 into a container, safely packaged, safely put

1 in the highway transportation capability and
2 sent on the road.

3 When WIPP first began operation,
4 in its operational phase one of the first
5 things that we really focused on here was to
6 make this the most efficient operation not
7 only at the WIPP site, but in the complex
8 where waste was coming from, the most
9 efficient system we could. And we wanted to
10 bring the very best in class of those business
11 systems and operable capabilities here. And
12 we looked at that and two main outcomes of
13 that process were whether we needed to
14 standardize wherever we could what we were
15 doing, not just at WIPP but at sites all
16 around the country, to use a standard approach
17 to the certification, characterization,
18 transportation and ultimate disposal of this
19 waste. The other was the use of modular and
20 mobile systems, and we believe that modular
21 mobile systems would bring tremendous value.
22 As we looked at that on the transportation

1 side, on the loading side it was modular
2 mobile systems that we decided to step up to,
3 and it has been one of the great successes for
4 the Department of Energy and for the central
5 characterization project to use a modular
6 system for that. And I don't know, I usually
7 don't use slides. If someone's got the
8 capability of clicking through these we'll
9 click through. I'm probably already on about
10 3 here. Yes, I think we're about here.

11 On the standardization processes,
12 the operating procedures. This was a very
13 important point and it has made a tremendous
14 difference and it's often overlooked. If you
15 look at the complex, there are only a handful
16 of sites that have fairly significant volumes
17 of transuranic waste. Most of the sites out
18 there in that complex are small volume sites.
19 Those sites had neither the trained personnel
20 and certainly did not have fixed facilities or
21 the equipment necessary to load this waste and
22 get it on the road, but it was very important

1 in the communities, localities, states, that
2 those sites not be left behind with only a
3 focus on the large sites like Los Alamos,
4 Idaho, Rocky Flats in the early days. How to
5 clean those small sites up cost effectively
6 was a big issue. Modular systems, both for
7 certification and characterization for
8 transportation was the way we chose to go.
9 And if you take those early analyses, and
10 we've now been doing this for about 11 years,
11 it's a very conservative estimate that we have
12 saved in terms of the cost of our program well
13 over \$150 million by just not having to go and
14 build a fixed facility at a small site and
15 having to train and maintain certification for
16 personnel at those sites, but to be able to
17 provide those through our centralized system,
18 it's been a big success.

19 We first received - go ahead and
20 hit the next slide - we first received
21 transportation authority under the Department
22 of Energy for a mobile modular system in

1 November of 2001. We annually have to re-
2 certify that. We multiple times are assessing
3 and auditing this process. It allows
4 basically for the transportability not only of
5 equipment, but of also procedures and
6 personnel to a site to assist in loading and
7 getting waste on the highway. We've been
8 doing it in a large scale for over eight years
9 now. This number, 3,450 shipments I don't
10 want confused. I think Casey was using -
11 numbers were about 9,200. But this tells you
12 that somewhere between one-third and one-half
13 of all the shipments that have come to WIPP
14 have gone through this mobile modular
15 transportation loading system. The two
16 elements that we engaged in early,
17 standardization as a means to be more
18 efficient and the use of modular systems are
19 both engaged in mobile loading. In one real
20 sense it's even wrong now to call this a
21 mobile loading capability because the vast
22 majority of the work that we do is not using

1 the mobile system, but in actually having our
2 people, procedures, CCP transportation
3 certification, the authority at even the large
4 sites like Los Alamos, Savanna River, Idaho,
5 Hanford. Those certifications are our
6 certifications and we standardized the process
7 and so we're using in fixed facilities because
8 those facilities do have a fixed capability.
9 They have the equipment in the facility there
10 to load this waste. We use their facility
11 with our procedures to assist in loading this
12 waste. So it's standardized and in those
13 sites that can't we'll use a mobile capability
14 to do that. Next.

15 This is just a list of those
16 sites. Again, we only think of those large
17 quantity sites. Tremendous number of sites
18 we've engaged in the CCP and the mobile
19 loading system has been active at every one of
20 these sites over the past few years getting
21 waste here. Next slide. The mobile loading
22 system deals with all phases of what we do at

1 WIPP. For the contact-handled site it is the
2 loading of the TRUPACT-II and the HalfPACT
3 which you saw that. Casey went through the
4 packages again this morning. The equipment
5 lists are there for the very specialized
6 equipment we have to go out and deploy at
7 these sites. We always use crane capabilities
8 at the sites themselves. There's a strong
9 interface between the site and what we do. If
10 the shipments are not normalized shipments, if
11 they're a high-wattage shipment we use an
12 evacuation and nitrogen-backfill inerting
13 process to ensure hydrogen gas generation
14 compliance, and we are currently under way
15 right now with preparations to do the first
16 large box transportation certification and
17 shipping using the new package, the TRUPACT-II
18 which Casey also showed you out of Savanna
19 River. We hope to accomplish that this
20 summer. And that system will allow us to be
21 able to move waste to WIPP that does not lend
22 itself for a size reduction or material

1 standpoint to be put into a standard 55-gallon
2 drum or a standard waste box. The ability to
3 get that larger stuff here is very important.
4 We'll exercise that we believe the first time
5 this summer. Next slide.

6 From a remote-handled standpoint,
7 again you saw that system yesterday. Our
8 objective there is to load a canister, get the
9 canister loaded into a 72b cask and get that
10 on the highway. Again, we use fixed
11 capabilities where we can. We use the
12 equipment list that you see there. You have
13 three options on a canister for remote-handled
14 waste. You can either direct load waste into
15 that canister, you can crib and place in a
16 supported manner 30-gallon drums in that
17 canister, three of them, or you can put three
18 55-gallon drums. This waste is loaded into
19 the canister, install the lids. We do the
20 required testing, the certification is
21 complete and the 72b hits the road.

22 Mobile loading teams can load

1 three TRUPACTs, the TRUPACTs you've seen in
2 one ship or one 72b. The process for a 72b is
3 much more detailed, much slower to engage.
4 Certification for transportation and the
5 commercial vehicle safety alliance inspections
6 require about a 4-hour period. We currently
7 are employing five of these mobile loading
8 teams around the complex. There's five teams
9 doing this work. Each team has a
10 transportation certification official and
11 three operators. At each site you're going to
12 have several days of very site-specific
13 training in addition to about a week of
14 preparedness, readiness reviews, getting ready
15 for these. Each of the mobile loading team
16 members goes through an extensive process of
17 training. It takes about a year and a half to
18 take an individual that we engage in mobile
19 loading to become fully qualified, fully
20 certified to actually be a lead operator. So
21 it's not a process where you hire someone and
22 they're ready to go. The process here is

1 waste in motion which means you have nuclear
2 material in motion and that is not something
3 that at any step in our process we take
4 lightly. The qualifications, certifications,
5 the adherence to absolute verbatim compliance
6 is essential. We have done this without
7 incident for years and that doesn't happen
8 easily, especially in the remote-handled
9 waste. We use a very detailed process, the
10 basic ALARA process of using shielding,
11 distance and time to ensure that we have
12 absolute safety in the workforce and an
13 ensured process for that.

14 I don't know if I've got another
15 slide or not, but that's basically what we've
16 done. I think it has been one of those great
17 successes for us. It has demonstrated an
18 ability to engage an extremely broad spectrum
19 of waste, an extremely broad spectrum of Type
20 A and Type B containers, both for the waste
21 itself and for transportation, it has enabled
22 us to clean up many sites around the complex

1 that we wouldn't have been able to clean up if
2 you couldn't get a modular team to get in
3 there and get it done. So we're proud of that
4 and we think it's an important part of the
5 transportation system. I appreciate the
6 opportunity to share it with you. Thank you.

7 (Applause)

8 CHAIR SCOWCROFT: Thank you, Dr.
9 Elkins. Any questions?

10 MEMBER SHARP: Thank you.

11 Yesterday we had some conversations about this
12 but I wanted to be a little clearer. My -
13 give me your understanding of these facilities
14 to transport that you have built, you
15 mentioned you could carry a wide range of
16 capacity. Could you give us just a little
17 statement of how hot is the stuff, the range
18 of stuff they're carrying and how hot could
19 they carry? I mean, what is that margin in
20 there, some sense of it?

21 DR. ELKINS: Sure. Probably
22 greatly oversimplified and I'll probably have

1 people from Casey and others cringe a little
2 bit in the room, but to try to just kind of
3 break down to answer your question as directly
4 as I can and give you that sense. We
5 basically dose regulate. In other words, it
6 is the dose more than necessarily what's
7 inside that container that we are looking at.
8 That's what drives us. For a contact-handled
9 program it's 200mrem at the surface of the
10 container itself that has the waste which
11 allows our workforce to work with that waste
12 without protective equipment of any kind.
13 That dose is always below that at the
14 container. When you move to remote-handled
15 you are saying basically that the waste
16 container, the container actually holding the
17 waste exceeds the 200mrem because you've got
18 activity other than base alpha activity.
19 You've got gamma or neutron activity so
20 there's not adequate shielding in the standard
21 waste box of the container. That's where we
22 bring these principles of shielding, time and

1 distance into play. Only a small fraction of
2 the waste right now, transuranic waste
3 destined for WIPP is remote-handled, about 4
4 percent. In that only a small fraction of
5 that will even be allowed to approach. We
6 have limited ourselves to how much of that
7 waste can be at the upper end of the limit,
8 and the real limit for the waste in the
9 remote-handled site is 1,000 r. That's that
10 upper limit. Inside the containers themselves
11 since we use ALARA when we load a highway cask
12 the external dose is no greater than it is for
13 the contact programs, 200mrem. Everywhere
14 along that process 200mrem is the maximum that
15 you can be exposed to. As of today, and I
16 actually looked at that coming in here. From
17 a radioactive signature standpoint the hottest
18 single canister we have brought to WIPP today
19 is 300rem per hour. That's pretty hot. I
20 mean, that certainly is in that range of what
21 you look at when you're looking at high-level
22 waste. So we far exceeded that limit. That

1 is an anomaly. I mean, I don't want to leave
2 you with the impression that the majority of
3 our waste is that hot. Most of it is just
4 even slightly above the 200mrem in the base
5 container. But we have received waste as hot
6 as 300rem per hour here at the facility,
7 handled it extremely effectively from the
8 loading, transportation. It went smooth and
9 was just as compliant and effective as a 200
10 or less mrem contact-handled load. Is that -
11 does that get at the question?

12 CHAIR SCOWCROFT: Per?

13 MEMBER PETERSON: My question is
14 for Casey Gadbury. When one operates nuclear
15 facilities in at least modern practice one has
16 a corrective action program which is designed
17 to log any types of errors or events or other
18 things that happen and then go through a
19 systematic process to both correct them, fix
20 procedures and to assure that you're not going
21 to have that kind of event or similar events
22 occur again, and also typically to communicate

1 that information to other plants around the -
2 other facilities that would have similar
3 issues. I just would presume that there's a
4 similar type of program applied in
5 transportation, but not being familiar could
6 you discuss maybe a little bit how a
7 corrective action type of program would work?
8 I know that Anne had mentioned there have been
9 incidents. How do you learn from those and
10 how do you reduce the probability of
11 reoccurrence and keep the probability of
12 having more serious events suppressed by
13 working at low levels of safety significance
14 in terms of trying to keep errors and other
15 things down at a minimum level?

16 MR. GADBURY: Yes, sir. As you
17 are assuming, you are correct, we have a very
18 robust corrective action program. It's both
19 required regulatory and requirements-based
20 through NQA-1 standards and it is multifaceted
21 and stretches across the entire program. When
22 you describe our program it's probably most

1 simply put there's three distinct phases: the
2 characterization certification that Dr. Ned
3 Elkins talked about initially, the
4 transportation program obviously which we're
5 focused on right now and also the disposal
6 process. In every one of our contracts that
7 are associated with those three processes we
8 flow down those requirements to our
9 contractors through the contracts. So there
10 are very specific procedures and processes
11 that require not only at the upper tier level
12 from the regulations and from the DOE orders,
13 but all the way down into actual procedures,
14 training that any time there's an
15 identification of a condition significant - or
16 a condition that's adverse to quality which
17 basically is the standards we look for for a
18 proper performance, the it has to be
19 identified through a corrective action report.
20 Once that's done there's an initial
21 notification and based upon the significance
22 of that actual action it determines how far

1 the notification goes. You know, is it so
2 substantial that it goes all the way up you
3 know to headquarters, out to the regulators,
4 to the stakeholders or is it something that it
5 is significant because there was something
6 that occurred that was different than was
7 expected and you address it locally. So that
8 determination is made, those notifications are
9 made and based upon that characterization then
10 it's determined as to the corrective action
11 plan implementation.

12 Obviously you can probably also
13 assume as you might also assume that in this
14 determination there's not a single individual
15 just like with what I described in my program
16 where we reach out to our stakeholders, our
17 regulators, our states, we also do that
18 internally. We require our contractors
19 through their critique processes to get the
20 folks involved that may have been involved in
21 a procedural violation or identification of
22 something different than was expected to talk

1 about it. What happened, what time, what were
2 the circumstances, you know, what did we do to
3 mitigate it. Based upon that the outcome is
4 determined to say okay, where are all the
5 precursors and the successors there that
6 determine how we can correct it not only
7 remedially in the intermediate sense, but how
8 do we correct it to prevent recurrence. So
9 most definitely do we have a very robust
10 program for looking at corrective actions and
11 learning from them. At the very outset of
12 that in addition we have a lessons learned
13 program that as you described also reaches out
14 to the other DOE sites and facilities that we
15 specifically interface with. Because we are
16 a national program we do care what occurs, and
17 if there are events and circumstances that
18 happen in other facilities as well. So not
19 only are we communicating lessons learned to
20 them, but they are encouraged and they
21 communicate it as well. So we have that
22 addressed both formally and in informal

1 discussions, frequent discussions we have with
2 the sites.

3 MEMBER PETERSON: And I would
4 assume that this experience and the
5 information and processes, many of them could
6 translate in the future to efforts to move
7 civilian spent fuel once we start for example
8 establishing some centralized interim storage
9 and have the need to move it. And there would
10 be some communication or ability to share this
11 experience to those activities that might
12 occur in the future.

13 MR. GADBURY: As an expert in the
14 TRU waste transportation program and the
15 national TRU program in general, I can't speak
16 to the specifics and speculate as to what it
17 would look like in high-level waste or in the
18 civilian waste issue. However, these
19 requirements that flow down into our program
20 are at a national level and could be flowed
21 down in multiple different applications.

22 MEMBER AYERS: Yes sir, thank you,

1 Mr. Chairman. I have two very brief
2 questions. First one is to you, Dr. Elkins.
3 Who qualifies and certifies the modular team
4 personnel? Is there an independent
5 certification or a third party certification?

6 DR. ELKINS: In terms of the
7 direct qualification and certification we use
8 subject matter experts from the Department of
9 Energy and its contracts team as well as site
10 individuals. They're not all here at WIPP in
11 the actual certification, but it's a DOE
12 certification which means it's internal. On
13 the external side we have to re-certify this
14 program on an annual basis and are constantly
15 undergoing surveillance, audit and oversight
16 and from that standpoint the qualifications
17 capabilities and the procedures are
18 extensively looked at by external regulatory
19 agencies, the EPA, the NRC and others. So we
20 internally qualify and certify, but we open
21 our program up for external audit and
22 surveillance, and we cover external processes

1 that way.

2 MEMBER AYERS: Okay, thank you.

3 And the second question is for Ms. Carde.

4 With all the documented and the public track
5 record of WIPP and related activities such as
6 shipping, hasn't your comfort level improved
7 at all?

8 MS. CARDE: There. I have to say
9 that my comfort level has definitely improved,
10 but I am a skeptic. I continue to be a
11 skeptic. I think that this is a fragile
12 operation and I think that - I mean, the
13 reason it's improved is because the incredible
14 people that are running it, and that they are
15 constantly knowing that they have people's
16 lives at risk. But to think that 12 years of
17 success is going to then open up new programs
18 and just a whole, you know, the whole
19 floodgates is I think a huge mistake. The
20 only way that WIPP can be a success is to be
21 sure that we're very careful. And then if
22 you're talking about 100,000 years we still

1 have waste down there that will probably
2 migrate, global warming, earthquakes, floods.
3 It was there for 2 million years, but it is -
4 I mean, the EPA was going to have
5 certification for 100,000 years and it got
6 reduced to 10,000 years. Now, 10,000 years is
7 a long time. Five thousand years is human
8 history. So, I mean I understand that's a
9 long time, but this waste remains terribly
10 dangerous for 240,000 years so my comfort
11 level does not stay when I think about the
12 fact that it's going to be dangerous and many
13 people might not remember.

14 MEMBER AYERS: Thank you.

15 CHAIR SCOWCROFT: Ms. Carde, I
16 can't help but observe that with that attitude
17 in your comfort level, given you have three
18 accidents a day in the center of Santa Fe that
19 you don't close it to traffic. Thank you.

20 (Laughter)

21 MS. CARDE: You mean letting it be
22 a walking street? I think that I would love

1 it to be a walking street. Thank you.

2 MEMBER MACFARLANE: I have a quick
3 question for Margaret. I appreciated in your
4 testimony that you pointed out the value of
5 public or local knowledge and I agree heartily
6 about that. And so I wonder if you could just
7 give us your own insights on how you think an
8 organization could better include that kind of
9 knowledge and get at that kind of knowledge
10 when it makes its siting decisions?

11 MS. CARDE: I think that - and I
12 have to owe this to the incredible work of
13 citizens. The structure in place for WIPP has
14 been incredible. The western states - I mean,
15 I used to participate in all of this, the
16 quarterly meetings, the western states, all of
17 that kind of thing is terribly important. But
18 if you are going to include citizens in a
19 process then I think you have to honor the
20 outcome of that process because if you're
21 going to then say we appreciate all of your
22 help but now we're going to make a 180-degree

1 turn and we're going to ignore everything that
2 you did, you're going to end up with less
3 reasonable citizens and probably citizens that
4 are apathetic and you're going to destroy the
5 process that we've created.

6 CHAIR SCOWCROFT: I'd like to
7 thank the panel for a very instructive
8 session. We appreciate your participation
9 very much.

10 MS. CARDE: Thank you.

11 (Applause)

12 CHAIR SCOWCROFT: We will now
13 recess for lunch and reconvene at 1:15. Thank
14 you.

15 (Whereupon, the above-entitled
16 matter went off the record at 12:31 p.m. and
17 resumed at 1:16 p.m.)

18 MR. FRAZIER: Okay, in the
19 interests of time we're going to get rolling
20 because we have a lot of people who have
21 signed up to speak so we want to give them the
22 maximum amount of time that we can to talk

1 before we have to head for the airport.

2 General, I'm ready when you are, sir.

3 CHAIR SCOWCROFT: Okay, we're
4 ready. If we could come to order. Our final
5 panel is about lessons learned from the WIPP
6 siting. Panelists are Roger Nelson, the chief
7 scientist at WIPP, John Heaton, a former New
8 Mexico state representative, Bob Forrest,
9 former mayor of Carlsbad, Dr. Peter Galison,
10 from Harvard University. Mr. Nelson, you
11 might start.

12 MR. NELSON: Thank you,
13 Commissioner. I'm going to talk today about
14 not only siting the facility in the 1970s but
15 about what we learned during the 1980s when
16 the site did become fully characterized. Next
17 slide, please.

18 The concept of this slide has
19 already been presented to the commission many
20 times, but it bears repeating. In 1957 the
21 National Academies recommended that
22 radioactive waste be isolated from the

1 biosphere essentially forever and made that
2 recommendation to the AEC and said to put it
3 in deep boreholes. Salt is easily dissolved
4 and it's plastic. Because it's so easily
5 dissolved the fact that it's there after
6 millions of years tells one that there is a
7 robust hydrologic barrier that keeps fresh
8 water from circulating through it, and the
9 plastic nature of the salt will creep closed
10 and seal anything that mankind puts there
11 essentially for eons. In addition, no
12 additional engineered barriers need to be
13 placed around whatever you put there because
14 the salt is the barrier. The AEC began
15 planning to test this concept in Lyons, Kansas
16 in a salt mine in the 1960s. Next slide.

17 This is a map of the Lyons, Kansas
18 workings when the AEC and Oak Ridge National
19 Laboratory arrived. You see rooms and pillars
20 of salt excavation. You also see an existing
21 rail spur and Oak Ridge National Lab chose
22 that little area, unworked in the salt

1 workings, and they took advantage of the fact
2 that there was an existing spur and drilled a
3 single hole to the underground. This by the
4 way is about a 300-foot on a side area. And
5 that's where they did the experiments. And
6 they tested it with both thermally hot waste
7 using electric heaters to simulate radioactive
8 waste but they also used fuel from a reactor
9 in Idaho. The pictures show some of the
10 equipment that was used in the 1960s. And the
11 tests resulted in finding exactly what the
12 National Academy predicted they would find,
13 but they did derive some quantitative
14 information. The salt behavior was exactly as
15 predicted and the heat from the radioactive
16 materials, whether real or simulated,
17 accelerated the processes that made the salt
18 attractive. But for many reasons both
19 political and technical, the Project Salt
20 Vault there in Kansas was canceled and as you
21 heard this morning, attention started being
22 given to the Permian Basin in southwest New

1 Mexico. Next slide.

2 In contrast to Lyons, the
3 underground Delaware Basin of southeast New
4 Mexico was mostly undisturbed. It looks
5 pretty barren then and today. AEC asked
6 Sandia National Laboratory to conduct a siting
7 analysis to identify a suitable location
8 within about a 1,000 square miles to choose
9 from, but one of the criteria was don't choose
10 or look at any location that's within two
11 miles' radius of any preexisting borehole.
12 They had learned their lesson from Lyons,
13 Kansas which really was Swiss cheese and
14 looked in places that were relatively
15 undisturbed. Next slide.

16 While exploration boreholes
17 provide important geologic information, the
18 ability to inspect essentially at microscopic
19 levels in undisturbed rock using personnel
20 access is much more robust and you get a much
21 greater understanding of the depositional
22 processes. So the next step was to provide

1 access to the underground for the scientists,
2 the geologists, including Dennis Powers whom
3 you heard earlier. The geologic
4 investigations conducted within the shafts at
5 WIPP provided the best known stratigraphy of
6 maybe any other site in the world. This is
7 the underground cutting head in the
8 underground at WIPP and it's being pulled to
9 the surface via this surface drill rig. So
10 it's on the up-bore and once that shaft is
11 created you can look at every square inch in
12 detailed inspection. Dr. Powers described the
13 site characterization data set as massive. It
14 truly is, but not only across the Delaware
15 Basin but completely within the WIPP site
16 itself. Next slide.

17 Once access to the underground was
18 gained, scientists had a broad range of site-
19 specific tests to better understand the
20 complex interaction between the disposal
21 medium and the waste. Here you see pictures
22 of drums partially buried, buried only

1 halfway, unburied. There are other pictures
2 that show the containers in dry, in humid and
3 in completely inundated conditions,
4 essentially in a salt slush. Corrosion,
5 migration and a number of other parameters
6 were measured and models were developed to
7 describe these observations, made over a high
8 range of temperatures. Here you see some
9 canisters being emplaced in salt that were
10 going to be heated to test the effects of
11 brine migration. All tests were conducted
12 with simulated wastes, no radioactive
13 materials were used, and the testing was
14 terminated prior to reaching all peak
15 temperatures. However, much information about
16 temperature was gained. Next slide.

17 To investigate undisturbed
18 conditions within the rock, a 300-meter long
19 tunnel was drilled. Instruments and tests
20 were conducted along its entire length, well
21 into the far field to understand formation
22 brine behavior and how it migrated to newly

1 created openings. Other tests included heated
2 formation tests. This is a circular salt
3 pillar mined within a circular room. It was
4 instrumented. Thermocouples, strain gauges,
5 pressure sensors, et cetera, were installed
6 within the salt. It was wrapped with an
7 electric heater and an insulating blanket and
8 it was brought to 70 degrees Centigrade, all
9 the while making geomechanical, geothermal and
10 other tests measurements. Next slide.

11 And an understanding of salt
12 behavior at all scales was gained. The run of
13 mine salt in a freshly excavated mine is about
14 0.4 or 40 percent porosity. With a little bit
15 of energy input you can tamp that into a 10
16 percent property and a very significant
17 decrease in the permeability, but at
18 lithostatic pressures at WIPP depth the salt
19 reconsolidates very quickly, within decades,
20 and the porosity and permeability drop to
21 almost immeasurable levels. In fact, when
22 fully reconsolidated the salt has an

1 unmeasurable porosity and permeability. Only
2 gas generation within the waste matrix can
3 retard this process. Next slide.

4 Okay, so fundamental first
5 principle models were developed of the
6 deformation and the reconsolidation processes,
7 and this allowed comparison between the
8 modeling and the measurements that were made
9 in the full scale rooms. It was determined
10 that one could model the future behavior of
11 WIPP very accurately for years at a time. And
12 the measurements continue today and we
13 continue to demonstrate agreement between the
14 models and the measurements. I'll call your
15 attention to the slide on the right which is
16 a graph of essentially a displacement, in this
17 case it's strain over time, over a short
18 period of time, only a few weeks, but it's at
19 different temperatures. Here's 20 degrees C,
20 almost a linear behavior, 70 degrees C,
21 significantly increases the deformation rate.
22 At 100 degrees C it starts to really take off

1 and at 200 degrees C you've reached a limit of
2 viable mechanical - thermomechanical
3 emplacement. The plastic flow of the salt
4 creeps so fast that it would be difficult to
5 envision an operating repository much in
6 excess of 200 degrees, at least in the near
7 field. These models and measurements have
8 derived an understanding that allows you to
9 quantitatively answer probably the three most
10 fundamental questions for any isolation of
11 waste. That is, what can happen to the
12 disposal system, what are the events that can
13 happen to it, what are feasible, what can
14 happen, what are the chances of it happening
15 and then what are the consequences once it
16 does happen if it happens. If you can answer
17 those three questions quantitatively you can
18 predict the behavior into the future. Next
19 slide. This just shows a picture of the
20 deformation processes. Yellow is a disposal
21 room and the waste, and the green and red are
22 fractured disturbed rock. Within 50 years you

1 see that's almost all healed. Within 250
2 years the room has compressed and there's not
3 much change between 250 and 10,000 years.

4 Next slide.

5 I'd like to leave you with an
6 anecdotal story here. I think we're all
7 familiar with Richard Rhodes, the Pulitzer
8 Prize winner of 1988 for that seminal book.
9 He grew up in Kansas just a few miles from the
10 Project Salt Vault location and he was quite
11 interested in it. It was terminated and then
12 in 1979 as a young aspiring journalist he came
13 to Carlsbad and he wrote an article that was
14 published in Playboy magazine in 1979 and in
15 it basically he said that Carlsbad residents
16 were foolish to seek such a project. It was
17 a bad idea. In 2009 he returned to Carlsbad
18 and he said, "I was wrong." This is an
19 autograph of the original article. Last
20 slide.

21 In conclusion, all of the tests
22 and scientific studies derived during the site

1 characterization and siting phase have allowed
2 us to basically draw the following
3 conclusions, and without reservation we can
4 say these things. Now, they've been said
5 before and so I won't belabor them and I'm out
6 of time so I'll entertain any questions at the
7 end.

8 CHAIR SCOWCROFT: Thank you very
9 much. Mr. Heaton.

10 MR. HEATON: Thank you very much,
11 Committee, again for coming here. We welcome
12 you and we really appreciate you coming to
13 Carlsbad and seeing the WIPP site I trust that
14 you are impressed with what you saw. So thank
15 you again for coming here. I've been a state
16 legislator for the last 14 years and have been
17 very much involved in the project. WIPP is
18 actually in my district and again, in July I
19 spoke to the subcommittee on disposal so I
20 won't repeat some of those things, but I do
21 want to remind you that in this country we
22 have a capacity of about 1 terawatt of

1 electric power and that in - by 2050 we'll
2 probably need 1.4 to 1.5 terawatts, and in
3 order to do that and to drive an economy like
4 ours, a highly sophisticated manufacturing
5 economy we're going to need power that is
6 reliable and sustainable. And in order to do
7 that we're going to need a lot of nuclear
8 power plants in this country to make that
9 happen. So first I guess I can do this, I
10 suppose. I don't know what we've got going
11 here. We've got a repeat. Somebody want to
12 do the slides? Okay.

13 Just briefly, you've seen this
14 before several times, a brief history of WIPP.
15 We've had almost 12 years of success. We're
16 approaching 12 million loaded miles. The
17 repository is two-thirds full. Based on the
18 arbitrary limit of 165,000-175,000 cubic
19 meters. We've cleaned up 17 sites across the
20 complex and we've just received our 10-year
21 re-permit from the state and we just received
22 our second 5-year re-permitting from EPA.

1 Next slide.

2 One of the concerns I would like
3 to talk to you about is the concern over the
4 BRC report related to high-level waste and how
5 it will be reflected. Will it be a totally
6 pluralistic compromised report? Will it have
7 a definitive path forward? Will it move
8 Congress forward? Will there be a strong
9 position to fix the civilian radioactive waste
10 fund? Will you recommend interim storage?
11 Will you create more questions perhaps than
12 answers? And lastly, will you really be able
13 to put the WIPP success story into your
14 report? I think that finding - I don't want
15 to pretend to tell you how to do your report,
16 it would be presumptuous of me, but I know
17 that findings can be very useful in reports.
18 Much legislation in reports that I've seen
19 really help when there are findings in the
20 preambles or within the report itself. And
21 spelling out findings can be very useful to
22 understanding. Findings are frequently maybe

1 more important than even the research and
2 scientific detail. They provide the
3 underpinning for what went on in the report
4 and findings are sometimes much better
5 understood by staff and by the legislators and
6 by the public at large. And findings are
7 typically real, they're not hypothetical. So
8 next slide, please.

9 We think that the New Mexico -
10 next slide - that the New Mexico governor or
11 the executive agreement that we had with WIPP
12 is a model that's really worth pursuing. You
13 have Carlsbad which is open-minded, willing to
14 follow the science. You heard the governor
15 speak this morning. She is willing to follow
16 the science. In an agreement you'd want to
17 establish some benchmarks and goals. You'd
18 want to have the experimental money in place
19 so that you can go through the analyses which
20 need to be made with the science. We need to
21 establish the engineering designs, get those
22 confirmed, move through the thermomechanical

1 studies that need to be done, run it through
2 performance assessment or in fact run
3 performance assessment and the studies
4 simultaneously, and initiate - begin
5 initiating the state permitting and federal
6 permitting process.

7 Salt properties - next slide.

8 Including in your report - I know you're not
9 a siting organization and you may not even
10 want to talk about a specific medium, but I
11 think that salt properties as a robust medium
12 somewhere in your findings is essential,
13 outlining its plasticity and what other things
14 you've heard about it. It's 250 million years
15 old where stability is important. If a
16 tectonic event occurs it's going to reseal
17 itself. The best - it has the best heat
18 dispersion properties of any of the surface
19 rocks that we have, the crust rocks. It's
20 easy to mine and salt is performing exactly as
21 we predicted it in WIPP. Next slide.

22 I think that the science process

1 and cost considerations should be in your
2 findings as well. The 16 square miles where
3 WIPP is located is the most studied piece of
4 real estate probably in the world. The 16
5 square miles have already been withdrawn and
6 I'm going to tell you the withdrawal process
7 is not easy politically. Senator Coburn is
8 putting a hold on any property withdrawn in
9 the United States so having it already
10 withdrawn is a major step forward. The
11 thermoradiologic studies could be completed we
12 believe in between five and six years. The
13 waste container location for optimum thermal
14 distribution or dispersion is being modeled
15 right now. I think we go through performance
16 assessment and we believe you could save 30
17 years of time and potentially \$30 billion, not
18 chicken feed in this day and time.

19 WIPP has - next slide - WIPP has a
20 robust infrastructure and we think getting
21 that in the findings is important. The
22 understanding of our science cadre here, Los

1 Alamos, Sandia, DOE scientists, URS
2 scientists. We have a very robust cadre of
3 science personnel. The waste handling
4 facility we have as you saw yesterday has a
5 hot cell in it. We have a tremendous
6 transportation experience and we have amazing
7 rail access here due to the potash mining
8 that's gone on for years. We have an
9 independent oversight as you heard from Dr.
10 Conca at New Mexico State. He's responsible
11 for that with our Environmental Monitoring
12 Center, independent. We have a variety of
13 technicians available in the community that
14 have been trained including radiologic
15 technicians. We have 12 years of operating
16 experience, a culture of safety and excellence
17 with this project, and most of all we have a
18 tenacious community that will see the project
19 to completion. And we've been your partners
20 before and we'll be your partners again.

21 There are some things also - next
22 slide - that need to be done, I believe, and

1 that's changes to the Land Withdrawal Act, and
2 I hope that those will be included in your
3 findings. Eliminating the high-level waste
4 restriction outside of the WIPP's one square
5 mile. It only actually comprises underground
6 about a half a square mile. Eliminate the
7 defense-only pedigree for the waste.
8 Eliminate the 165,000-175,000 cubic meter
9 limit volume which is outside of the WIPP
10 itself and eliminate some of the other minor
11 restrictions that are in the Land Withdrawal
12 Act. Next slide, please.

13 As far as interim storage goes I'm
14 hoping that you will include that in your
15 findings. I believe that interim storage is
16 an essential necessary step within solving the
17 back end of the fuel cycle and there are some
18 nine states that have decommissioned
19 facilities in their states that need to get
20 the waste in the cores off their states and
21 there are some reactor sites, power reactor
22 sites that have limited storage onsite. They

1 need a place to move the waste. And as you
2 all are well aware, there are fines and also
3 settlement payments that are going to the
4 industry for not having met the 1998 deadline
5 of having a repository. So as a consequence
6 of that I understand the dollars that have
7 been distributed so far are beginning to
8 approach \$2 billion and will continue to grow
9 unless you have a place to put the waste.
10 Time is, you know, an interim storage facility
11 gives us as a country time to make some
12 decisions about what we're going to do about
13 reprocessing, whether we're going to do it or
14 not do it, but it's going to take some time as
15 you know to get to that point. And as you
16 heard earlier, Lea and Eddy Counties have
17 withdrawn two square miles or we have
18 purchased two square miles of land for this
19 particular - it could be used for this
20 particular process. Also, the civilian
21 radioactive waste fund has to be changed. It
22 absolutely has to be changed. Congress and

1 politics have to be taken out of it. It needs
2 to be made a private-public partnership. It
3 needs to be - the trust fund needs to be
4 permanent, it needs to be aside from being
5 appropriated by Congress. It needs to be used
6 for the purpose for which it was intended,
7 generate \$750 million a year and it needs to
8 be used appropriately.

9 And finally, we believe - if you'd
10 move to the last slide. The next one, please.
11 I guess I - the last slide. We believe that
12 the 15 square miles outside of the mile for
13 WIPP is the place to begin. Ladies and
14 gentlemen, this is not a blind date. We've
15 been on this date before, we've been on it for
16 a long time, we know what it's about and we
17 know how to move through the process. You
18 have an open-minded educated community. You
19 have an open-minded state governor. You have
20 an open-minded state attorney general. We
21 believe we offer a short research period. The
22 land is already withdrawn. We believe you can

1 save 30 years and \$30 billion, and your
2 findings will help policymakers get to a
3 decision. Don't waste this opportunity.
4 Thank you very much.

5 (Applause)

6 CHAIR SCOWCROFT: Thank you very
7 much, Mr. Heaton. Mr. Forrest?

8 MR. FORREST: My name is Bob
9 Forrest and I'm the former mayor here in
10 Carlsbad. I was a city council member from up
11 till 1986, from '80 to '86 and I ran for mayor
12 in '86 and WIPP was a big issue. I wanted to
13 be a part of it and John Heaton and I have
14 probably been here longer than anybody other
15 than Wendell Weart who I consider the
16 godfather of WIPP, and Senator Domenici, the
17 godfather of nuclear energy. So we've been
18 brought up with good teachers and been very
19 involved. And I served as mayor for eight
20 years and went out in '94 and took a
21 sabbatical and came back eight years later and
22 served in 2002 up till the present time and

1 our new mayor has been in office nine months.

2 You know, when I just think about
3 WIPP I just wish I would have written a book.
4 That's the one thing I regret that didn't
5 happen. I've never seen so much success in
6 one project. You know, I'm a salesman. I'm
7 a tire salesman, I've sold stuff all my life,
8 and the thing that breeds success in a
9 salesman is success. To be successful you've
10 got to have a good product to sell and we have
11 a great product. And I think the smartest
12 thing we did from the very beginning was we
13 wanted this project to be safe. And if I had
14 to give one word or one person credit for our
15 success I would say it has to be the salt.
16 Without the salt we have nothing to sell.
17 We've used that for the excuse, we've sold it
18 and I think we've done a great job. We had
19 about six phases of WIPP we wanted to start.
20 We pretty much stuck to that pattern. We've
21 already completed four of them.

22 In 1986 I'd been mayor for just a

1 year and I get a phone call from the
2 governor's office, Bennett Johnson, the most
3 powerful senator next to Senator Domenici was
4 chairing the characterization committee to
5 look at a site for the high-level waste. He
6 was looking at Deaf Smith, Texas, he was
7 looking at Yucca Mountain and Washington. So
8 he came through here on a Sunday, had his
9 jungle hat on and his shorts, and he saw WIPP.
10 He said hey, I don't need to look any further,
11 this is where the high-level waste needs to
12 go. Instead of going back to Louisiana he got
13 on a plane and went to Santa Fe, and met with
14 Garrey Carruthers who had just been the
15 governor. Garrey Carruthers' economic
16 development person Nick Jenkins called me and
17 said can you put a coalition together. We got
18 a chance. Bennett Johnson's offering \$100
19 million to the state that takes the high-level
20 waste and I said we'll put the coalition. He
21 came down. We had a plan that we would bring
22 the high-level waste to WIPP. The governor

1 would get \$100 million to spend on the state.
2 So we get Garrey Carruthers, he gets on a
3 plane to meet with Senator Domenici and
4 Senator Bingaman, and I don't think he even
5 let him off the plane. He put him back on
6 that plane and he said you get back to New
7 Mexico. We're going to stick with our plan.
8 We're going to do the transuranic waste first
9 so that plan was canceled. Part of our
10 problem has been we have a plan but everybody
11 shows up and says what about the high-level.
12 Well, we've got steps we've got to go through
13 and the first step was get the transuranic
14 waste in here. And when we had those hearings
15 that Margaret Carde was talking about, the
16 biggest crowds we had by far. I mean, they
17 didn't even compare with the - when they threw
18 the rocks at the buses. I've been to a
19 hundred hearings in that 20 years and that was
20 the worst one we ever had, and the main issue
21 there was transportation. We're going to lay
22 down in front of those trucks, there will

1 never be a WIPP truck come through New Mexico.
2 Well, I came home I told my wife, I said I
3 don't know that we'll ever get that facility
4 open. But I knew one thing, Bob Neill was
5 heading up the EEG, a citizens committee, and
6 he had been trying to get DOE to get rid of
7 the square box container that was going to
8 haul the waste, and they needed to do the
9 cylinder type, the TRUPACT. It cost DOE \$42
10 million in 1990. They redesigned the
11 TRUPACTs, came out with a cylinder and that
12 seemed to kind of change everything. We all
13 went up to Albuquerque, to Sandia, we watched
14 that cylinder dropped on a spike, we watched
15 it burn, we watched everything, and slowly but
16 surely we finally convinced the people that we
17 had the transportation in place. We had 10
18 years there, in 1988 we had buttons opening
19 WIPP. We had a button that said `89, we had
20 a button that said `90 and for 10 years this
21 went on, and if I had to hold someone
22 responsible for the delay it would be Bill

1 Richardson. He wasn't ready to open it, he
2 was a congressman and he just fought us tooth
3 and nail for who was going to operate on it.
4 Well, that gave us some time to sell the
5 transportation. DOE, we've got a great
6 relationship with them. God bless them, from
7 1988 to 1999, for 10 years they funded this
8 project at \$180 million a year and we didn't
9 have a drum of waste in this facility. On the
10 other hand, we helped DOE. DOE - we were at
11 the right place at the right time. When we
12 decided to do WIPP DOE was desperate for a
13 success story. Everything they had touched
14 had turned to hell and they didn't have a
15 story to tell anywhere. Rocky Flats was on
16 fire, Cecil Andrus closed the borders of
17 Idaho, no more waste coming in there and DOE
18 made a commitment, we're going to make this
19 thing work. And I often said if I could go
20 out there when WIPP was finished in '86 and
21 DOE would give me a blank check and they'd say
22 hey, you can do whatever you want to to make

1 this facility safer. There was nothing to do.
2 It was a strange story. We had this thing
3 completed in 1985 and DOE didn't even own the
4 land. I mean, how crazy is that? It was in
5 BLM. Then we had to go through the withdrawal
6 process. Well, that shouldn't take long.

7 (Laughter)

8 MR. FORREST: Well, it went one
9 year, it went two years, it went three years.
10 They had too much invested to back out. But
11 if you remember the Super Collider was moving
12 along about that same time and boy they jumped
13 that one. And so we were getting scared that
14 heck, we never would get open. But we kept
15 dotting our "i's" and crossing our "t's" and
16 they finally got the thing open and got the
17 transportation in place and got completed and
18 golly, you know, what a success story that's
19 been.

20 The next phase was - after we got
21 open was the Ines Triay and the Roberson,
22 Secretary of EM come to Carlsbad. We'd been

1 open maybe three years bringing waste in the
2 thing. They wanted to accelerate WIPP. Well,
3 what do you mean accelerate WIPP? Well, we
4 want to bring the waste in. We've just had
5 9/11, there's a crisis out there, the
6 terrorists, the best thing to do - and things
7 are going so well at WIPP, we want to go ahead
8 and bring those other shipments in here.

9 Well, what's the downside? The downside is
10 it's going to shorten the life of WIPP 10
11 years. Well, it was the right thing we could
12 do. We were going to save, by us agreeing to
13 the acceleration we would save \$500 million a
14 year to DOE. The budget at WIPP plus the
15 other budgets at the other sites over a 10-
16 year period, we saved DOE \$4.5 billion.

17 Next phase is 1986, Governor
18 Richardson was just fixing to go into his
19 second term and we were talking about the RH
20 waste permit. We needed to get that in place
21 and we knew - we talked to the state
22 environment department. It was going to take

1 two years probably to get that RH waste permit
2 allowed and passed. So we went to the
3 governor, told him we were going to get
4 started on it and by the time we got ready to
5 go he would be into his second term so it
6 wouldn't interfere with his reelection. As we
7 moved along and things looked good, looked
8 like we were going to get that permit approved
9 in a year. We had the hearings in Carlsbad,
10 we had them in Santa Fe and everything, and
11 this is quite a jump from transuranic waste to
12 RH waste. And we got it passed and the
13 hearing officer, I never will forget what he
14 said when he made his statement in agreeing to
15 sign. He said I cannot believe the knowledge
16 of the citizens of Carlsbad and the workforce
17 at this site, how much they know about that
18 facility. And what a great story. And so
19 Bill Richardson, here we are ready to sign
20 this. Cliff Stroud, a good friend of the
21 governor's goes up and sees him, says
22 Governor, we've got this waste, we've got this

1 RH. It might work either way. You can
2 announce before your election or you can wait
3 to announce it. He said let's do it before
4 the election. A week before his second
5 election night he came down here and we signed
6 the RH permit which is political suicide 15
7 years ago. But that's the success we've had
8 and then we have our 10-year anniversary. Big
9 celebration, people come in and it turns into
10 why not Yucca Mountain, why not be the next
11 Yucca Mountain. We just go on and when I'm
12 talking about RH waste, and this is from my
13 good friend Roger Nelson, the head scientist
14 at DOE, on a scale of 1 to 10 if you graded on
15 heat and radioactivity, when you get
16 transuranic waste you've got a 3. When you
17 bring RH waste in here it goes to a 6 and
18 that's where we are to date. The next step,
19 we would like to bring the defense high-level
20 waste. That would be an 8. If we're
21 successful there, the high-level which would
22 be a 10. We are closer to the high-level

1 waste than we are the transuranic waste right
2 today. And with that I just think that that
3 is what we have sold through, that we bring in
4 the RH waste, 300 shipments have been here,
5 and this is a result of the article on the 10-
6 year anniversary. We want to be the next
7 Yucca Mountain. I'm probably the only mayor
8 in the world that has ever said a statement
9 like that.

10 (Laughter)

11 MR. FORREST: And I was telling
12 Farok Sharif who heads the Washington TRU
13 Solutions. He said you know, you're not. He
14 said there's a major over in Japan, town of
15 8,000 that says he wants the high-level. Said
16 he lost the election. Well -

17 (Laughter)

18 MR. FORREST: The story I heard he
19 got beheaded so I don't know which one you
20 want.

21 (Laughter)

22 MR. FORREST: Go to the next slide

1 if you will. And this is a brochure we put
2 out, a poster, the solutions to the nuclear
3 power waste. And we've showed it to all the
4 trade shows we go, we've taken it back to
5 Washington and it just tells the story how we
6 can help solve the nuclear problem that's
7 facing this country. And the best picture I
8 like is the one there on the left where the
9 lady's standing, ask about our million year
10 guarantee. And you wonder sometimes how can
11 we be so successful when you look at what
12 happened to Yucca Mountain? We're the only
13 city that wanted the WIPP project. I mean, it
14 just doesn't make sense. We're the only
15 facility - can you believe a town of 25,000
16 has the only open nuclear licensed facility in
17 the world? It's right here in Carlsbad. And
18 it just goes back to that we have the salt and
19 that has been our key, and we've just stressed
20 safety. This Environmental Monitoring Center
21 that Dr. Conca talked about when he was here
22 awhile ago, that was a last-minute deal with

1 Tom Grumbly, the Undersecretary to Hazel
2 O'Leary gave us that project with
3 Representative Heaton pushing him, and
4 sometimes you say you better ask - be careful
5 what you ask for because that was a group that
6 could come down and maybe we were going to
7 find things we didn't want to see, but that
8 wasn't what we sold the public. And I think
9 that's why we have so much credibility,
10 because we've been so open. We've taken
11 everybody through WIPP, I mean the
12 schoolchildren, we had housewives for WIPP, we
13 take the anti's through WIPP and we have
14 conventions in Carlsbad. People have a
15 choice, go to the Caverns or to WIPP and guess
16 where they want to go? People like to see -
17 and we've turned around some pretty big 800-
18 pound gorillas in taking them through that
19 site. And one of the best things at that site
20 is when you drive through that tunnel and we
21 used to have a room you could see it clear,
22 the roof had caved in and that's exactly what

1 we were talking was going to happen. And it
2 just makes it easy when you've got that kind
3 of credibility and you see the world and the
4 problems we've got today, and you see the
5 success here in Carlsbad it just makes you
6 proud to be a part of it. Next slide.

7 And here's one of the editorials
8 out of the 10-year celebration. This is out
9 of the Albuquerque Journal. Never has had a
10 positive article about WIPP in the 20-30 years
11 we've been - and this was an article that was
12 written.

13 And I like the last paragraph just
14 because Reid - says to throw it in, not in my
15 backyard doesn't fit that. Some west - town
16 doesn't see a future in a necessary industry
17 and if Forrest and his group kicks of what
18 kind of race it would also smoke out Obama's
19 true stance on nuclear waste. That's hard to
20 imagine a mayor of 25,000 is going to smoke
21 out the President -

22 (Laughter)

1 MR. FORREST: But what does the
2 President do? He appoints a Blue Ribbon
3 Commission. Just what we wanted. I mean, you
4 couldn't ask for a - he's on TV last night
5 talking about creating new industries. What
6 better way to create jobs than nuclear energy?
7 And you know what's stopping nuclear energy?
8 Eleven people ran for president last election.
9 Every one of them said you know, if we could
10 find a place to put the waste I'd support
11 nuclear energy. So we're going to find out if
12 they're telling the truth or just talking.
13 It's a great editorial. I mean it just - from
14 the state's largest newspaper. And here's one
15 from the Santa Fe New Mexican. That's been
16 the toughest area we've faced is in Santa Fe.
17 And I have a sign here. I have the same sign
18 they've got. These were at every business in
19 Santa Fe, every business had one of these.
20 And Don Hancock told me - we had people from
21 Carlsbad going in, picking out paintings, and
22 taking out stuff, getting it on the table to

1 check it out and say oh, you're against WIPP,
2 I'm from Carlsbad, I think I'll just pass. I
3 don't know if that helped or not, but slowly
4 these signs have gone down. And Don Hancock
5 said well, these signs help with business.
6 And I want to ask Don why aren't they in the
7 windows today? There's not a one of these.
8 These are history, they're history because of
9 our success and we have proven we're right and
10 we just. Well here's another editorial from
11 the Santa Fe New Mexican, you know, and
12 everybody's looking at the WIPP. Why not
13 WIPP?

14 This is why we just love to have
15 the opportunity for you all to come here. And
16 if we wanted to plan two days of yesterday, it
17 was just picture perfect, and last night was
18 a great event and today. The best testimony
19 you're going to hear, the next people, that's
20 the best testimony. When we get on that bus
21 and we go to these hearings, we quit telling
22 people what to say. They speak from the

1 heart. They know what to say. Some of these
2 families and some of these people are third
3 generation families supporting WIPP. Well,
4 when do you get tired of supporting WIPP?
5 We've had three mayors in 40 years in the
6 history of Carlsbad. That means somebody's
7 doing something right. We've never had
8 anybody elected to the school board, a county
9 commission, or any kind of election that
10 opposed WIPP. WIPP is a part of our future.
11 We're the only city - we've doubled our
12 reserves in the cash. We set two records last
13 month on gross receipts tax. We have the
14 largest unemployment of any city in the state.
15 Our per capita income is next to Los Alamos.
16 We have more Ph.D.'s living in Carlsbad than
17 any other city other than Los Alamos. Dr.
18 Elkins who you heard yesterday was a boy that
19 went to school with my son. I didn't think
20 he'd amount to a hill of beans.

21 (Laughter)

22 MR. FORREST: And you want to

1 think he looks nice when he cleans up. That's
2 as nice as he looks.

3 (Laughter)

4 MR. FORREST: He just doesn't
5 clean up. He's got three Ph.D.'s and here
6 comes a young man back to his hometown making
7 a good salary and that's what it's all about
8 and got him a safe job. Next slide.

9 CHAIR SCOWCROFT: You're close to
10 your -

11 MR. FORREST: Am I getting close
12 to my time?

13 (Laughter)

14 CHAIR SCOWCROFT: You've passed it
15 so long ago I can't even see.

16 MR. FORREST: Okay, one more time.
17 Here's not in my backyard. Here's the
18 benchmark of success. Look up there at the
19 top. Number one, who wanted WIPP? How many
20 towns wanted WIPP? One in America. Twenty
21 years later, LES comes along. Enrichment
22 Facility of Louisiana gets run out of

1 Tennessee by Al Gore. Two towns in America
2 wanted LES six years ago, one was Hobbs, one
3 was Carlsbad. Four years ago GNEP. DOE got
4 the bright idea they wanted to do the GNEP.
5 We went out and bought the land, we had this
6 room packed with things, we were the interim
7 storage and everything. Eighteen communities,
8 DOE gave away \$70 million. We got \$2 of it
9 and then they dropped the project. AREVA two
10 years ago put in an enrichment facility just
11 like LES, went to Idaho. Idaho gave them the
12 state tax breaks and everything. Two hundred
13 towns wanted AREVA. Look how all that has
14 changed. I mean, it's just unbelievable and
15 "not in my backyard," how Carlsbad, New
16 Mexico, and Lea County have changed the makeup
17 of "not in my backyard."

18 Next slide and then I - this, if
19 you could go back seven or eight years and
20 just close your eyes and say now, what things
21 could happen that would help bring nuclear
22 power back on the radar screen? Number one,

1 how about a crisis in the Middle East. Well,
2 we've got two of them going. Oil reached \$70
3 a barrel. Well, it's \$90 a barrel. Global
4 warming? Believe it or not, when I was in
5 high school or junior high here I had a pair
6 of galoshes and a pair of mud snow tires.
7 Today I don't have the galoshes, nobody knows
8 what galoshes are. Don't have the mud and
9 snow tires. One of the wheels come off of
10 Yucca Mountain. Well, how about if all four
11 of them come off?

12 (Laughter)

13 MR. FORREST: And number five,
14 what if there was a fire in the Gulf of Mexico
15 that burned? You know, these are the things
16 that Obama wants to create jobs, and I know
17 you've got a tough job. Just promise me one
18 thing, if you don't do anything else just do
19 something. I mean, we've got to go one
20 direction or the other, but don't leave that
21 waste where it's at because it's not safe.

22 (Applause)

1 MR. FORREST: Peter gave me three
2 minutes.

3 CHAIR SCOWCROFT: Dr. Galison.

4 DR. GALISON: I'm a physicist and
5 historian of science and I study concrete
6 things that physics uses and makes and tries
7 to understand. From Einstein's work with
8 patents through physics at war to today's
9 nanotechnology one thing's clear, in the last
10 hundred years nothing has changed physics or
11 science more than nuclear weapons. Atomic
12 bombs, the reactors used in their production,
13 separation facilities shifted the scale of
14 operations from experiments that cost a couple
15 of thousand dollars to ones that ran to
16 millions. In just two years in World War II
17 physicists created a new industry with
18 laboratory factories the size of the Detroit
19 car industry, and it pulled science into the
20 center of military and diplomatic power. It
21 transformed the American defense posture and
22 dramatically altered our system of secrecy.

1 I've written and am now making films about
2 nuclear matters because the nucleus from
3 bombs, reactors and waste have transformed not
4 only the development of science, but our
5 contemporary world.

6 With my colleague Rob Moss, we're
7 now making a full-length documentary film
8 about nuclear waste with its focal point on
9 the Waste Isolation Pilot Plant. It's
10 centered here because in this site one can see
11 the full range of waste issues, the long and
12 contentious choice of a site, the balance of
13 regulations, the role of the courts, cities,
14 counties, states, protestors, supporters,
15 Congress, Presidents and the military, not to
16 speak of an imposed regulatory period of
17 10,000 years. Along the way I've spoken with
18 many of you here and look forward to learning
19 from others. My hope is that the film might
20 give people a chance to see how in the early
21 21st century we as a society make hard, high-
22 stake decisions when technical and social

1 issues are inseparably bound.

2 The Blue Ribbon Commission wanted
3 me to talk a bit about what I'd learned
4 thinking about waste and the history of the
5 nuclear world. I'd like to address in short
6 compass three topics: scale, transparency and
7 uncertainty. Scale first. Nuclear waste is
8 not in our society like other problematic
9 waste. Important as PCBs may be, there is no
10 Blue Ribbon Commission on America's PCB
11 future. This is understandable historically.
12 Nuclear weapons are not like other weapons.
13 Their role in World War II, their elevation of
14 the United States, China, Russia, France and
15 England after the war to the Big Five. The
16 Cold War itself was in effect defined by the
17 fearful symmetry of these weapons between the
18 U.S. and the Soviet Union. Nuclear power
19 produces a significant percentage of the
20 industrial world's energy. The history of
21 WIPP and other proposed repositories is lodged
22 in this larger nuclear history. The weapons

1 complex built in the pressures and terrors of
2 World War II and the Cold War forged ahead
3 with maximum authority and speed and secrecy,
4 dropping the priority of castoff products of
5 nuclear production. Only slowly did waste
6 disposal rise to the prominent place it has
7 had since the late 1970s. Proponents and
8 opponents of the site all recognize, for
9 example, that justifiably or not the events at
10 Three Mile Island, Chernobyl, Rocky Flats hit
11 the public siting debate like sledgehammers.
12 And as many in this room know very well, the
13 regulatory and legislative history of the WIPP
14 site is tied to politics at every scale. At
15 one side, the small side of the scale lies the
16 city of Carlsbad of course, but it's echoed
17 back and forth in the politics of New Mexico,
18 the interventions by other western states, and
19 of course by the Defense Department, DOE,
20 Interior, Transportation, Mining, Congress and
21 the EPA. The tensions have echoed through the
22 push and pull of legislative versus

1 administrative land withdrawal, the House
2 versus Senate Armed Forces Committees, weapons
3 versus civilian waste. Nuclear waste issues
4 have ended up on the desk of every successive
5 president since Ike.

6 This crazy quilt history has led
7 me increasingly to see nuclear waste as always
8 both local and more than local. No doubt
9 proponents see economic benefits of roads,
10 provision of good jobs always plays an
11 important role, but talk to supporters of the
12 WIPP site and you quickly find that other
13 issues are at stake too, and not just local
14 ones. People speak and act on their beliefs
15 that they have a national obligation to clean
16 up the mess of an earlier generation or a
17 patriotic duty. Conversely, opponents of
18 nuclear waste may not want waste facility next
19 door, but I've come to be very dubious about
20 the very notion of NIMBY, not in my backyard,
21 in this context. Like proponents, opponents
22 are worried about local issues too, but they

1 are also concerned about larger issues of
2 land, nuclear weapons and nuclear power. In
3 recent years, the debate spreads even wider
4 than nations themselves. Does nuclear power
5 stand as a bulwark against global warming by
6 carbon fuels? Even the environmentalists have
7 been split. So the first lesson I've been
8 forced to confront in looking at the
9 development of nuclear waste and its
10 repositories is that the siting of nuclear
11 waste facilities, all politics is local but
12 contra Tip O'Neill it is never just local. In
13 the post Cold War world, nuclear waste more
14 than any other issue before the public today
15 engages every scale of our society, from small
16 cities through the debates over the future of
17 energy on the planet. And that scale shifting
18 far more than any particular issue of nuclear
19 physics or salt dynamics is what makes it so
20 complex. It's as if we've combined the
21 problems of mounting a large-scale technical
22 project like the Apollo program with

1 governance issues that range from the small to
2 the very large. I hope the Blue Ribbon
3 Commission will think hard about where - what
4 are the critical scales as the physicists
5 would say. Are they towns, states, clusters
6 of states, the country? Where are the points
7 of action where the decision-making process
8 framework needs to be set out?

9 Next, transparency. Secrecy has
10 been around no doubt long before Babylonian
11 kings used their signet rings to seal
12 confidential war plans, but the modern secrecy
13 system entered with the Manhattan Project, the
14 Atomic Energy Commission acts that followed.
15 By the late Cold War, even senior scientists
16 and security experts were worried that the
17 secrecy system had grown too sprawling,
18 endangering the real secrets, mixing the
19 details of weapons engineering in their
20 classification status with trivialities hyped
21 into classified garb to protect turf or boost
22 status. In the case of nuclear waste, secrecy

1 has been catastrophic. Back in the '40s, '50s
2 and '60s the lack of an oversight culture
3 allowed sloppy procedures and weapons
4 production, it minimized radioactive leaks and
5 releases, and - that is to say, it minimized
6 publication and disclosure of radioactive
7 leaks and releases, and in the long run the
8 damage was real and the recovery has been slow
9 to regain the confidence of the population.

10 What I've seen historically in the
11 United States, in Sweden, Germany and
12 elsewhere is that when secrecy dominates
13 people will fill in the blanks. Conversely,
14 open discussion about the procedures of siting
15 and cleanup, when they're present it makes the
16 process immeasurably easier. Not easy, but
17 immeasurably easier. Oversight doesn't
18 guarantee success, but a lack of oversight
19 guarantees failure.

20 But there's another aspect to
21 transparency, and that is the very language
22 that we use. There are issues about the

1 classification of nuclear waste over pedigree,
2 whether we're looking at dose, radioactive
3 content, we talked about that a little bit
4 earlier, but there's certain terms that are so
5 obscure that you can listen to a conversation
6 about whether high-level waste is involved and
7 one person will be talking about whether
8 there's going to be more radioactive material
9 and another will be talking about the
10 definition of high-level as being reactor-
11 based reprocessed fuel. So we need a
12 vocabulary short of reforming the whole
13 characterization of nuclear waste, but at
14 least a vocabulary that allows us to be
15 talking about the same thing when we discuss
16 these issues. Particle physics may be
17 difficult, but at least we don't have to
18 distinguish between defense electrons and
19 civilian electrons, or sentences that include
20 things like saying "low-energy physics has a
21 higher energy than high-energy physics" which
22 can be the case in analogy in nuclear waste

1 where the high-level and low-level can reverse
2 their meanings. When a neutrino hits an
3 electron you don't have to worry about
4 anything that occurs outside of a small volume
5 in an infinitesimal time. In a geological
6 repository or for that matter onsite storage,
7 the world is much more open-ended.

8 And this open-endedness brings me
9 to my third topic, uncertainty. How will
10 materials last over time? How will we study
11 geological formations and how they change?
12 How will we gauge rare events like hundred-
13 year floods or very rare seismic activities?
14 What are the limits of our models? We've
15 heard about this from Wendell Weart, from
16 Naomi Oreskes elsewhere and from Commissioner
17 Macfarlane, all of whom have pointed to the
18 specificity of knowledge about geology and the
19 importance of studying sites in their
20 particularity. One neutrino may be like
21 another neutrino, but one salt mine is not
22 like another salt mine. Even more complicated

1 are the human questions that WIPP has by
2 regulations needed to address, the possibility
3 of human intrusion by people over 10,000
4 years. But interestingly, in speaking with
5 the futurists, material scientists,
6 archeologists, astrophysicists, geologists,
7 landscape architects and the many others who
8 worked to say something about what the far
9 future might be like and how it could be made
10 safer for them, I was struck by this. None of
11 them were naive about the difficulty of the
12 question at hand. They weren't naive back in
13 1990 and they aren't now. All of them knew
14 full well how deeply implausible any
15 particular future might be, how hard it is to
16 predict even five or ten years into the
17 future, how precarious communication might be
18 in our efforts to send a message to our
19 grandchildren 400 times removed. So why did
20 they do it? Why work on something - why try
21 to make monuments that might function over so
22 long a period when it's so diabolically hard?

1 What most said was that they felt a moral
2 obligation to do the work, hard as it might be
3 to mark the site, because the alternative,
4 leaving a known hazard unmarked, struck them
5 as morally unacceptable.

6 This leads me to the final of my
7 three lessons learned. As the great jazz
8 musician Les McCann said, compared to what?
9 At the end of the Cold War Congress decided to
10 my professional chagrin to cancel the
11 Superconducting Super Collider. But with
12 nuclear waste there is no option to do
13 nothing. You can leave the waste where it is
14 and take moral, technical and political
15 responsibility for that, or you can centralize
16 it into repositories or boreholes. It's
17 always going to be A or B or C. This is a
18 domain where no choice is a choice, and we
19 need to keep that front and center, which puts
20 us in a position that we must never forget:
21 our risk uncertainty in the world of nuclear
22 waste is always, always in the context of

1 comparisons. So I leave you more with a hope
2 and questions than with answers, questions
3 about how we cope with governance of a problem
4 of a scale that reaches from the smallest town
5 to the planet, of transparency, of keeping
6 openness, oversight and language clear enough
7 for us all to engage in meaningful discussion,
8 and handling uncertainty, whether it's of
9 models or scenarios, recognizing that we'll
10 always have to recognize comparative studies
11 if we find a way forward in this most
12 difficult of tasks. Thank you.

13 CHAIR SCOWCROFT: Thank you very
14 much. Appreciate it.

15 (Applause)

16 CHAIR SCOWCROFT: Allison?

17 MEMBER MACFARLANE: Okay, I know
18 we're running short of time and I want to
19 thank you all for your great comments again.
20 It's been a very helpful day. Let me start
21 off with a question for Roger. Seeing how the
22 question of hot waste being put into WIPP is

1 on the table, I would like to know - I do
2 appreciate that there was a lot of work done
3 in the past, but as a geologist I'm well aware
4 that the 1970s and the 1980s might as well
5 have been the 1920s in terms of recent science
6 and scientific advancement. So what I'd like
7 to know is whether a number of questions that
8 remained when the National Academy of Sciences
9 had a panel that looked at WIPP for about 12
10 years have been resolved, and these questions
11 pertain to issues like migration of fluid
12 inclusions in the brine due to heat, the
13 effects of actinide concentrations in brines,
14 microorganisms and gas generation. There are
15 quite a few questions like this that haven't
16 been resolved and so just from the technical
17 side I'd like to know whether there has been
18 any work or there are plans to do any work
19 like this.

20 MR. NELSON: That's a long
21 question, Commissioner, and would require
22 many, many hours to go into a detailed answer.

1 I will try and briefly answer each one.

2 MEMBER MACFARLANE: There are
3 more, so just tell me if there's work been
4 done and where I can look. How about that?

5 MR. NELSON: Brine -- the sand
6 report that Frank Hansen distributed during
7 your tour --

8 MEMBER MACFARLANE: Yes, I have
9 read that and it doesn't adequately answer
10 your questions.

11 MR. NELSON: That is a statement
12 of the true -- of the current state of the art
13 associated with the research in salt. There is
14 nothing other that we are aware of other than
15 what is summarized there.

16 MEMBER MACFARLANE: So, more needs
17 to be done.

18 MR. NELSON: Yes, there is more
19 work to be done. Totally agree. It is the
20 question -- one question one might have is the
21 thermal migration of brine inclusions in a
22 disturbed rock zone.

1 Imagine this opening with a
2 disturbed rock zone and it extends into the
3 host rock five or so meters. That disturbed
4 rock zone is filled with fractures and also
5 has intact crystals.

6 MEMBER MACFARLANE: Right.

7 MR. NELSON: If the thermal
8 gradient is high enough, the brine migration
9 will be up-gradient towards the heat source.
10 But when the temperatures reach the boiling
11 point of water, almost all transport will be
12 in the vapor phase. The fractures may not have
13 healed yet, so that in the vapor phase, the
14 transport will be away from the heat source
15 under a pressure gradient.

16 And so there's many questions
17 about how that actual process works and the
18 timing associated with it as the formation
19 heats up and the brine moves back and forth.

20 We think -- this is speculation
21 and needs to be verified in full-scale field
22 tests -- we think that the brine will

1 initially migrate towards, but as it gets to
2 the point where the temperature interface is
3 getting high enough, the pressure transport
4 will take over, and all will flow outward, and
5 then that salt will continue to heal, such
6 that the net result is a dry halo of several
7 tens of meters around the thermal source.

8 MEMBER MACFARLANE: Okay. So more
9 needs to be done.

10 MR. NELSON: But the brief answer
11 to your question is there's a lot of work left
12 to do.

13 MEMBER MACFARLANE: Right. One
14 more question and that's for Peter. Peter,
15 thank you, that was fantastic. I really
16 appreciated it. I learned a lot.

17 But I want to push you on one of
18 your conclusions, and that is, you said we
19 should be thinking about what are the critical
20 scales and the points of action where the
21 decision making process needs to be thought
22 through carefully.

1 Can you identify any of those,
2 based on what you have learned so far?

3 DR. GALISON: Well, I mean we have
4 just in the -- I mean there are certain things
5 that are just part of our elected structure,
6 so we are given certain scales, like a state
7 and a town. But --

8 MEMBER MACFARLANE: And that is
9 one thing we struggle with, is you know, what
10 the state and what balance should be there
11 between the state and the town.

12 DR. GALISON: Yes, and that's
13 already difficult. But then there is also --
14 we've seen here, not only in this case but in
15 others, that neighboring states also have a
16 stake.

17 MEMBER MACFARLANE: Right.

18 DR. GALISON: So we don't have a
19 corresponding political entity to a cluster of
20 states. So whatever difficulties there are in
21 figuring out the sort of natural, that is to
22 say our established, elected offices and how

1 to balance, say, the state concerns with town
2 concerns, there are things like clusters of
3 states where I think we could get -- I mean,
4 in the past we have seen them and Bob Forrest
5 mentioned that, that there -- I mean Colorado,
6 Idaho, Texas, all at certain stages in the
7 history of WIPP had views about this that had
8 political consequences.

9 So I think that there are two
10 levels of difficulty. The first one is one we
11 are given, and the second one is one that
12 there isn't a natural elected structure so
13 it's going to have to be put into place.

14 But I think that to just focus on
15 states or just focus on towns would be
16 catastrophic, I mean there have been periods
17 of time in the WIPP debate, as you know, where
18 the state was absolutely a turning point for
19 or against.

20 And the local history of the town,
21 I mean I think, against concerted, local
22 opposition, you know, imposing -- it's not the

1 Cold War anymore. You can't just float in a
2 major federal facility against a town's
3 wishes. There are too many access points to
4 block it.

5 So the town clearly plays a very
6 important role. But I hope that -- this
7 question of governance, which is really
8 fundamentally an issue of civic society, is
9 made difficult by the fact that it occurs on
10 so many scales, and it's crossed with
11 technical questions.

12 MEMBER MACFARLANE: Right. Right.

13 MEMBER DOMENICI: First, I want to
14 say to the panel I very much appreciated what
15 you all said, and John, if you have not
16 submitted your remarks in their totality, I
17 sure would like to have them. Perhaps we've
18 already got them.

19 I know Bob hasn't, because he
20 can't write that well.

21 (Laughter)

22 MR. FORREST: But he can't hardly

1 hear you, Senator.

2 (Laughter)

3 MEMBER DOMENICI: That's a good
4 answer. What I said is I'm not asking you for
5 your written remarks, because you can't write
6 that well. That's what I said. But you didn't
7 hear that, did you?

8 MR. FORREST: I heard that.

9 MEMBER DOMENICI: Okay. Anyway,
10 you were terrific. I wanted to say to Roger,
11 it's good to have you testify. It's nice to
12 get to know you.

13 Somehow or another it seems to me
14 that everything that I hear and do with
15 reference to nuclear power, right in the
16 middle of it all is the Nuclear Regulatory
17 Commission.

18 They're the big regulator on the
19 block as far as the national government is
20 concerned. And strangely enough I haven't
21 heard much about the Nuclear Regulatory
22 Commission being a chief regulator or even a

1 partially chief regulator in the process we
2 have been using here.

3 I just make that as an
4 observation. I don't ask any question about
5 that. But I do wonder whether -- what were
6 some the regulatory factors that might have
7 contributed to long delays in the siting of
8 WIPP.

9 Has dual regulation under RCRA and
10 191 been beneficial to the assurance of
11 safety? And I ask that of you, Roger.

12 And then I would like to answer --
13 to summarize it all up by saying the NRC
14 seems, as I have just indicated, to be rather
15 expert and they are maintaining their
16 scientific expertise along with their nuclear,
17 from what I can tell.

18 Should they be given an expanded
19 role in the regulatory process that we
20 recommend? And would that improve the process,
21 or do you have any other suggestions about
22 improving the regulatory process?

1 There has just got to be something
2 that doesn't work well, that causes long
3 delays, whether it's the state laws of
4 misinterpretations of things, can you kind of
5 -- tell the Commission about that please,
6 Roger?

7 MR. NELSON: I'll try. Again, this
8 is a very long story and it's not quite as
9 fast-paced as Dennis Powers' 10 million years
10 per second. But I'll have to go about a couple
11 of months a second in order to go through
12 this.

13 But, in 1988, when the facility
14 was completely constructed and ready for
15 operation, didn't own the -- DOE did not have
16 access to the land at that point in time, but
17 we had already built a facility -- there were
18 standards.

19 EPA had established standards, 40
20 CFR 191, and those standards were release
21 criteria, they were how much a future
22 repository could expose an individual into the

1 future.

2 But they weren't really criteria
3 associated with how you would operate, and how
4 you would close it, and how you would -- just
5 how you would operate it.

6 And so it was believed, I think,
7 by the politicians, that it was important to
8 have another set of criteria applied, on top
9 of the 191 criteria.

10 And the land withdrawal act that
11 you helped author created this second level of
12 criteria, above 191. EPA took several years,
13 I think four, to actually promulgate those
14 regulations.

15 I do not care to speculate on why
16 it took four years. There was some contention,
17 but it took four years to promulgate 40 CFR
18 194. 194 added these other levels of criteria,
19 and once those were out there as a target,
20 then DOE was able to shoot at that target and
21 hit it.

22 We were able to demonstrate that

1 the repository met a second level of criteria,
2 and within a year or two of that, we had the
3 authorization to proceed.

4 MR. HEATON: Senator, could I make
5 one comment?

6 MEMBER DOMENICI: Just one -- I
7 think there's more to this message, and Roger,
8 if you think about the question and the NRC
9 and dual regulation, and want to say more to
10 us, please write it up. We can't wait today
11 because we are going to be very late. So if
12 you do that, I think -- I'm not asking for me,
13 because that's not right, but I'm asking for
14 the Commission.

15 MR. FORREST: I will prepare a
16 supplemental submittal that describes the NRC
17 dual regulation and I will include the New
18 Mexico environment department RCRA part of it
19 as well.

20 MEMBER DOMENICI: And explain on
21 the last one, how it has worked in your
22 opinion.

1 MR. FORREST: Okay.

2 MEMBER DOMENICI: And there is
3 some real -- that's a tough one, because there
4 were long delays in that process and I think
5 we ought to know why if we are going to let
6 the states have lots of power, because that's
7 what we ended up getting in RCRA, I think.
8 Thank you Mr. Chairman.

9 MR. HEATON: Just really quickly
10 on the dual control state and EPA or NRC,
11 whomever it may be. The RCRA constituents in
12 WIPP only represent 1/10,000th of the risk,
13 the radiologic constituents that represent the
14 risk.

15 But it's only 1/10,000th and yet
16 the state controls everything almost totally.
17 They have imposed themselves through the RCRA
18 provisions of having total imposition, and
19 also creating almost all of the costs in the
20 management, and it's such a minuscule part of
21 the risk it makes no sense.

22 MEMBER DOMENICI: Thank you. You

1 had told me that before, and I'm sorry I
2 forgot it. I should have asked you for it.
3 Thank you very much.

4 CHAIR SCOWCROFT: Phil.

5 MEMBER SHARP: In the earlier
6 exchange between Peter and Allison, there was
7 some discussion of governance and structures
8 and forms, and these are very important, these
9 regulatory questions of how we organize this
10 are very important, and these are things on
11 which this Commission might make an offering.

12 But I think that the one thing
13 that comes through powerfully in this example
14 and in our trip here, and it's something this
15 Commission cannot provide but must indicate,
16 is what leadership matters.

17 Because through all the complex
18 forms of governance, through all the complex
19 scientific questions, through all the complex
20 organizational things that had to be done,
21 people led.

22 People led on the scientific

1 questions and how to get them done. They led
2 on how to lead this project and how to
3 implement it. They led on how to create public
4 participation forums that needed to be a part
5 of this to make it acceptable.

6 They led on how to create a system
7 of monitoring and an oversight of the health
8 effects that could reassure people as to what
9 was going to happen to them, not just in the
10 early decision but now.

11 And finally, you had the
12 incredible examples before us, of people who
13 could lead coalitions and had the persistence
14 and the guts to stick with it.

15 Now there is no set of procedures
16 that guarantees that. There is no redesign of
17 all the academics, politicians and corporate
18 executives, that can redesign the system to
19 guarantee that.

20 That is a matter of people
21 stepping forward. I don't mean to belittle
22 procedural or organizational questions. They

1 can make it a lot harder or they can make it
2 easier.

3 But there is no substitute for
4 leadership, and what we have seen in this
5 community and in this state, and it's in the
6 relationship in multiple things both political
7 and non-political, is real acts of leadership
8 that have created things that we need to
9 capture in this report.

10 And if other people in this
11 society were to make solutions to other
12 problems, this would be a damn good place to
13 look.

14 (Applause)

15 MEMBER PETERSON: I have a
16 question for John Heaton that relates to the
17 repermitting or recertification, the every
18 five years for the EPA and every 10 years for
19 the state.

20 It's a part of a bigger set of
21 questions that also relate to things such as
22 what does one require around retrievability of

1 waste.

2 And this is an important policy
3 question that we have to grapple with, is do
4 you do something prescriptive in requirements
5 around retrievability or should you provide
6 some flexibility?

7 You'd guess that I'd probably lean
8 towards flexibility, and I am interested in
9 what you would think about the benefits of
10 having these periodic reviews to make sure
11 that things are going the way they are
12 supposed to and that you are not spending a
13 long time going down the wrong path, which one
14 might argue we have been in our approach to
15 high-level waste for some period of time.

16 So could you discuss what you
17 think of the sort of, might be benefits or
18 disadvantages associated with having this
19 requirement for periodic review and
20 repermitting or recertification for the
21 disposal facility?

22 MR. HEATON: I think that the

1 repermitting and recertifications that go on
2 lend themselves to public confidence, and the
3 confidence of performance assessment is
4 performance assessment being validated by what
5 is going on in these periodic reviews.

6 I mean those are -- you know,
7 there's a whole host of assumptions that are
8 put into performance assessment and a lot of
9 calculations done, and this is a verification
10 that it's truly working as it's proposed to
11 work.

12 So I think that that is an
13 important consideration from a scientific
14 perspective, from public understanding, public
15 perception.

16 So I think probably those are
17 valuable. At some point, maybe, they want to
18 be extended as things validate themselves over
19 time.

20 So perhaps there ought to be some
21 flexibility that -- and the scientific
22 community really needs to put that in place I

1 think.

2 But in terms of retrievability,
3 the question you asked, you know WIPP -- EPA
4 has retrievability requirements even for WIPP
5 theoretically.

6 But those things have sort of been
7 put aside because the waste going into WIPP is
8 really, true -- not true, I don't mean it as
9 a pun -- it is truly waste and is unintended
10 to ever need to be retrieved and perhaps there
11 might be some anomaly that happens that would
12 require remining it or some sort of thing,
13 which is all possible.

14 But basically it is waste, so this
15 retrievability concept, I think it makes no
16 sense to me for instance with used fuel, to
17 put it into a repository whether it's in salt
18 or it's in granite or whatever it is, and then
19 go back and get it again if you decide to
20 reprocess it.

21 So, the best place to have it is
22 on the surface where it's accessible for that

1 period of time, and during that period of
2 time, it's decaying, the heat properties are
3 diminishing.

4 So from that perspective I think
5 to put it into repository and then have to go
6 get it again when a new decision is made,
7 makes absolutely no sense to me. It ought to
8 be left on the surface until the decision is
9 made.

10 If you are going to reprocess it,
11 then it's there to reprocess. If you make the
12 decision not to reprocess, then it could be
13 moved in the repository. I mean that's the
14 efficient, logical thing from my perspective.

15 MEMBER PETERSON: So just to be
16 absolutely clear, the -- some people have told
17 me that if you don't have a requirement that
18 you design for retrieval, that it's impossible
19 to get public acceptance for a disposal
20 facility.

21 And at least if it's focused on
22 things which we know are unambiguously waste,

1 there would be no future need to retrieve them
2 because of the desire to reuse them, you would
3 say that it's not necessary for getting public
4 acceptance or being successful in --

5 MR. HEATON: I do not believe it
6 is.

7 MEMBER PETERSON: Any other
8 thoughts on this? Because it's a very
9 important question that we have to grapple
10 with.

11 MR. HEATON: Well, I know it is
12 one because it's in law, the retrievability
13 concept. But I think that there should be a
14 modification for that inflexibility related to
15 it. To me it doesn't make any sense, even if
16 it were in a granite repository where it might
17 be more easily retrievable, it's still
18 extraordinarily expensive and it makes sense
19 to me to leave it on the surface and, where
20 you have got a cooling-down pad, it does not
21 make sense to go through the exercise of
22 implanting it in a repository and then having

1 to go back and get it again.

2 So I think there needs to be some
3 modification of that, is my opinion.

4 MR. NELSON: Commissioner, I'll
5 expand a little bit on that, on both
6 questions. The first question about renewal
7 frequency. It is a powerful way to demonstrate
8 compliance. But it's -- the reason that you
9 would want to have a requirement to renew
10 authorization is because the monitoring should
11 never stop.

12 This is a long-term program and
13 the monitoring of the performance of the
14 repository begins before the repository is
15 constructed, but continues afterwards, for as
16 long as you institutionally think it's going
17 to potentially pose a risk.

18 And so there is constantly
19 additional information being derived, so every
20 few years or every decade, whatever the
21 frequency is, you would want to renew and take
22 into account the new information that you have

1 derived from that monitoring.

2 MEMBER BAILEY: Thank you, yes. My
3 -- I want to continue on that. My question
4 also went to retrievability and I was going to
5 put this question to you Roger.

6 I had the opportunity to spend
7 some time with you yesterday on the tour, but
8 I think this issue as it relates to spent
9 fuel, whether or not we are going to consider
10 spent fuel a resource or a waste, and to the
11 issue of retrievability, I noticed in your
12 conclusions, you said recoverable but not
13 retrievable, and I wanted you to clarify that
14 for me.

15 MR. NELSON: The EPA requirements
16 ask us, as part of demonstrating compliance
17 with the certification, that we demonstrate
18 that the material can be recovered, that you
19 can reverse the decision to dispose of it.

20 Now, retrievability is generally,
21 I think, in the vernacular, means it's still
22 in the shape that when you put it there. But

1 recovery does not connote that same intact
2 shape or intact set of characteristics.

3 So -- because as you saw, the salt
4 is constantly creeping. It will crush the
5 material and in the forces at that depth,
6 there's not really anything that we can do to
7 keep it intact.

8 So the decision early on at WIPP,
9 is that since we can demonstrate recovery, we
10 can mine these canisters or drums back out of
11 -- we would be mining them in a crushed state
12 but we would mine them back out -- it can be
13 recovered but it cannot be retrieved.

14 MEMBER BAILEY: We would recover
15 it in order to do --

16 MR. NELSON: To get it out of that
17 geologic medium. I don't know why -- I can't
18 imagine a reason at this point in time that
19 you would want to do something like that, but
20 that's institutionally what we as a society
21 have thought we need to do, to be able to
22 recover the material.

1 MEMBER BAILEY: Okay. Thank you.

2 MR. HEATON: Commissioner, there
3 is also, in the context of high-level defense
4 waste, it's already been reprocessed. It's in
5 a form, it's been vitrified, it is completely
6 unusable.

7 That waste form, why would you
8 want to recover it or retrieve it?

9 MEMBER BAILEY: Okay. Anyone else?
10 All right. Thank you.

11 CHAIR SCOWCROFT: All right. I
12 think the panel for a fascinating discussion.
13 We appreciate your giving us the time. Thank
14 you very much.

15 (Applause)

16 We now have come to the period for
17 public comment. We are still way behind and we
18 have 46 people signed up for public comment,
19 so we are going to have to be very efficient
20 in the use of time.

21 We can allow two minutes per
22 comment. The light system will be green light,

1 at one minute to go will be orange, and when
2 the red light comes on, I would ask you to
3 conclude the sentence you are on.

4 That's the only way that we can
5 create management. I will call the name of the
6 person to give comments and the next two names
7 in order so that we may move as effectively as
8 possible.

9 The first commenter will be
10 Michael Reynolds from Carlsbad Fire
11 Department. Mr. Reynolds? On deck is Mr.
12 Robert Defer and Jerri McTaggart.

13 MR. REYNOLDS: My name is Mike
14 Reynolds, fire chief of the City of Carlsbad
15 fire department and emergency medical
16 services.

17 WIPP has set the example for the
18 world in how to safely operate nuclear waste
19 facility, radiological waste facility. No
20 better location exists than here in
21 southeastern New Mexico.

22 The citizens in Lea and Eddy

1 Counties, continue to embrace the presence and
2 the economic impact of the Department of
3 Energy's WIPP project, and they eagerly
4 anticipate the expansion of the WIPP facility
5 and the implementation of additional nuclear
6 waste repository projects here in southeastern
7 New Mexico.

8 No other community in the nation
9 embraces the Department of Energy as
10 proactively as Carlsbad in southeastern New
11 Mexico. As John Heaton mentioned, this is not
12 a blind date.

13 We have danced together before. We
14 are still dancing together. We dance together
15 well. We dance together smoothly, so smoothly
16 we could be on "Dancing With The Stars."

17 Mental image of Roger Nelson and
18 Bob Forrest dancing together --

19 (Laughter)

20 Thank God that's just an analogy.
21 But what is not an analogy is that we trust
22 the Department of Energy and the Department of

1 Energy trusts us.

2 The Memorandum of Understanding
3 that we have with the WIPP facility, with the
4 Department of Energy and the Carlsbad fire
5 department, allow our EMTs and WIPP's EMTs to
6 work together proactively, responding anywhere
7 in the vicinity of southeastern New Mexico
8 together, helping each other.

9 And this frequently happens.
10 Frequently the WIPP responders go out to a
11 traffic accident, get there before we do. They
12 hand the patient over to us.

13 We work together, we know each
14 other and as a result of our training together
15 and the funding of this project, has allowed
16 this training to occur -- this partnership to
17 occur.

18 We frequently conduct joint
19 exercises together that drills all types of
20 incidents involving multiple agencies,
21 multiple jurisdictions, multiple types of
22 incidents, chemical and radiological and we

1 see no signs here today, no marching, no
2 protesting, no chanting.

3 Because there are none in Eddy
4 County. You could probably count all -- out of
5 all 50,000 residents in Eddy County, you could
6 probably count those on maybe one hand, maybe
7 less, a few fingers.

8 Anyone that does that has to be
9 brought in from the outside, because Eddy
10 County is staunchly and strictly behind the
11 WIPP project and especially in its expansion.

12 There's the red light, okay. Thank
13 you.

14 CHAIR SCOWCROFT: Thank you Mr.
15 Reynolds. Our next commenter is Robert Defer
16 of the chamber of commerce followed by Jerri
17 McTaggart and Joe Epstein.

18 MR. DEFER: Good afternoon. I am
19 Robert Defer with the executive director of
20 the Carlsbad chamber of commerce. Thank you so
21 much for allowing us to share and to serve you
22 this weekend or this -- yesterday and today.

1 The future of our country must not
2 stand on fossil fuel alone. Nuclear power is
3 the answer. Carlsbad residents made the
4 correct choice years ago to support WIPP. Our
5 support has not changed. It has only gotten
6 stronger.

7 Because we have witnessed first
8 hand the positive economic impact for our
9 community, WIPP's outstanding safety record,
10 the forming of new friendships, the nuclear
11 industry has provided jobs for our community,
12 for our economic recovery.

13 And that includes roads from here
14 to Santa Fe, which includes bypasses, that
15 have been much-needed improvements. There's
16 been an expense of approximately \$350 million
17 coming to our state.

18 WIPP's safety record protects us
19 now and our future generations, which is so
20 important to all of us.

21 WIPP's employees are our family.
22 They are leaders in our community. They are

1 students in our schools. They are volunteers
2 at our non-profit organizations and they are
3 members of our churches.

4 As we look toward the future, we
5 welcome the nuclear industry because of our
6 great experiences in the past with WIPP. Thank
7 you so much for allowing me to share with you
8 some of our thoughts today.

9 CHAIR SCOWCROFT: Thank you very
10 much. The next speaker is Jerri McTaggart, the
11 Little Teapot, followed by Joe Epstein and
12 Reverend Rogers.

13 MS. MCTAGGART: Good morning and
14 thank you for taking time out of your busy
15 schedule to come to Carlsbad. We are excited
16 to have you.

17 I own two businesses here in
18 Carlsbad and work full-time at Los Alamos
19 National Laboratories here in Carlsbad, that
20 support the WIPP site.

21 I am speaking today as the owner
22 of two businesses. I would like to tell you

1 why Carlsbad, New Mexico is a great place to
2 work and own a business.

3 Carlsbad's citizens are one of a
4 kind. The citizens are open-minded, caring,
5 giving, hardworking and have a great can-do
6 attitude.

7 The community is willing to pull
8 up their sleeves and help out in any situation
9 or tackle any problem. The community wants to
10 be a part of the solution, not a part of the
11 problem.

12 Carlsbad was the only community in
13 the nation that stepped up to the plate and
14 asked for the WIPP project here.

15 Carlsbad took the initiative to
16 become educated about nuclear waste before
17 making the decision about WIPP.

18 WIPP is a tremendous success story
19 today. WIPP in turn has been available to
20 teach and educate communities across the
21 country and have been involved in this
22 community.

1 They have never experienced -- or
2 I have never experienced a project that is so
3 available to the public.

4 I worked at Rocky Flats for almost
5 20 years in Denver, Colorado. I lived in
6 Denver metro area, where the communities
7 worked tirelessly to shut down Rocky Flats,
8 until they finally succeeded.

9 Communities like Denver never took
10 the time to learn about Rocky Flats and just
11 assumed that the propaganda that all of the
12 anti-nuke groups was gospel.

13 Carlsbad is just the opposite.
14 They embrace the WIPP project and ask, how can
15 we help? They do not wake up in the morning
16 and let the global gossip run their day.

17 This is refreshing and inviting --
18 is that it?

19 CHAIR SCOWCROFT: Go ahead. Finish
20 your sentence.

21 MS. MCTAGGART: Okay. This is
22 refreshing and inviting and that is what makes

1 Carlsbad the great place for any industry.
2 Carlsbad only asks that the industry conduct
3 business in a safe manner and be a good
4 community partner.

5 I wish all communities were like
6 Carlsbad but they are not. I am glad to be a
7 business owner and a member of this wonderful
8 community, and we are ready to take another
9 stand.

10 CHAIR SCOWCROFT: Thank you very
11 much. The next speaker is Joe Epstein,
12 followed by the Reverend Rogers and Judi
13 Waters.

14 MR. EPSTEIN: Hello, Joe Epstein,
15 a resident of Carlsbad and retired here. I
16 spent my entire professional career in the
17 nuclear business: the Navy as chief engineer
18 on a nuclear submarine; on the commercial
19 side; and in waste management with DOE.

20 Safe nuclear activities take
21 respect for the product, attention to detail,
22 continuous learning and training and a high

1 safety and quality commitment.

2 I was the Westinghouse general
3 manager on WIPP when we opened back in '99,
4 and very proud of what everyone accomplished.

5 It was a glorious morning when the
6 truck came rolling through the gate and all
7 the work, and wait, was worth it.

8 After that it has continued to be
9 excellent, safe operations in waste disposal,
10 with rigorous conduct of ops, permit and
11 regulation total adherence, high quality and
12 safety standards execution. That is the WIPP
13 experience.

14 I believe in nuclear power and
15 what we can do in the U.S. to close the fuel
16 cycle. Carlsbad greatly supported and
17 continues to support WIPP and the DOE.

18 We have a single-mindedness to
19 safety here in Carlsbad, and doing it right.
20 We will do the same with other waste farms,
21 especially high-level waste, should that be
22 the ultimate outcome.

1 Patriotism and helping the nation
2 is strong in Carlsbad and that is important to
3 the issue of high-level waste disposal.

4 For myself, I'll do anything, go
5 anywhere to support Carlsbad in bringing high-
6 level waste to Carlsbad. That's a sentiment
7 shared by my colleagues.

8 If we, the nation, want it done
9 right, bring it here. We'll do it and better
10 than anywhere else in the nation. That's the
11 experience I have and we have. Thank you.

12 CHAIR SCOWCROFT: Thank you very
13 much Mr. Epstein. Our next speaker is Reverend
14 Rogers, followed by Judi Waters and George
15 Dunagan.

16 REV. ROGERS: Good afternoon
17 honorable Commissioners. Thank you for the
18 opportunity to speak to you for just a couple
19 of minutes on fear.

20 I am the Reverend David Wilson
21 Rogers, the local pastor here and an activist
22 in Carlsbad and I remember the memory of my

1 deceased grandfather, Richard Rogers, a
2 veteran of World War Two, who said over 60
3 years ago that his only regret with nuclear
4 anything was that it was introduced to the
5 world through atomic weaponry.

6 It was his contention then that
7 that would forever taint the genuine
8 potential, promise, the possibilities and the
9 great importance that nuclear would have for
10 the future our planet.

11 We have had years of incredible
12 propaganda, and a campaign fueled on Cold War
13 fears. We have had lots of fear-mongering
14 postulated by questionable theatrics and
15 emotionalized rhetoric to stimulate and to
16 motivate the fear.

17 Here in Carlsbad we have no fears.
18 As a citizen of this community, I am here to
19 say that fear does not govern us. It does not
20 determine how we choose to interpret the
21 empirical data.

22 But rather we support WIPP for a

1 lot of reasons and I'm going to tell you two
2 of them. We have studied the science and we
3 believe in the science and are confident in
4 the science.

5 The second is we are confident in
6 the proven safety record of WIPP.

7 So today, I implore upon you to
8 listen to the words of our Governor Martinez,
9 listen to the science. I recognize the words
10 and the sentiment of Dr. Compton who said that
11 science is not always going to convince
12 everybody when fear is dominant, so do not
13 allow yourselves to be governed by fear.

14 Remember what I have said in the
15 past in other things, fear is false evidence
16 appearing real. When you evaluate this
17 process, keep in mind the thoughts of those of
18 us who live with WIPP every day, and we are
19 not afraid. We are ready to embrace the future
20 because we believe in WIPP. Thank you very
21 much.

22 CHAIR SCOWCROFT: Thank you very

1 much. Our next speaker is Judi Waters,
2 followed by George Dunagan and Allen Sartin.

3 MS. WATERS: Who would ever
4 believe he was a preacher? This is going to be
5 rather dry after that.

6 (Laughter)

7 My name is Judi Waters, and I am
8 in my eighth year sitting on the city council,
9 and I am also the founder of a volunteer
10 organization whose sole purpose is to save
11 young lives on graduation night, Class Act.

12 But most important, I think, I'm a
13 35-year resident of Carlsbad, New Mexico, and
14 I am proud to be here. Twenty-two years ago
15 when I began Class Act, I was really amazed,
16 having come from a large city, I was very
17 amazed at how the community and Carlsbad
18 businesses stepped forward to help on
19 endeavors here in the community.

20 Today the picture hasn't changed
21 at all. WIPP has stepped up to the plate and
22 become a true partner here in our community.

1 It's always supported Class Act by donating
2 scholarship monies to be given out to a
3 Carlsbad graduate for college.

4 And to further demonstrate WIPP's
5 partnership in our community, from the
6 viewpoint of a city councilman, WIPP has
7 provided funding for many local street repairs
8 -- not Canal Street, I might add --

9 (Laughter)

10 But it in turn has enabled the
11 city to use our monies and relocate these
12 monies to other projects which probably would
13 have been on hold.

14 You ask if we citizens support
15 WIPP and the possibility of Carlsbad welcoming
16 another facility related to nuclear storage?
17 Just look around. Bring it on. Thank you so
18 much for being here.

19 CHAIR SCOWCROFT: Thank you very
20 much. Next speaker is George Dunagan, followed
21 by Allen Sartin and Mark Schinner.

22 MR. DUNAGAN: Thank you,

1 Commission members for allowing me to speak.
2 My name is George Dunagan. I am a fourth
3 generation Carlsbadian. My children live here.
4 All my grandchildren live here.

5 When discussion began in the 1970s
6 about whether or not to locate the WIPP site
7 here, not everybody was in favor of it. There
8 were many people that were very cautious about
9 it.

10 Some of the people for it now,
11 were against it then. But as Wendell Weart and
12 others began to go about the community, they
13 began to educate us, and we began to find out
14 that it was a possibly safe operation.

15 As the operations ramped up and
16 the people to operate it moved here, with
17 their families, and assimilate in the
18 community, we became very comfortable with it.

19 Many of those people have their
20 children and grandchildren living here now.
21 It's interesting, about the same time that
22 WIPP began, was when America faced its energy

1 crisis. We still are. How are we doing?

2 A generation has passed since WIPP
3 began, and American began to face that energy
4 crisis. It would be sad indeed if another
5 generation passed and we were still facing an
6 energy crisis, still wondering what to do with
7 nuclear waste.

8 I appreciate very much the
9 Commission being here. I ask you to be bold,
10 to make a difference, not just for now, but
11 the future generations in America. Thank you.

12 CHAIR SCOWCROFT: Thank you very
13 much. Our next speaker is Allen Sartin
14 followed by Mark Schinner and Wesley Carter.

15 MR. SARTIN: Good afternoon,
16 Commissioners. My name is Allen Sartin and I
17 am the Eddy County manager, and I am a
18 relative newcomer to the community, and I'd
19 like to share with you some of my observations
20 after two years being here.

21 I have been extremely impressed
22 with the high level of commitment and unity in

1 the community in support of the WIPP project
2 and other nuclear industries.

3 It's rare in a community to find a
4 community that is so galvanized for a positive
5 thing. I've been working in local government
6 for about 30 years, and in most communities,
7 when you see a community galvanized, it is
8 against something: against a shopping mall.

9 It is rare to see a community so
10 galvanized to support something that is so
11 controversial, and this community has done
12 that for many years.

13 WIPP is no longer considered to be
14 a pilot project here. It is considered to be
15 a very successful and fully operational
16 facility. It is considered to be a model for
17 the nation.

18 The community not only appreciates
19 the positive economic impact from WIPP, but
20 also has pride in being part of the nation's
21 solution for managing nuclear materials.

22 Success here was based on, at

1 least in part, scientific location design to
2 construction of the facility, excellence in
3 operations and safety, and public
4 participation.

5 Eddy County has shown the ability
6 to be successful in assisting the nation with
7 the storage of nuclear materials, and we would
8 like to continue that, so we hope that you
9 will look at us favorably as you make your
10 decisions. Thank you.

11 CHAIR SCOWCROFT: Thank you very
12 much. The next speaker is Mark Schinner of
13 CARC Incorporated, followed by Wesley Carter
14 and Christopher Jones.

15 MR. SCHINNER: Good afternoon. My
16 name is Mark Schinner and I am chief executive
17 officer of CARC Incorporated, better known
18 around here as the CARC farm.

19 We serve adults with developmental
20 disabilities in vocational and residential
21 programs. A part of that program is to assist
22 those individuals in finding employment in the

1 community.

2 This allows them to earn a
3 paycheck, develop skills and see themselves as
4 a valued member of their community.

5 Because of WIPP, 11 of our
6 individuals are employed in the records
7 archiving process and we have been a part of
8 that process as a subcontractor since 1991. In
9 April of this year it will be 20 years that
10 our individuals have been employed in this
11 program, learning valuable skills, learning
12 how to scan and verify documents for
13 archiving, and earn a paycheck.

14 The skills and employment this has
15 brought to our clients has helped them
16 maintain their employment and develop their
17 self-esteem.

18 We have about another 100 adults
19 who could also benefit from similar type
20 employment. And after 20 years with the WIPP
21 and DOE and the scientific community bringing
22 the best and brightest minds to the WIPP, we

1 have shown that we know how to handle the
2 waste. We know how to control the waste, and
3 we know how to store the waste.

4 We offer open arms and minds to
5 expand our solutions to the national problem.
6 And I look forward to increased opportunities
7 for individuals with limited skills, so they
8 can be a part of the process also. Thank you.

9 CHAIR SCOWCROFT: Thank you very
10 much. Our next speaker is and Wesley Carter,
11 followed by Christopher Jones and Harry
12 Burgess.

13 MR. CARTER: Hello. Wesley Carter,
14 city councilman, City of Carlsbad. Thank you
15 guys very much for sticking around here to
16 listen to us.

17 DOE started construction of the
18 WIPP site the year I was born, so I can't
19 remember a time when WIPP hasn't been around.

20 I know a lot of people, state and
21 nationwide grew up in what I like to call the
22 China Syndrome era, where Jane Fonda and

1 Michael Douglas did a good job of scaring
2 everyone into thinking the nuclear industry as
3 a whole was unsafe and unpredictable.

4 We have come a long way since that
5 time. The WIPP site has played a small but
6 important role in the nuclear fuel cycle, and
7 has safely and efficiently disposed of more
8 than 72,000 cubic meters of
9 transuranic waste.

10 That milestone is not only
11 important on a local level, but on a state and
12 national level. From WTS to Los Alamos
13 National Laboratories to Sandia National
14 Laboratories, you won't find better employees.

15 These employees don't see this as
16 a job but as a lifestyle, a lifestyle
17 dedicated to making our city, state and nation
18 a safer place to live.

19 While most people agree the
20 disposal of nuclear waste is important, most
21 have the not-in-my-backyard mentality. I would
22 venture to say everyone in this room opposed

1 to this project doesn't live here.

2 In fact, the people of Carlsbad
3 and Eddy County are welcoming this project
4 with open arms. We have plenty of room in our
5 backyard, and would love to extend the scope
6 of our role in the nuclear fuel cycle.

7 Again, thank you for allowing us
8 to be here today and speak on behalf of the
9 community that wholeheartedly supports this
10 project. Thank you.

11 CHAIR SCOWCROFT: Thank you very
12 much. Our next speaker is Christopher Jones,
13 followed by Harry Burgess and Jack Volpato.

14 MR. JONES: Good afternoon. My
15 name is Christopher Jones and I was born and
16 raised here in Carlsbad. After high school I
17 moved away for several years but recently
18 moved back and like Wes, I can't remember a
19 time without the WIPP project.

20 During my time away, I obtained a
21 business degree from New Mexico State and an
22 MBA from Southern Methodist. I have a business

1 here. I have built a home here, and I will
2 raise my family here.

3 As one of the youngest people
4 present, I, God willing, will have to live
5 with the WIPP site and the potential high-
6 level waste a lot longer than many of the
7 other people you are going to hear from today.

8 And despite opportunities
9 elsewhere, I chose to return to Carlsbad, but
10 would not have done so if I believed that the
11 WIPP site was dangerous.

12 I have literally grown up with the
13 WIPP project and can say that the site, as
14 well as all the supporting services and
15 processes, have been proven time and time
16 again to be safe.

17 It is scientifically sound. It is
18 overwhelmingly supported by a well-educated
19 and informed community, a community that is
20 also dependent upon the high-paying jobs it
21 brings.

22 I hope that in the future you

1 expand the mission of WIPP to include high-
2 level waste. I believe that it is the best
3 decision for the nation, for the state, for
4 the City of Carlsbad and for my own business
5 and personal success. Thank you for being
6 here.

7 CHAIR SCOWCROFT: Thank you very
8 much. Our next speaker is Harry Burgess,
9 followed by Jack Volpato and Jay Granger.

10 MR. BURGESS: Hi. Thank you for
11 the opportunity to speak to you all. My name
12 is Harry Burgess. I am the city administrator
13 for the City of Carlsbad. I have actually
14 moved to Carlsbad twice, both with full
15 knowledge of the WIPP site and its related
16 capacity.

17 I understand from Senator
18 Domenici's comments last night, you all are
19 not in the process of selecting a site in
20 particular.

21 I also understand you are looking
22 at the various media for potential disposal of

1 waste, and I hope that while you have been
2 here you have learned a lot about salt.

3 You have also seen a great
4 demonstration of salt and its capacity for the
5 storage of nuclear waste.

6 With the WIPP site here, there has
7 been a long process of investing in
8 infrastructure. Literally billions of dollars
9 have been invested in the roadways, in the
10 waterlines, in the training of employees, to
11 have this facility in place today.

12 I expect that you have looked at a
13 number of different media, a number of
14 different opportunities for the disposition of
15 nuclear waste, including basalt, salt, deep
16 geological burial, possibly even shooting
17 material into space.

18 I imagine as part of your process
19 you are going to be thinking about some
20 pragmatic considerations, on what we need to
21 do with this waste, and that consideration
22 should include cost as well.

1 I would suggest to each of you
2 that the costs that have already been invested
3 in the City of Carlsbad should result in a
4 potential for a future site that will end up
5 with a much cheaper solution than any other
6 place in the nation.

7 Given our current state of the
8 economy, I would suggest to you as well that
9 that would be the right choice, and I hope
10 that you consider that in your
11 recommendations. Thank you for your time.

12 CHAIR SCOWCROFT: Thank you very
13 much. Our next speaker is Jack Volpato,
14 followed by Jay Granger and John Waters.

15 MR. VOLPATO: Thank you for
16 letting me address you, Commissioners. I am
17 Jack Volpato. I am a Carlsbad native. I was
18 born and raised here. Went off to the
19 University of New Mexico, got my pharmacy
20 degree, and with that degree you can live
21 anywhere you want.

22 I came -- I chose to come back to

1 Carlsbad for the lifestyle and the people and
2 everything that it offers.

3 I am now a county commissioner
4 serving my second term with Eddy County, and
5 I would like for you guys to consider one
6 thing, is interim storage, the interim storage
7 option for the spent fuel rods.

8 We, along with Lea County, the
9 City of Carlsbad and the City of Hobbs, have
10 purchased 1,000 acres adjacent to the WIPP
11 site, which would be very useful for storing
12 spent fuel rods.

13 It would fit part of the puzzle
14 that we are trying to accomplish down here
15 with nuclear energy. It is a characterized
16 site. URENCO down the street could possibly,
17 upon -- if we were to refurbish rods and get
18 them reprocessed, this would be a perfect
19 place for us to store -- for interim storage
20 for these rods.

21 The four entities have worked
22 together, and that shows commitment within the

1 southeastern New Mexico corridor, for energy
2 development.

3 We worked together and we
4 purchased this land with our own money, so
5 that's something that we are trying to show
6 true commitment to interim storage.

7 Also, on behalf of Eddy County, we
8 have shown true commitment by spending over \$6
9 million in upgrading our communications
10 infrastructure, adding new towers, new
11 equipment, offering a new Consolidated
12 Dispatch Center so that all the emergency and
13 police and fire are all coordinated, so if
14 anything was to happen, we are state of the
15 art down here.

16 If you want to look at processes
17 as far as safety and response, Eddy County,
18 the WIPP site, Carlsbad, has wrote the book on
19 this, and whatever you decide, that is
20 something you could take away from here as a
21 model for storage and for safety. Thank you.

22 CHAIR SCOWCROFT: Thank you very

1 much. Our next speaker is Jay Granger, City of
2 Carlsbad, followed by John Waters and Dave
3 Sepich.

4 MR. GRANGER: Good afternoon. My
5 name is Jay Granger. I am president of the
6 steelworkers' local union, 187. I also
7 represent Carlsbad labor.

8 I come from a pioneer family that
9 settled in the Carlsbad area in the early
10 1900s. I attended Carlsbad school, married my
11 high school sweetheart and have raised my
12 family of three children.

13 A major concern at the beginning
14 of WIPP was safety. I was assured that it
15 would be the top priority of the Department of
16 Energy, and the contractors.

17 They have lived up to their pledge
18 by having one of the best safety records in
19 the country, plus never having a serious waste
20 incident.

21 I have supported WIPP from the
22 beginning, and have many relatives and friends

1 that are employed there. Again, the WIPP
2 contractors and the Department of Energy have
3 always done what they said that they would do.

4 WIPP has proven itself in its
5 mission to clean up transuranic waste and we
6 are now ready for the next step, which I feel
7 will be commercial and defense waste.

8 On behalf of the people I
9 represent, we want you to know that we have
10 the faith and confidence in the Department of
11 Energy and the contractors.

12 We ask for your consideration in
13 taking this next step. Thank you.

14 CHAIR SCOWCROFT: Thank you very
15 much. Our next speaker is John Waters of the
16 Carlsbad department of development, followed
17 by Dave Sepich and Roxanne Lara.

18 MR. WATERS: Honored
19 Commissioners, again I echo the sentiments
20 from earlier. Thank you for coming to
21 Carlsbad. We of course love that you got a
22 chance to see what we have here.

1 And I am not talking about the
2 salt. I am not a geologist. I happen to be the
3 director of the economic development agency,
4 the Carlsbad department of development here.

5 So I am going to talk about the
6 other resource, the resource here in Carlsbad
7 that I feel is the most valuable one: people.

8 The WIPP site has historically
9 helped people in Carlsbad, both, you have
10 heard, with helping the volunteers out. You
11 have heard about the jobs: over 1,500 people
12 are employed directly or through contractors
13 here with this facility.

14 In a community, and I talk about
15 the community of 40,000 with Carlsbad and the
16 towns around it, as well as our neighboring
17 communities -- we have folks from Lea County
18 here -- lots of families are touched by this
19 facility.

20 We are touched. We have people
21 that are friends that work there. We have
22 people that are family that work there. A lot

1 of the folks here work there.

2 One of the things we have learned
3 about the people that are touched by the WIPP
4 site: their lives are better now. Their lives
5 are better because they have learned a new
6 culture of safety.

7 We have mines here, and the mines
8 are very safe, but WIPP has taken it to a new
9 level. The culture, the safety culture,
10 pervades the entire population now.

11 People are very aware of risks,
12 not just risks with mining, not just risks
13 with the nuclear waste. We are aware in our
14 daily lives about the things that we see.

15 We take a different look at
16 things, to try to be safer. A lot of that is
17 due to the fact that we have WIPP here. They
18 brought something that was great to our
19 community.

20 They brought, of course, money.
21 Obviously that is a big deal for our
22 community. A lot of people have jobs. A lot of

1 people have food on the table because of it,
2 and absolutely, that is something we do want
3 to continue.

4 We show you that we have got a
5 great geologic resource. We have a great human
6 resource here. The training, the folks that
7 are here, both the folks that came from the
8 educational side, as well as the folks that
9 are workers here.

10 We want them to remain here. We
11 don't want them to take a piece of our
12 community away, so please, keep Carlsbad in
13 consideration for a possible future in this
14 area. Thank you very much.

15 CHAIR SCOWCROFT: Thank you very
16 much. Our next speaker is Dave Sepich,
17 followed by Roxanne Lara and Jody Knox.

18 MR. SEPICH: Mr. Commissioner, Mr.
19 Chairman and Commissioners, thank you for the
20 opportunity to speak today.

21 My name is Dave Sepich. I am a
22 resident of Carlsbad, have been all my life.

1 I own a couple of businesses here and raised
2 all my children here and plan on being here a
3 long time.

4 My first experience of nuclear
5 energy was in grade school. A bell would ring
6 three times and we would go out in the hallway
7 and put our heads between our legs.

8 And during that time, during the
9 Cold War, that was -- everybody was afraid of
10 the word nuclear.

11 Fortunately for me and for the
12 citizens of southeast New Mexico, we have 40
13 years of education concerning nuclear energy,
14 and the incredible benefits that nuclear
15 energy offers.

16 We have also learned through
17 knowledge, science, education and training, we
18 have been able to solve issues dealing with
19 the waste created during the development of
20 that era, that Cold War era.

21 You have seen WIPP, you have heard
22 about the geology, you have heard about the

1 infrastructure. You have heard about the
2 science and the equipment.

3 But in my opinion, the most
4 important part of the solution is the people
5 who run the WIPP site.

6 We are those people, the people of
7 Carlsbad. Right here, we have the right
8 people, that know the science. We have the
9 right people that know how to safely handle
10 the waste. We have the right people that
11 understand the mining industry.

12 We have the right people that can
13 safely monitor and drive the trucks that bring
14 the waste, and we have 40 years of
15 understanding the issues, and most importantly
16 the science.

17 Nowhere else in the world can all
18 those components be found in one place. Our
19 government doesn't move -- if our government
20 doesn't move forward soon, we will lose this
21 unique opportunity.

22 If WIPP closes without a new

1 mission, the greatest component of resolving
2 nuclear waste issues will scatter around the
3 world and be almost impossible to bring back
4 together, and that is the people.

5 We are the people that can make
6 this work. We are ready for new challenges.
7 Thank you very much.

8 CHAIR SCOWCROFT: Thank you. Our
9 next speaker is Roxanne Lara, followed by Jody
10 Knox and Sheri Williams.

11 MS. LARA: Good afternoon Mr.
12 Chairman, Members of the Commission, and the
13 very hardworking staff of the Blue Ribbon
14 Commission. Welcome to Carlsbad, New Mexico.

15 This place is where I was born and
16 raised and I am so proud to stand in front of
17 you and tell you my story.

18 I am a citizen of Carlsbad, and as
19 a citizen, I grew up here. I worked for WIPP.
20 I took advantage of internship opportunities
21 as a college student.

22 I worked in different departments,

1 everything from technology transfer to the
2 legal department. But the best department I
3 worked for and probably the best job I ever
4 had -- don't tell my previous employers -- is
5 serving as a tour guide for the WIPP site.

6 This was before we were receiving
7 waste, and at that time, we were doing public
8 tours, three to five a week, and so I still
9 have my hard hat to this day, by the way.

10 So I would go with the groups, I
11 would help educate them, I would show them the
12 facility much like you guys did yesterday, and
13 that was an incredible experience.

14 Because when I was in elementary
15 school, I remember my friends joking about how
16 we were all going to glow green in years to
17 come.

18 And being able to be a part of
19 that public affairs department and educate
20 people, we took them from the glowing green to
21 the understanding and the support of WIPP.

22 I now serve the community as an

1 Eddy County Commissioner, and I serve with the
2 Eddy-Lea Alliance, which purchased the
3 thousand acres that Mr. Volpato talked to you
4 about earlier today. That's an opportunity for
5 interim storage.

6 And without being redundant, what
7 I want to point out, and what I hope you have
8 seen during your visit to Carlsbad, is that
9 there are a lot of pieces to the puzzle in
10 solving our nuclear waste problem, and
11 Carlsbad has all of those pieces.

12 We have the transportation. We
13 have the 16 square miles. We have the thousand
14 acres. You've heard all of this. We have the
15 people. We have the community's support.

16 But most importantly, we have the
17 record. And we have the want and the will, and
18 so thank you for spending time with us, and
19 please consider us in all of those future
20 projects to complete the nuclear fuel cycle in
21 southeastern New Mexico.

22 CHAIR SCOWCROFT: Thank you very

1 much. Our next speaker is Jody Knox of
2 Lakeview Christian Home, followed by Sheri
3 Williams and Richard Lopez.

4 MS. KNOX: It's a pleasure to come
5 before you today. I grew up in Carlsbad and
6 have spent most of my life here. My husband
7 has been an employee of the WIPP site since
8 the early 1980s.

9 I am not the eloquent speaker of
10 Mayor Forrest, but I share his passion. When
11 my husband and I were dating, he would get
12 onto me for going barefoot when I was driving
13 the car.

14 Later, when our children were
15 little and they had ear infections, he would
16 want me to stay close to them in case they
17 fell, I could catch them and prevent them from
18 getting hurt.

19 My family has always joked that he
20 was such a safety freak. So, safety is not an
21 issue for me when people say, why would you
22 let your husband work out there? As I travel

1 around the country I get asked that question
2 and I always laughingly tell them my husband
3 is a safety freak, and if he thinks it's safe,
4 it is.

5 And to carry that one step
6 further, my son who just graduated from Baylor
7 has interned there during his breaks.

8 Another issue that I feel like is
9 utmost of importance to us as taxpayers. In
10 the national debt that we see mounting every
11 day, this is a proven operation, the
12 infrastructure is in place, the scientists are
13 here. Let's don't waste more taxpayer dollars
14 as we have been doing at so many places around
15 this country.

16 Let's make commonsense decisions
17 and bring waste here, where we already have
18 that record. Thank you very much.

19 CHAIR SCOWCROFT: Thank you. Our
20 next speaker is Sheri Williams of Carlsbad
21 municipal schools, followed by Richard Lopez
22 and Russell Hardy.

1 MS. WILLIAMS: Good afternoon
2 Commissioners. It is a pleasure to be able to
3 speak to you today. I am the superintendent of
4 schools of a 5,800 student school district
5 right here in Carlsbad municipal schools.

6 I come here to share a little bit
7 about our children, our future and how they
8 fit into your deliberations.

9 Our community welcomes the idea of
10 a possible nuclear waste facility here in
11 Carlsbad. Our teachers, our parents and our
12 community leaders have a longstanding trust in
13 the technical expertise that resides right
14 here in Carlsbad.

15 You have heard that from every
16 speaker before. We know the safety record of
17 our industry and we have a skilled and
18 talented pool of leaders who know how to
19 engage the public in important policy
20 questions about our nuclear future.

21 From my perspective as the
22 superintendent of public schools, I can tell

1 you that Carlsbad is uniquely positioned to
2 become part of the solution for our nuclear
3 future.

4 Many of our school-aged youth have
5 parents in the waste isolation and the mining
6 industries. Our students are primed to be the
7 next generation of engineers who are
8 enthusiastic about STEM careers.

9 In fact, over the course the past
10 several years, our students have gained
11 attention for their outstanding presentations
12 at the international science and engineering
13 fairs in Reno and in Atlanta.

14 They have also been invited to
15 present their research, with ideas presented
16 at the National Geological Society in Denver
17 and in Austin.

18 This kind of early recognition for
19 our high school students is made possible
20 because our kids have access to the technical
21 experts here in our community, because our
22 kids have the opportunity to interact with,

1 and be exposed to world-class scientists.

2 Many of our students are motivated
3 and inspired and standing ready to be a player
4 in developing solutions for a safe nuclear
5 future.

6 It's not only our schoolchildren
7 who benefit from this partnership with our
8 local industry. Our teachers have been awarded
9 grants from the American Nuclear Society.
10 Project Lead The Way, advanced programs
11 initiative, grant projects like these give our
12 teachers an opportunity to interact with local
13 professionals and to bring ideas back into the
14 classroom so that we have project-based,
15 hands-on, real world applications that lead to
16 careers in technology and engineering.

17 Give our kids an opportunity to
18 continue to be leaders in the field. We thank
19 you for your energy, your passion and for
20 considering Carlsbad.

21 CHAIR SCOWCROFT: Thank you very
22 much. Our next speaker is Richard Lopez of the

1 Carlsbad fire department, followed by Russell
2 Hardy and Tom Martin.

3 MR. LOPEZ: Thank you. Richard
4 Lopez, assistant fire chief, Carlsbad fire
5 department, born and raised in Carlsbad with
6 no intentions of leaving.

7 I would like to bring up a point
8 on our mine rescue teams of Mosaic Potash,
9 Intrepid Potash and the WIPP. They are top in
10 the state and they have been this way for
11 years and they have contributed to the funding
12 and the level of training that WIPP has helped
13 provide for our community.

14 Carlsbad fire department's
15 hazardous material team has benefitted from
16 the training, to the level that a few of them
17 are the instructors for the national
18 enrichment facility in Eunice, for the fire
19 training radiological and the chemical
20 hazardous material incidents at their
21 facility.

22 Our team has greatly benefitted

1 from WIPP being here. They have also trained
2 the National Guard civil support teams from
3 Rio Rancho, San Antonio, southern California.

4 Southeastern New Mexico trusts the
5 DOE. As a fire fighter, we are constantly
6 exposed to dangerous situations. WIPP has
7 proven not to be dangerous.

8 I personally am ready for WIPP to
9 take it to the next level and start receiving
10 the high-level waste. Thank you.

11 CHAIR SCOWCROFT: Thank you very
12 much. Our next speaker is Russell Hardy,
13 followed by Tom Martin and Richard Doss.

14 MR. HARDY: Good afternoon. I am
15 Russell Hardy. I am the president of NMSU
16 Carlsbad, a two-year school here in Carlsbad,
17 New Mexico.

18 I am a life-long resident of New
19 Mexico, having grown up in Hobbs, and I have
20 lived here in Carlsbad now for 11 years.

21 NMSU Carlsbad played a vital role
22 in preparing the hazardous waste material

1 handlers and the health and physics
2 technicians that began at the WIPP site in the
3 early stages.

4 I have been told that many of
5 those technicians were then picked up by DOE
6 sites all across the nation. So I guess, in
7 turn, we have helped train hazardous waste
8 material handlers all across the United
9 States.

10 We are poised and prepared to
11 train tomorrow's generation of waste handlers
12 for the commercial waste that we are facing as
13 a nation.

14 I also want to talk about the role
15 that the WIPP site and the related partners,
16 Sandia and Los Alamos National Labs and the
17 various subcontractors, have played as far as
18 higher education in Carlsbad and southeast New
19 Mexico.

20 Through scholarships, through
21 internship opportunities, and through grants
22 of donations of money, of equipment, of in-

1 kind services, through tuition reimbursement
2 for their employees, they are committed to
3 educating the populace and to educating their
4 employees and providing a pathway for higher
5 learning opportunities.

6 We are committed too, as southeast
7 New Mexico, to providing a safe, economical
8 way of storing the commercial-grade waste that
9 we have, that is a legacy of our nuclear
10 reactors.

11 And I appreciate your support in
12 making that happen in southeast New Mexico.
13 Thank you.

14 CHAIR SCOWCROFT: Thank you. Our
15 next speaker is Tom Martin of Carlsbad
16 department of development, followed by Richard
17 Doss and Dan Murphy.

18 MR. MARTIN: Thank you. I am Tom
19 Martin and I am here today in my capacity as
20 the president of the Carlsbad department of
21 development, and I'm sorry, my voice is a
22 little raspy. It's about to catch up with me

1 here.

2 As I said last night, we all know
3 that nuclear power and nuclear energy is a
4 critical part of our future. We have to go
5 forward with it and we have to address the
6 various aspects of the nuclear fuel cycle,
7 which is what you folks are commissioned with
8 the task to assess and make recommendations.

9 As you have heard each of these
10 individuals talk from the citizens of
11 Carlsbad, and you are going to hear from
12 citizens of Hobbs and Lea County, I think you
13 have heard the term a number of times,
14 "unique."

15 That struck me as I was listening
16 to each. I think unique is an appropriate
17 term. In southeast New Mexico, a number of
18 things come together to make the situation
19 unique, and merit your consideration.

20 Number one, we have the geology.
21 We have a history already of a great deal of
22 scientific study of that geology. Certainly

1 there is some more that needs to be done in
2 certain aspects. But we are already well down
3 the road.

4 We already have a facility in
5 place. We have experience. We have a work
6 force here that has the scientific knowledge
7 and the skill in place.

8 We also have the history of the
9 mining industry and the skill of the miners
10 and the mining industry that is here. All of
11 those come together as a confluence to help
12 answer the question of what do you do.

13 But most of all, to my way of
14 thinking and most critical, is in Eddy County,
15 Carlsbad, and in Lea County and the cities in
16 Lea County, you have a citizenry that is
17 willing to accept, wants to help and wants to
18 be a part of the answer for America's future.

19 Please take it into consideration.
20 Thank you.

21 CHAIR SCOWCROFT: Thank you very
22 much. Our next speaker is Richard Doss,

1 followed by Dan Murphy and Don George.

2 MR. DOSS: Good afternoon. My name
3 is Richard Doss. I am a retired banker. Don't
4 hold it against me. I am a Carlsbad city
5 councilor and I am third generation
6 Carlsbadian.

7 Time and money have been spent on
8 this project in unbelievable amounts. To
9 develop a new site in a different medium other
10 than salt would take so much money, I'm not
11 sure that we would ever get it done.

12 We have the resource here. We have
13 spent the money to get it to a place where we
14 are able to use it as a repository for the
15 nuclear waste, and we are ready to have it in
16 Carlsbad.

17 America needs this project now.
18 Carlsbad wants this project now. And because
19 of the past support this community has given
20 to the nuclear industry, we deserve this
21 project now. Thank you.

22 CHAIR SCOWCROFT: Thank you very

1 much. Our next speaker is Dan Murphy of North
2 American Young Generation in Nuclear, followed
3 by Don George and David Shoup.

4 MR. MURPHY: Good afternoon. My
5 name is Dan Murphy. I am a quality assurance
6 manager for Quail Nuclear Specialty Services,
7 specializing in nuclear-related construction
8 services.

9 I also represent North American
10 Young Generation in Nuclear, a group of more
11 than 6,000 young professionals working in the
12 nuclear industry.

13 The nuclear industry acknowledges
14 the safety concerns of many. The safety of the
15 public is our number one directive.

16 To support that culture of safety,
17 in order to aid in the development of highly-
18 qualified individuals, the U.S. nuclear
19 industry, Nuclear Regulatory Commission and
20 educational institutions have partnered to
21 provide training to professional to local
22 communities across the country.

1 I recommend that the Blue Ribbon
2 Commission consider technical training
3 programs for nuclear technology in their
4 recommendations on the management of used
5 fuel.

6 This will ensure that the nuclear
7 industry continues to have highly-qualified
8 nuclear professionals to support the growth of
9 nuclear technology in the U.S.

10 The management of used fuel alone
11 has a market in the U.S. Hundreds of thousands
12 of new, high-paying, sustainable jobs will be
13 created, and facilities that can reprocess
14 this fuel for further use in the very reactor
15 it came out of.

16 Reprocessing technology maximizes
17 our energy resources, reduces high-level
18 nuclear waste and creates much-needed
19 sustainable jobs in America.

20 However, I want to caution the
21 Commission. If the responsibility for used
22 fuel management is not transferred to an

1 independent entity with management and
2 financial structure capable of withstanding
3 political change, the jobs created for the
4 management of used fuel, could be in mercy of
5 shifting politics.

6 It is important that whatever
7 strategy the Commission recommends, that the
8 stability of the entity be addressed.

9 On behalf of North American Young
10 Generation in Nuclear, and the company in
11 which I am employed, I thank you very much for
12 your time.

13 CHAIR SCOWCROFT: Thank you very
14 much. The next speaker is Don George, followed
15 by David Shoup and Reed Singleton.

16 MR. GEORGE: Good afternoon. I
17 really wanted to come up and say bring Bob
18 back, I will let him have my time.

19 But as I was listening to the
20 speakers, you all heard the same message. And
21 that is safety, commitment, education.

22 So I started -- I have my speech

1 here and I won't even break it out -- because
2 I started thinking about the sale job that
3 must have took place for when you got handed
4 your job, of solving this big problem.

5 I'd like to have been in that
6 room. And then I realized, 30 years ago, this
7 community was in that room. We got asked to
8 solve a problem, and we did, and we can, and
9 we are ready to help you. Thank you.

10 CHAIR SCOWCROFT: Thank you very
11 much. Our next speaker is David Shoup,
12 followed by Reed Singleton and Sam Spencer.

13 MR. SHOUP: Good afternoon. My
14 name is David Shoup. I'm a local business
15 owner here in Carlsbad and thanks for the
16 opportunity to address you and Senator
17 Domenici.

18 I won't bore you with the science.
19 My science is all from Bob and John, which you
20 have already heard. My Dad was part of that
21 group before he got sick in 2000, and I'm here
22 to represent him as well as my company.

1 Our past Governor Richardson
2 actually named the north WIPP bypass after my
3 father, in honor of George Shoup, so I point
4 that out.

5 We are a success story, the WIPP
6 site. The WIPP site my Dad was part of with
7 Bob and John and Cliff and a lot of people in
8 this room today and helped lead that charge.

9 And I got educated around the
10 dinner table as a youth as to what it meant,
11 and what it could do for our community and for
12 our nation.

13 I was able to come back after I
14 got my education. I brought my family back
15 here and I've been able to take my grandfather
16 and my father's business and grow it, really,
17 around the WIPP site.

18 It's given us a level of quality
19 and ability that we would never have had, if
20 we hadn't had the relationship we've had there
21 for over 20 years.

22 We are the maintenance contractor

1 to the WIPP site for going on our 25th year
2 this year. With that experience, I've been
3 lucky enough to learn a little about the
4 nuclear industry as a whole, and was lucky
5 enough to be able to bid and be the successful
6 bidder over at the LES site, and to do all the
7 site work and the site utilities for the LES
8 site.

9 We now operate in Eddy, Lea and
10 Chavez county. We have grown our business to
11 well over 500 individuals in this area. Our
12 next step is we have partnered with Stoller
13 Corporation on a national level, and we are on
14 the short list for DOE's remediation of all
15 the nuclear sites in the United States.

16 And so we are going to be able to
17 have the opportunity to partner with them and
18 bid on the remediation of all the sites around
19 the country.

20 So I just -- I applaud you for
21 coming. I don't envy you your position to
22 solve this problem, but I know this community

1 and the people that you have heard, and the
2 businesses that are here that have stepped up,
3 can handle that task.

4 And if you are willing to let us,
5 we will do it again. Thank you for your time.

6 CHAIR SCOWCROFT: Thank you very
7 much. Our next speaker is Reed Singleton,
8 followed by Sam Spencer and Gregg Fulfer.

9 MR. SINGLETON: Well, I know that
10 I filled that out wrong. My name is Ron
11 Singleton, not Reed. But I'm sorry, I got my
12 doctor's script down there.

13 I am the president of the school
14 board in Carlsbad so I would like to speak
15 about the education qualities of this
16 community.

17 And briefly I'd like to take you
18 back on your tour of WIPP yesterday, if you
19 would just give me a minute to do that.

20 When you came to the building you
21 were probably greeted by Bobby St. John and
22 Mike Nelson. When you got on the bus you were

1 probably checked with your identification by
2 Officers Munoz and Onsuras.

3 And when you got to WIPP, you
4 probably went into the first room to listen to
5 the man that talked about that -- all the
6 stuff on the plaque which was Craig Suchs.

7 And he moved you around a little
8 bit and got you up the hot room, back down,
9 and then he turned you loose and you went
10 downstairs into WIPP.

11 You got the good tour. You got to
12 go down on the big elevator, not the little
13 bucket. That's an experience. I've done that
14 once in my life and I don't want to do it
15 again. It's just sort of -- it makes me
16 claustrophobic to do that.

17 But otherwise, you got down in the
18 bottom and you were taken on your tour and you
19 got down to the spot where they deposit the
20 tubes in the wall, which was interesting to
21 me. I hadn't seen that before.

22 And you were probably issued to

1 Andy Cooper. What is my point? My point,
2 ladies and gentlemen, is that every one of
3 those kids -- they are kids -- are Carlsbad
4 high school graduates.

5 We prepared them. We got them
6 ready. They went to school. They came back. I
7 taught in the school system before I decided
8 to be a school board member, for 45 years here
9 in -- 43 years here in Carlsbad.

10 All 43, I taught and coached here,
11 so I am familiar with the community. I was
12 raised in Hobbs just down the line, so -- your
13 school system stands ready to give you the
14 work force that you need to do this. We have
15 produced astronauts, generals, admirals,
16 doctors, we have produced it all.

17 And we are ready to do it. We just
18 need your approval. So I ask you to consider
19 us and thank you for your time.

20 CHAIR SCOWCROFT: Thank you very
21 much. The next speaker is Sam Spencer, Lea
22 County economic development, followed by Gregg

1 Fulfer and Gary Reagan.

2 MR. SPENCER: Well good afternoon.

3 I am Sam Spencer. I am chairman of the
4 economic development corporation of Lea
5 County.

6 I'd like to thank all of the Blue
7 Ribbon Commissioners for coming to Carlsbad
8 and southeast New Mexico, and thank you for
9 the time you are spending tackling this
10 problem. It's important to our country and
11 it's important to our state and this area.

12 The specifics of our support for
13 the nuclear industry are really in a letter
14 that we have jointly penned with the county of
15 Lea and the City of Hobbs, and I won't give
16 you those details.

17 They are in the record. You have
18 got those available. I'll be respectful of
19 your time as it's getting late and I know you
20 are traveling and just say thank you again for
21 your service. We look forward to reading the
22 results of your report.

1 And we look forward to being part
2 of the solution to the problem that you are
3 dealing with. Thank you.

4 CHAIR SCOWCROFT: Thank you very
5 much. Our next speaker is Gregg Fulfer,
6 chairman of the Lea city commission, followed
7 by Gary Reagan and Clint Wolfe.

8 MR. FULFER: Thank you. I'm Gregg
9 Fulfer, chairman of Lea county commission. I
10 want to welcome you to Carlsbad. And thank you
11 for touring the WIPP project.

12 This project shows what science
13 can bring and the problems it can solve. The
14 issue of the people backing a project and
15 bringing the support to some of those have
16 come to the main question.

17 I think this comes from education.
18 The local people surrounding the cities and
19 the Eddy and Lea Counties, they have taken the
20 time and the effort to learn about the project
21 and the processes.

22 A good example of this is the case

1 of URENCO. They have taken people over to
2 Almelo and have shown them first hand how the
3 process works and took them around and toured
4 Almelo, let them listen to the farmers and the
5 local people and see the economic development
6 and opportunities that it brings, and they
7 show first hand, first-hand relations with the
8 farm people and take out that fear factor and
9 see that this is a great industry to be in.

10 The openness of the company, and
11 up-front communications, brings the confidence
12 of the people. URENCO has been most open and
13 a very good corporate citizen and those type
14 of things is what brings the local support.

15 Unfortunately, if it's not in your
16 backyard, people don't try to take the time to
17 learn and become educated. So I think this is
18 why the support of the -- and the idea of
19 having something like this here, is so good,
20 where maybe up further north in New Mexico,
21 they may talk against the project.

22 Lea County is in an Eddy-Lee

1 County regional alliance with the property
2 that has been characterized with the help of
3 the Department of Energy and we support
4 interim storage.

5 We feel, as our newest company in
6 Lea County, International Isotopes, that you
7 can take away stream and convert it to
8 something -- to a commercial product that is
9 economically profitable today.

10 So I can safely say today, with
11 good science, and with a good education of the
12 people of the process, Lea County supports
13 interim storage along with the possibility of
14 WIPP 2. Thank you.

15 CHAIR SCOWCROFT: Thank you very
16 much. Our next speaker is Gary Reagan, the
17 mayor of Hobbs, followed by Clint Wolfe and
18 Tim Hayes.

19 MR. REAGAN: Thank you.
20 Commissioners, members of the public who are
21 here, I am going to highlight a couple of
22 things in the letter that Mr. Spencer

1 mentioned that we gave to your staff this
2 morning so hopefully you will find that.

3 The first letter of that page
4 says, "We think it's appropriate that this
5 Commission has come to Eddy County to examine
6 a system that has already demonstrated how
7 transuranic waste can be safely and
8 efficiently retrieved, packaged and
9 transported from Department of Energy sites,"
10 and they are called legacy sites because the
11 stuff is there, "throughout the DOE complex,
12 and ultimately disposed of in the world's only
13 functional, deep, geologic repository."

14 Now you can tell that wasn't
15 written by a lawyer, but I want you to know
16 that that's the significance of WIPP. That's
17 why we are here and that's why we support all
18 the endeavors that you are trying to do to
19 figure out things for the future.

20 I would also like to mention, and
21 part of this, I hate to say it's redundant,
22 but John Heaton, Bob Forrest, many others

1 today, well, Attorney General Gary King,
2 talked about the concept of what Gary King
3 called, "monitored retrieval storage
4 facility."

5 To a layperson that sounds like a
6 place where you put something and you go back
7 and get it, pick it up and move it somewhere
8 else at some later time.

9 And I would hope that your
10 findings would show, once you read our letter
11 and have heard our testimony today, that there
12 are at least two counties in southeastern New
13 Mexico -- there may be others -- but there are
14 at least two, have formed an alliance -- you
15 have heard it, it's the Eddy-Lea Energy
16 Alliance -- it's a combination of Eddy County,
17 Lea County, Carlsbad and Hobbs.

18 And they have described to you the
19 land. That land is approximately six and a
20 half miles from the northern boundary of the
21 current WIPP site. It's on highway 180, U.S.
22 Highway 180-62, which runs from Carlsbad to

1 Seminole then up to Lubbock.

2 We have had that site
3 characterized as a GNEP site and it's
4 eminently suitable for radiological storage,
5 whatever, and I would like to focus on that
6 and I'm closing.

7 But it appears to me the first
8 issue you all hopefully will recommend is what
9 to do in the interim, and I've heard that
10 might be 100 years, I'm thinking more like 10
11 or 15. I heard the word temporary at one time,
12 actually, for storage.

13 But that has got to be solved
14 first, before we get to ultimate disposition.
15 Thank you so much for coming. We appreciate
16 your being here and we are delighted that you
17 came and hope you have a good trip to
18 Albuquerque.

19 CHAIR SCOWCROFT: Thank you very
20 much. Our next speaker is Clint Wolfe,
21 economic director of CNTA, followed by Tim
22 Hayes and George Mulholland.

1 MR. WOLFE: Good afternoon. My
2 name is Clint Wolfe. I am the executive
3 director of Citizens for Nuclear Technology
4 Awareness, headquartered in Aiken, South
5 Carolina. I am also the chairperson of the
6 public policy task force for the Carolinas
7 Nuclear Cluster.

8 The last time I visited Carlsbad I
9 toured the waste isolation pilot plant as a
10 member of the technical advisory panel to the
11 Department of Energy's plutonium focus area.

12 I chaired that panel in the late
13 '90s as we labored over the appropriate
14 disposition paths for various plutonium
15 materials and residues. At the time, the
16 facility seemed to be the ideal repository,
17 but even its biggest boosters probably would
18 not have predicted the performance record that
19 has been established here.

20 Any plan, any concept, any
21 solution to any problem, can be improved upon.
22 So it's particularly frustrating that the U.S.

1 is still not moving to close the fuel cycle as
2 we debate the perfect solution. We have
3 proven we can safely recycle fuel, and with
4 some research and development and
5 demonstration, we can improve those processes.

6 We can deal with the waste from
7 those processes effectively, as evidenced by
8 the 3,000 canisters of borosilicate glass
9 encasing defense waste, high-processing
10 facility waste at the Savannah River Site in
11 Aiken.

12 We have at least two candidates
13 for the location of -- for disposition of that
14 waste. Yucca Mountain has been scrutinized,
15 more than 60 separate scientific studies, all
16 of which found the repository suitable for its
17 purpose. WIPP opened for business in March of
18 '99 and continues to do its great job with
19 very little fanfare.

20 So I believe Aiken and Carlsbad
21 can make quite an effective team. The SRS has
22 been recycling nuclear materials for nearly 60

1 years and they have been vitrifying the waste
2 from these processes for 15 years, while the
3 WIPP facility has been safely storing
4 transuranic waste for nearly 12 years.

5 If Yucca Mountain is off the
6 table, WIPP can do the job. The American
7 taxpayer has a tremendous investment in SRS
8 and in WIPP. We could use these two existing
9 investments to close the nuclear fuel cycle.

10 If the good people of Carlsbad and
11 its environs want partners in helping America
12 deal with this most important issue, I am sure
13 you will find them among the good people of
14 Aiken. Thank you.

15 CHAIR SCOWCROFT: Thank you very
16 much. Our next speaker is Tim Hayes, followed
17 by George Mulholland and Steve Laflin.

18 MR. HAYES: I am a relatively new
19 citizen to Carlsbad. We moved here about four
20 years ago because my wife got a position at
21 the community -- at the college here, at New
22 Mexico State.

1 And I said well, I'll follow you
2 and I'll get something to do while I'm down in
3 Carlsbad. Well that something to do happened
4 to be with Los Alamos National Lab. So I work
5 for the lab and so I got to learn about salt,
6 and I was amazed, both once again at the
7 safety record of WIPP and about salt itself.
8 So I have three things I would like the
9 Commission to consider. One is to reaffirm the
10 national academy's recommendation that salt is
11 a viable medium for high-level waste.

12 The second one is a little more
13 specific. I'd like you to recommend that the
14 DOE start a research program to close the gaps
15 in scientific knowledge so that we can prove
16 that salt is just as safe for high-level waste
17 as it is for the transuranic waste.

18 And the third one is probably the
19 hardest one, is let's get started by
20 recommending that the Department of Energy,
21 under the regulatory umbrella of the NRC,
22 begin finding a pilot plant for low- to

1 medium-power level, high-level waste.

2 This would probably be covered by
3 the defense, somewhere in the 500-watt range
4 or so. That would be perfect.

5 I am heavily invested in southeast
6 New Mexico now. I own three pieces of property
7 here already and plan to start my bee business
8 and hope to retire here, so I appreciate your
9 time and effort.

10 MEMBER DOMENICI: What kind of
11 business?

12 MR. HAYES: A bee business.
13 Beekeeping. So thank you very much for coming
14 and I appreciate and respectfully submit those
15 recommendations to you.

16 CHAIR SCOWCROFT: Thank you very
17 much. Our next speaker is George Mulholland of
18 CEMRC, followed by Steve Laflin and Sofia
19 Martinez.

20 MR. MULHOLLAND: Okay, thank you
21 very much. My name is George Mulholland, I am
22 the interim director for CEMRC and also

1 professor emeritus of mechanical engineering
2 at NMSU.

3 And most of what I was going to
4 say today fortunately, I guess, for you, has
5 already been covered, so I'll skip.

6 There's just two things I want to
7 mention. One, CEMRC is administratively
8 located in the institute for energy and the
9 Environment, a division of the college of
10 engineering at New Mexico State University.

11 And under the terms of the grant
12 from DOE, the design and conduct of research
13 for environmental monitoring at the WIPP, I
14 carried out independently of the DOE, in a
15 production released the resulting report do
16 not require DOE approval or review.

17 I think that's extremely important
18 that all the data that we gather is
19 independent and it is also available to the
20 public.

21 The other item I wanted to mention
22 is, and I think it's been covered before

1 fairly adequately but I'd like to state it
2 once more, based on the radiological analysis
3 of monitoring phase samples collected since
4 the initiation of waste in the WIPP site, that
5 are completed to date for area residents and
6 for selected aerosol, soils, drinking water,
7 and surface water, there is absolutely no
8 evidence of increased radiological
9 contamination in the region of the WIPP site
10 that could be attributed to releases from the
11 WIPP site.

12 Levels of radiological and non-
13 radiological analytes measured to date, were
14 within the range of levels measured previously
15 by CEMRC for the targeted analytes and are
16 within the ranges measured by other entities
17 at the state and local levels since before
18 disposal-phase operations began in 1999.

19 Now also, one last thing, these
20 reports, the annual reports that we publish
21 every year, are available to the public and if
22 anyone would like a copy, they could contact

1 me or any of the other people at CEMRC. Thank
2 you very much.

3 CHAIR SCOWCROFT: Thank you very
4 much. Our next speaker is Steve Laflin of
5 INIS, followed by Sofia Martinez and Guy
6 Lutman.

7 MR. LAFLIN: Good afternoon
8 Commissioners. I am Steve Laflin, CEO of
9 International Isotopes. I appreciate your
10 attention. It's been a long day, I know.

11 Our company is operating two NRC-
12 licensed facilities right now in Idaho, and we
13 are in the process of licensing a third. We
14 have a license application with the NRC for a
15 depleted uranium project right here in eastern
16 New Mexico, just west of Hobbs.

17 While the good work of the
18 Commission is going to help the country move
19 towards closure of the back end of the fuel
20 cycle, we are working to provide a commercial
21 solution to the front end of the fuel cycle.

22 I clearly recognize that the

1 Commission's purpose is not to be a siting
2 Commission, but I would like to be here today
3 to suggest that the Commission give strong
4 consideration to the siting process itself in
5 your report.

6 In fact, I'd like to move that the
7 siting process itself is just as important as
8 whatever technology that is selected for waste
9 disposal.

10 NIMBYism has been known and proven
11 in the past to kill many valid technologies.
12 I think the fact is that there is absolutely
13 no technology that can outweigh the impact of
14 adverse public sentiment for a project.

15 Unfortunately I think the EIS
16 process is a mechanical, fact-gathering
17 process that marches through bureaucratic
18 steps really regardless of what public
19 sentiment is. Siting considerations have to
20 start with a public relations outreach
21 campaign. Communities have to feel that they
22 are in control of the choice and the selection

1 of a project in their facility.

2 And if that public relations is
3 successful, communities will actually compete
4 for projects, and then is the time to start an
5 Environmental Impact Statement.

6 This is pretty much the process that our
7 company has tried to use in the selection of
8 a location for our depleted uranium facility.

9 We found eastern New Mexico to be
10 a very well-educated nuclear community, well
11 educated on the issues, and they have been
12 very supportive of our project, with two
13 important expectations: one, they expect the
14 NRC to well regulate us for the future going
15 forward; and two, they expect us to continue
16 that openness and that public outreach with
17 the community that we have started here in the
18 beginning.

19 So in conclusion, what I would
20 hope that the Commission would appreciate, the
21 very importance of the siting process itself,
22 and consider that topic equally important with

1 whatever technologies or strategies are
2 enclosed in your final recommendations.

3 Thanks.

4 CHAIR SCOWCROFT: Thank you very
5 much. Our next speaker is Sofia Martinez of
6 CCWMMC, followed by Guy Lutman and Bill
7 Badger.

8 MS. MARTINEZ: Good afternoon
9 Commissioners, Chair, residents of Carlsbad,
10 and New Mexico.

11 I want to start off by saying that
12 I was -- once I got in the lift to go down on
13 the tour, I was terrified, and I thought, what
14 the hell am I doing?

15 You know, my curiosity gets the
16 better of me at times. And then someone said,
17 relax. The Blue Ribbon Commission is going on
18 and they're not going to nuke you now. And I
19 thought, true that. That is definitely true.

20 My name is Sofia Martinez. I am
21 from Wagon Mound. Although I am not from
22 Carlsbad, I have been made to feel very

1 welcome here. I probably wouldn't enjoy being
2 the only person not supportive of WIPP and
3 living here. I would venture to say that as a
4 former teacher, I probably wouldn't be working
5 here. When I did take a stand on an
6 environmental issue in my own community, I got
7 quite a few calls for my firing from
8 corporations and businesses, not necessarily
9 from the community.

10 I represent the concerned citizens
11 of Wagon Mound in Mora County, who have been
12 struggling against a special waste permit that
13 would bring special waste -- and there's
14 nothing special about it -- from throughout
15 the country to our pristine area, poor --
16 because we are one of the poorest counties not
17 only in the state, but in the nation.

18 I also represent the Southwest
19 Network for Environmental and Economic
20 Justice, and I'll talk a little bit more about
21 that. But I'm going to talk a little bit
22 about our concerns as being a community that

1 is on one the transportation routes of WIPP.
2 I was very impressed by all of the high
3 quality research and safety precautions that
4 have been taking place here in Carlsbad. I can
5 see why people support it.

6 I am also saddened, because New
7 Mexico is really where the nuclear cycle
8 starts and stops, right, with the milling and
9 mining of uranium and the uranium belt.

10 I really wish that you all could go to the
11 uranium belt. None of those people, I would
12 say, maybe a percent, might make it to
13 Albuquerque. But they are too busy finding
14 good water, et cetera, right?

15 In Mora County, we have just one
16 volunteer fire department, not a single
17 hazmat, all volunteer. That means no training.
18 There's not monitoring where the trucks stop,
19 and they do stop to get snacks and other
20 things, use the bathroom, et cetera, no health
21 studies in terms of what our health was then
22 or the transportation going through, okay? No

1 baseline data. No monitoring. No public
2 participation. We don't get any of the notices
3 or education that everybody seems to be privy
4 to here.

5 As a matter of fact, I would say
6 that the majority of Wagon Mound, if you say
7 WIPP, no one would even know what we are
8 talking about. One thing that I have seen
9 that is missing from here, in terms of
10 scientific input, is social science. As I do
11 work with environmental justice, that means
12 that is a response to environmental racism.

13 I don't want to go into that
14 history, because obviously, that needs to be
15 something that still has to be developed,
16 because science, in terms of being poor and a
17 person of color, there's a long history of
18 science gone awry with that.

19 Political participation, I would
20 like to see somebody other than a corporation
21 and a business on these corporations and these
22 task forces et cetera.

1 I know that our safety, our
2 dollars, everything is entrusted to
3 Commissions, and I would just hope that you
4 can maintain an objectivity which
5 unfortunately I haven't seen at every instance
6 this weekend, whether it be last night or this
7 morning.

8 I trust that the Commission can
9 maintain a level of objectivity. And I just
10 want to end by saying that I was invited to
11 the Senate floor for my tocaya state of the
12 union address, Susana Martinez -- we are both
13 Martinez.

14 And one of the biggest things she
15 announced was that she had sold the state
16 plane and wouldn't be wasting money on that,
17 so I was surprised when she came in today on
18 a plane, with about four legislators, none of
19 which have any questions about WIPP. They are
20 in total support.

21 I object to my tax dollars being
22 used in that manner. So once again, I implore

1 you to be objective, to take in the social
2 sciences, because history and other social
3 scientists such as political power, can add
4 much to the discussion. Thank you very much.

5 CHAIR SCOWCROFT: Thank you. Our
6 next speaker is Guy Lutman, Eddy County
7 Commission, followed by Bill Badger and Rose
8 Gardner.

9 MR. LUTMAN: Blue Ribbon
10 Commission, Mr. Chairman, Senator Domenici, I
11 am not a native Carlsbadian, however I am a
12 proud United States citizen, been living in
13 Eddy County for 13 years. I trust you are
14 enjoying your stay in our fine city. I also am
15 a commissioner, a county commissioner.

16 I am in my second term of office
17 and my job as a commissioner is taking care of
18 our citizens on a daily basis, whether it's
19 taking care of road signs, taking care of our
20 jail, or taking care of our health and safety
21 and welfare of our citizens.

22 We as a county commission

1 wholeheartedly support the WIPP project and
2 its future. We assure you we are taking care
3 of that. In fact all of our citizens are
4 taking care of business in our city and county
5 on a daily basis. You may have noticed that
6 our roads are somewhat impassable at the
7 moment, but our state and city are taking care
8 of that.

9 Our nation has a dependency for
10 foreign oil but with our oil and gas
11 production working 24/7 here in Eddy County,
12 we are taking care that. Our potash mines are
13 thriving, exporting their products throughout
14 the nation and the world. In Eddy County, we
15 are taking care of that.

16 I've just heard the word "unique"
17 used recently, this morning, very frequently.
18 In fact, I heard the word "unique" used just
19 a moment ago.

20 May I use it again? I would like
21 to say that Eddy County and Carlsbad are also
22 unique. We are, in Eddy County, taking care of

1 our nation's transuranic waste legacy, and
2 putting it to its final resting place, in our
3 salt formations just 30 miles east of here.

4 We must be the envy of the world
5 for our uniqueness. So from one commissioner
6 to another, when you make your final
7 recommendations, please remember that WIPP
8 takes care of our nuclear past. We only ask
9 that you take care of our future. Thank you.

10 CHAIR SCOWCROFT: Thank you very
11 much. Our next speaker is Bill Badger,
12 followed by Rose Gardner and Marcus Page.

13 MR. BADGER: Following Guy is like
14 following the reverend. That's good sales
15 there. Thanks Guy. I thank you Commissioners,
16 and I worked at Rocky Flats for a number of
17 years throughout the successful
18 decommissioning period, and I still work with
19 thousands of workers in the nuclear defense
20 industry, and throughout the civil nuclear
21 power industry.

22 And those workers work every day

1 with radioactive materials. They are not
2 afraid of those materials. They are not
3 getting sick because they know the basic
4 rudimentary science of those materials and
5 they know how to handle the waste.

6 And the contractors that I work
7 with, and for, are dedicated to the safety and
8 to the protection of the public, of the
9 environment, our fellow workers, and the TRU
10 waste program is a testament to that
11 commitment.

12 This is not a fragile operation.
13 The current TRU program from decommissioning
14 characterization, packaging, shipping and
15 disposal, is a robust, sound, secure and safe
16 program because of the dedication of the
17 Department of Energy, the contractors, the
18 employees and the committed stakeholders
19 across the DOE complex, dedicated to safety
20 first, and the protection of the public and
21 the environment.

22 Those same contractors are safely

1 handling spent nuclear fuel at sites across
2 the United States. Whatever decision this
3 Commission recommends, please know this: that
4 contractors and employees from across the
5 complex are committed to the safety, security
6 and protection of the environment and the
7 public, and the disposition of high-level
8 waste, just as we have been with the tens of
9 thousands of cubic meters of TRU waste. Thank
10 you.

11 CHAIR SCOWCROFT: Thank you very
12 much. Our next speaker is Rose Gardner,
13 followed by Marcus Page and Chelsea Collonge.

14 MS. GARDNER: Good afternoon
15 Commissioners. As a resident of Eunice, New
16 Mexico, I feel especially concern about the
17 whole issue of nuclear energy. The waste
18 disposal issue is something that should have
19 been planned and developed when the industry
20 was started. I have a uranium enrichment
21 plant and a nuclear waste dump just five miles
22 from my home.

1 I do not support nuclear energy,
2 nor the nuclear trash that comes from these
3 sites. I am truly concerned about the dangers
4 associated with the transportation and storage
5 of all these materials, because of the
6 radioactivity dangers to me and my family.

7 The dangers of the URENCO plant
8 aren't known yet, because it just recently
9 went into production. WCS in Texas, right next
10 door to the URENCO plant, will soon allow
11 mercury storage for the DOE; the Texas
12 commission of low-level waste has approved 36
13 states to bring in low-level waste to their
14 site; and now WIPP wants high-level waste on
15 our highways. When will there be enough waste
16 in and around New Mexico?

17 Finally, this Commission needs the
18 input from the general public, not just
19 politicians and the big money movers around
20 here. I hope that you will respect our opinion
21 and not just get tired of hearing about our
22 concerns. Thank you.

1 CHAIR SCOWCROFT: Thank you very
2 much. Our next speaker is Marcus Page of
3 Trinity Nuclear Abolition, followed by Chelsea
4 Collonge and Mark Doppke.

5 MR. PAGE: Hello and thank you
6 guys for doing the work that you are doing and
7 I am really glad that everybody is here giving
8 their opinions and everybody -- and the
9 Commission is learning so much for the work
10 that you have got this year, ahead of you,
11 because it is arguably the most important job
12 for any United States citizen for the next
13 couple of thousand years, if we even have a
14 country that far into the future.

15 Because you are in charge of
16 coming up with a plan for what to do with this
17 legacy that, 20,000 or 50,000 years from now,
18 if there's any people left, they will remember
19 the United States, because of the nuclear shit
20 that we produced: the nuclear weapons and the
21 nuclear waste -- all these problems that our
22 government and all of us are responsible for.

1 Everybody in this room, it's not
2 just a mental being, not just a physical
3 animal being. We have all got spirits. We have
4 all got a soul, and your job, as you know it
5 very well, I hope you focus on the spiritual
6 aspect of this extraordinarily difficult
7 spiritual problem of nuclear waste.

8 So please, think about, meditate
9 for days or weeks on this; 20,000, 50,000,
10 100,000 years from now, if there's any people
11 left, what your responsibility is to them, and
12 how they are going to view what the United
13 States did through your actions. Thank you.

14 CHAIR SCOWCROFT: Thank you very
15 much. Our next speaker is Chelsea Collonge
16 from Trinity Nuclear Abolition, followed by
17 Mark Doppke and Janet Greenwald.

18 MS. COLLONGE: Hi, thanks for
19 staying late. My name is Chelsea Collonge. I
20 am part of a Catholic community that shelters
21 homeless folks in Albuquerque, and before you
22 dismiss me as an outside agitator, I did want

1 to say that my great-grandfather once owned
2 part of Carlsbad Caverns, and if only bat
3 guano had been profitable on the world's
4 market, I might be a daughter of Carlsbad.

5 And that's a nice thought, because
6 I am really moved by the community spirit that
7 I have heard here today and the pride in this
8 place, and your can-do American spirit really
9 means something to me.

10 There are three things I want to
11 say to the Commission. I understand that you
12 are traveling all over the world looking into
13 this issue, that you have your own
14 distinguished careers in addition to this
15 service. Hopefully you realize that the folks
16 who have spoken today from Carlsbad do not
17 represent the entire community here, either
18 ethnically, culturally or socio-economically.
19 The WIPP route, which I drove down today, goes
20 through many communities that are very
21 resource-poor and don't benefit from the jobs
22 at WIPP.

1 I hope that, when you consider
2 making a depository for the nuclear waste,
3 that you also consider the communities that
4 can be affected by the radiation along the
5 route.

6 I live in Albuquerque. The WIPP
7 trucks go right through my community. The low-
8 income and marginally-housed people that I
9 love and work with, do not have the resources
10 to deal with any health impacts that could
11 come from an accident from these trucks. And
12 also, you don't have to be a terrorist to
13 recognize that each of these trucks is
14 potentially a pre-deployed mobile radiological
15 weapon. You know, one huge grenade taking out
16 a truck with this kind of scary waste could
17 hurt a lot of people in these communities.

18 So, I wanted to recommend that the
19 nuclear waste of our country be stored on site
20 where it was created, that the communities
21 that created it take care of it. They will do
22 a better job than if it is moved here, out of

1 sight, out of mind, for all those generations.

2 And thank you for welcoming me
3 here today, Carlsbad, and hosting me and I
4 hope that your great-granddaughters are safe
5 and healthy here in this community. Thanks.

6 CHAIR SCOWCROFT: Thank you very
7 much. Our next speaker is Mark Doppke from
8 CARD, followed by Janet Greenwald and Noel
9 Marquez.

10 MR. DOPPKE: Hello, thank you. My
11 name is Mark Doppke and I would like to thank
12 you Commissioners for opening a conversation
13 on what to do with our high-level radioactive
14 waste.

15 Although I am not sure if there's
16 a safe way to store it long-term, I think that
17 an obvious part of the solution is to stop
18 creating nuclear waste and end the nuclear
19 fuel cycle. I'd like to refer you to a book
20 called Carbon-Free, Nuclear-Free, written by
21 Arjun Makhijani. He was the energy adviser for
22 President Carter.

1 The book shows several ways to
2 completely replace both fossil fuels and
3 nuclear fuels using only technology that is
4 available today, in the next 30 or 40 years.
5 We could replace it in 30 to 40 years.

6 Renewable energy provides far more
7 jobs for the power created than either oil or
8 nuclear power. And also, southeastern New
9 Mexico is blessed with an immense amount of
10 solar and wind potential compared to the rest
11 of the world. Thank you.

12 CHAIR SCOWCROFT: Thank you very
13 much. Our next speaker is Janet Greenwald from
14 CARD, followed by Noel Marquez and Norbert
15 Rempe.

16 MS. GREENWALD: Hi, I'm Janet
17 Greenwald and I am a co-coordinator of the
18 organization, Citizens for Alternatives to
19 Radioactive Dumping. I've been to Carlsbad
20 many times. My 30-year trek through -- trying
21 to monitor and take a good look at and protect
22 citizens from the adverse products of the

1 nuclear industry, and I have to say, I always
2 enjoy coming here. This is a real jewel of a
3 town.

4 And I know one of the reasons it
5 is so beautiful is because you are able to
6 spend some money on it, and that money
7 probably comes from the nuclear industry
8 through WIPP. And I appreciate the fact that
9 that has happened for you. It couldn't happen
10 to a nicer place.

11 I suppose you are wondering,
12 Commissioners, how it was that New Mexico was
13 able to site WIPP here. I want to say that one
14 of the ways, unfortunately, was that they
15 suppressed any science that was dissenting
16 from the very beginning, by transferring
17 scientists inappropriately, as was done with
18 Dr. Lawrence Barrows, a seismologist with
19 Sandia Labs who worked on the WIPP siting
20 team, and who, in his seismological readings,
21 saw irregularities and thought that they were
22 indications of karst.

1 Dr. Roger Anderson from UNM, who
2 didn't like the fact that a nuclear waste
3 repository was being sited over a brine lake,
4 was harassed continually during his career at
5 UNM. His van was vandalized over and over and
6 over again, and there are lots of other
7 stories that I can tell you.

8 There has been a lot of
9 suppression of dissenting science here. You
10 probably won't know about it unless you start
11 talking and interviewing groups that have been
12 approached by these scientists when their
13 reports were suppressed. Try to get them out
14 to the public.

15 Thank you for your time and for
16 all your efforts.

17 CHAIR SCOWCROFT: Thank you very
18 much. Our next speaker is Noel Marquez from
19 CARD, followed by Norbert Rempe and Thomas
20 Jennings.

21 MR. MARQUEZ: Hello. My name is
22 Noel Marquez. I am from Artesia, New Mexico

1 and I am a life-long member of Eddy County.

2 I feel very privileged to be able
3 to come and speak in front of you, and to
4 address my concerns, and I wish to speak for
5 the silent majority -- minority that feel
6 intimidated to come here and to address their
7 views, of which I know many that will not come
8 up and speak, when everybody seems to be in
9 favor.

10 But I am from Eddy County, and
11 living there, I come from a refinery town, and
12 that whole experience, I have seen the town
13 expand and I've seen the refinery expand, and
14 what the effects are on the water table.

15 And every year it seems like our
16 contamination levels are going up. We are
17 having more selenium, chromium, barium,
18 arsenic, and because we have this limited
19 precious resource beneath the ground,
20 sometimes we lose track that the future looks
21 very great economically for the present, but
22 we also have the future to think about.

1 And I would like for you to
2 consider those, the unborn, and the children,
3 and those that cannot be here today to speak
4 on their behalf, that we must care about the
5 limited resource of water that we have below
6 us.

7 And there are so many -- working
8 all over this oil field, I have seen the
9 sinkholes and the cracks and there's just no -
10 - there are more questions to what could go
11 wrong than what is actually solved.

12 And so I hope we can come up with
13 a -- I do not offer a solution, but I just
14 say, please think about the future
15 generations, and 500 generations of children
16 that will be exposed to potential
17 contaminations through the water table. Thank
18 you.

19 CHAIR SCOWCROFT: Thank you very
20 much. Our next speaker is Norbert Rempe, and
21 our final speaker, Thomas Jennings.

22 MR. REMPE: Good afternoon ladies

1 and gentlemen your colleague Susan Eisenhower
2 quotes in her book Breaking Free the Russian
3 physicist Roald Sagdeev, who testified before
4 you last November.

5 "Without an open discussion of
6 failures and past mistakes, it is impossible
7 to make improvements and avoid such things in
8 the future."

9 Applied to your task, this means
10 the vast expense of time and money for a pilot
11 plant can be somewhat justified only if we
12 learn not just from success, but also what to
13 do differently, what to avoid like hell, and
14 not to waste effort on trivialities. For that
15 we must acknowledge some facts not yet in
16 evidence before this Commission, and for this
17 please refer to your handout.

18 If you pass onto page 2, one item
19 that has not been mentioned yet so far is that
20 nuclear reactors are natural features and
21 actually the first-known nuclear reactors are
22 2 billion years old and the waste from them

1 has not harmed the environment whatsoever.

2 The next page, Project Gnome, the
3 underground nuclear shot here, that is
4 actually the first underground waste
5 repository for radioactive waste in Eddy
6 County.

7 So WIPP is not the first. Let's
8 talk about facts not regulatory fictions and
9 semantics. And Gnome, in the next sheet, Gnome
10 entailed higher risks than WIPP but caused no
11 harm, therefore it's a positive, beyond-worst-
12 case analogue for geologic isolation in salt,
13 even of heat-generating waste, because that
14 detonation caused a lot of heat.

15 And on the next sheet, you see
16 some information on a German repository, the
17 first one for chemically-hazardous waste, and
18 of course that has infinite half-lives so that
19 waste is much more dangerous.

20 If that works in less -- in salt
21 that's less thick, with less overburden, with
22 more groundwater on top, then WIPP is an

1 absolute no-brainer and actually disposal of
2 more dangerous stuff in the same salt is a no-
3 brainer.

4 We can pass over the next one. The
5 next slide after that mentions neighboring
6 potash mines, neighboring to WIPP, and what
7 that -- the point of that is, do not
8 necessarily consider only new excavations for
9 newer repositories. All existing repositories
10 in salt with the sole exception of WIPP are in
11 former or still operating mines.

12 The next slide shows some basalts.
13 That is magma that intruded actually the salt
14 here and in Germany, it didn't affect the salt
15 for more than a few inches. A very beautiful,
16 natural analogue
17 for heat-generating waste. And then the last
18 slide I won't read you because you can read it
19 for yourself.

20 To sum up, insistence on strict
21 compliance with regulation without
22 continuously questioning and justifying their

1 factual, rational basis, is the last refuge of
2 the incompetent and malevolent. We have heard
3 from both categories today. Don't ignore
4 facts. Ignore the purveyors of ignorance and
5 disinformation, Mr. Chairman.

6 CHAIR SCOWCROFT: Thank you very
7 much. Is Thomas Jennings with us? He has
8 submitted a statement. He probably is not
9 here.

10 That concludes our session. We
11 thank you very much for your hospitality. This
12 meeting is adjourned.

13 (Whereupon the meeting adjourned
14 at 4:15 p.m.)
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C E R T I F I C A T E

This is to certify that the foregoing transcript

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

Before: n/a

Date: 01-27-11

Place: Carlsbad, New Mexico

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