UNITED STATES OF AMERICA
ENVIRONMENTAL PROTECTION AGENCY

PUBLIC COMMENT ON CERTIFICATION OF WASTE ISOLATION PILOT PROJECT

CARLSBAD, NEW MEXICO
JANUARY 5, 1997
6:00 P.M.

EPA PANEL:
RICHARD WILSON
LARRY WEINSTOCK
FRANK MARCINOWSKI
MARY KRUGER

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MR. WILSON: Thanks for coming. I'm Dick Wilson from EPA in Washington. I have a little prepared statement to go through with kind of introducing people, talking a little about the format we're going to use tonight, and giving a little background for those of you who aren't as familiar as others are about the background of these hearings. So, again, welcome to the United States Environmental Protection Agency's public hearing to receive comments to our proposed decision to certify that the Department of Energy's Waste Isolation Pilot Plant, or WIPP, is in compliance with the EPA's radioactive waste disposal standards. I'm Richard Wilson, the Acting Assistant Administrator of the EPA'S Office of Air and Radiation. I'm also the presiding officer for today's hearing. Before taking comments, as I mentioned first I want to go through a few procedural items and then talk some about the background, first introducing the other EPA panel members.

To my left is Larry Weinstock, Acting Director of the Office of Radiation and Indoor Air, Frank Marcinowski, Acting Director of the Radiation

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Protection Division.

Mary Kruger, on my right, Acting Director of the Center for the Waste Isolation Pilot Plant project.

Now a few of the background rules for the hearing.

In this public hearing it's an informal hearing. We are not going to swear people in, not going to have cross-examination. Speakers are going to present their statements and may or may not be questioned by members of the hearing panel.

We are here to listen to your comments. A court reporter is here to produce a transcript of today's proceedings. If you have a written copy of your statement, we will accept it. When you are called to testify, I'm going to ask all the speakers to identify themselves clearly for the court reporter, spelling their names, and speaking slowly and clearly. And we will holler, or the court reporter will holler if we need you say it again or speak slower.

Individuals are going to be allowed five minutes to testify on their own behalf. People representing an organization will be allowed ten minutes.

The purpose of this hearing is to solicit public comment on our proposed decision to certify that
the WIPP is in compliance with EPA's radioactive waste
disposal standards, and I'd ask people to please
confine their comments to that subject.

We will be here -- I think we have people
scheduled through about 8:20 this evening; we are
scheduled to be here to 9:00. And there may be others
who come in who hadn't called beforehand, and we will
be happy to hear anybody who has comments to make after
the people who are already scheduled have a chance to
testify.

Only those registered in advance are
guaranteed a chance to testify, but those who didn't
may register at the table outside the door if you
didn't do that on the way in, and we will have time
tonight to hear anybody who didn't sign up but does
have comments to make.

We're going to use a timer similar to, I
guess, a traffic light. When you begin the statement
we'll start the timer. A green light will come on.

Is it going to work that way?

MR. SMEGAL: Yes. Right up there.

MR. WILSON: And when you have three minutes
left the light turns yellow. Then the speaker should
start their closing remarks. And when the time has
elapsed, the light will turn red, and I'll ask you to
stop and conclude quickly, even if you have a lot more
to go.

Out of respect for everybody else's opinions,
please abide by the time limits so we get the maximum
number of people a chance to be heard.

I remind people that we gladly accept written
comments today, or at the EPA docket by February 27th
of this year, 1998. That means anything you don't get
to say today, or anything you want to say in response
to what somebody else says may be submitted in writing
for our consideration. And we'll read and react to
every comment that we get both here in and writing.

Please see the information table outside in the hall or
refer to the flyer you were handed on the way in for
the docket locations and hearing ground rules.

The transcript from today's hearing will be
available for review in each of the docket locations in
about two or three weeks.

Finally, let me do a little background about
our proposal.

In 1992 Congress required the EPA to ensure
the safety of the WIPP site. In response, EPA set
disposal standards in 1993 requiring DOE to demonstrate
that the WIPP would be a safe disposal facility for
thousands of years into the future.
In February of 1996 EPA followed those general standards with more specific Compliance Criteria related to the WIPP site itself. The Compliance Criteria clarify the requirements of the radioactive waste disposal regulations and require that DOE provide EPA with specific types of information in its Compliance Certification Application.

In October of 1996, EPA received DOE's Compliance Certification Application and immediately began its review for completeness and technical adequacy. In November, 1996 we announced that the Application had been received, solicited comments on the application, and announced the Agency's intent to conduct a rulemaking. This began a 120-day public comment period on DOE's application. Public hearings to obtain comments on the application were held in New Mexico in February of 1997.

Then in May of this past year, in 1997, we determined that DOE's application was complete, and by law EPA has one year from this date, or until May of 1998, to make the final decision on certification.

We have consulted with scientific experts and the people of New Mexico prior to issuing a proposed decision. We have reviewed the information on the WIPP's ability to safely contain radioactive waste,
and, as required by EPA standards, DOE has had the necessary portions of the application peer reviewed by independent experts.

On October 30, 1997, EPA issued a proposed decision that WIPP will comply with the requirements of our Radioactive Waste Disposal Regulations and Compliance Criteria. We are also proposing that DOE meet four conditions for certification. First, that EPA must approve the execution of the waste characterization activities, including determination of the radionuclides and other contents of waste disposal containers currently stored at waste generator sites before the containers are allowed to be transported to WIPP for disposal.

EPA must also approve -- the second condition -- the establishment and execution of quality assurance programs for waste characterization activities before the containers are allowed to be transported to WIPP for disposal. Quality assurance programs will confirm that waste characterization is done properly.

The third requirements is DOE must submit to EPA prior to closure of WIPP a detailed plan and schedule for implementing passive institutional controls, including an elaborate marker system intended
to warn future generations about the hazards of the radioactive waste buried in the WIPP.

And the fourth requirement was the DOE seal waste storage panels within WIPP with strong concrete barriers that are engineered to contain hazardous materials.

Having proposed our decision, we are here in New Mexico this week to obtain feedback from New Mexico citizens on this proposed decision. As I mentioned earlier, we are also accepting written comments to our proposed decision, and all written comments must be received in our docket by February 27, 1998. Again, I reassure all of you that all written comments and oral comments will be carefully considered before we make our final decision on whether the WIPP complies with EPA regulations.

On behalf of EPA I want to thank you for making the effort to come out tonight, and with that we'll begin hearing witnesses.

The first signed up is Mike McFadden of DOE.

MR. McFADDEN: I'm Mike McFadden, M-c-F-a-d-e-n. I'm with the Department of Energy in the Carlsbad area office. I'm one of the assistant managers.

As the first person to speak from Carlsbad,
let me welcome you to Carlsbad, New Mexico. I think you would find the people here are very friendly and very interested in your proposed ruling.

The EPA's level of involvement and commitment to proposing certification for WIPP has been unprecedented in the annals of federal regulatory oversight. This process you, the EPA, have been conducting for almost three years has been thorough, comprehensive, and performed with the highest degree of professionalism and broadest level of public involvement the DOE has ever witnessed. I would like to use my allotted time to remind you and the audience just how substantial EPA's commitment has been.

First of all, the EPA is mandated by Congress to issue general safety and environmental protection standards for disposing of nuclear waste by the Nuclear Waste Policy Act of 1983. EPA did their homework and promulgated 40 CFR 191, a landmark regulatory action which showed the world that containment and isolation of very long-lived nuclear waste could indeed be regulated, and that the protection of human health and the environment could be assured.

40 CFR 191 established containment and environmental protection standards for any generic nuclear waste repository. EPA's commitment to ensuring
that, specifically, the WIPP repository would meet
these standards was established by the Land
Withdrawal Act of 1992. Therein, Congress asked the
EPA to establish criteria by rulemaking to implement
and interpret the general requirements of 40 CFR 191
specifically for WIPP.

EPA again did its homework, and published,
via a thorough public rulemaking process, the criteria
for certifying WIPP's compliance with the 40 CFR 191
standards. These criteria were laid out in the

The EPA went the extra mile by developing a
Compliance Application Guidance Document to provide
detailed guidance on the submission of a compliance
application. EPA developed this guidance to assist DOE
with the preparation of its application and, in turn,
to assist EPA's review of the application for
completeness, and to enhance readability and
accessibility for the application for EPA and public
review.

Subpart D of 40 CFR 194 establishes a
compliance process that goes well beyond the minimal
requirements of the Administrative Procedures Act.

In the Land Withdrawal Act the Congress
insisted that EPA's certification decision be conducted
by informal or notice-and-comments rulemaking, which, under the Administrative Procedure Act, only requires a notice of proposed rulemaking, an opportunity for public comments on the proposed rule, and a general statement of the basis and purpose of the final rule.

Recognizing the profound importance of its decision, especially the importance to the citizens of the State of New Mexico, EPA compliance process under subpart D of 40 CFR 194 calls for an initial review and public comment period on DOE's application. You allowed 120 days of public comment versus, typically, a 60-day period. In addition, a second 120-day public comment period on EPA's proposed ruling is now in progress.

As I stated before, this level of public involvement is unprecedented. Not only did EPA allow two extra-long public comment periods instead of a single shorter period, it kept going that extra mile by actively seeking out the public's view by meeting with various stakeholders during the first public comment period on DOE's application. EPA staff didn't just invite stakeholders to Washington D.C. to hear their views, they traveled to New Mexico and set up meetings to inform the themselves of all stakeholder issues without any DOE presence. I understand the EPA has
recently held a second round of private stakeholder meetings to elicit the public's concerns over the proposed rule to certify the WIPP.

This kind of aggressive seek-out-and-poll regulatory approach is exemplary. By DOE's count, the EPA received over 800 written and oral comments on DOE's application and EPA's completeness determination.

Let me now congratulate you on the thoroughness of the EPA's evaluation of the material in the DOE application.

DOE believes that our application is the most comprehensive application for regulatory approval that EPA has ever received. With about 24,000 pages of detailed technical material, its review and understanding represents an enormous effort.

EPA met that challenge. Over the period from October, 1996, through March, 1997, EPA requested additional information from DOE as it reviewed the application. DOE's responses to these requests were made as quickly as possible as the material became available. About 100 individual requests were made with several thousand pages required for our response.

An exemplary adjunct to the EPA's review of the application was their design and conduct of the Performance Assessment Verification Test. The
probabilistic Performance Assessment in our application is a complex series of models and computer codes that demonstrate that WIPP will meet the criteria of 40 CFR 191 over the regulatory period of 10,000 years.

Recognizing the importance of their certification decision, EPA elected to conduct an independent test to stretch the limits of DOE's Performance Assessment by changing parameter values and ranges. Many of these changes were linked to suggestions resulting from public review of our application. EPA's Performance Assessment Verification Test moved the compliance curves but still demonstrated compliance with the 40 CFR 191 criteria with a substantial safety margin.

EPA's elective decision to undertake such a complex independent evaluation is testimony to their commitment to ensure the certification is made correctly and defensibly.

Based on all the above, EPA proposed to certify WIPP and enter a second 120-day public comment period on the proposed rule. EPA developed a comprehensive Compliance Application Review Document, called CARD, for each and every section of 40 CFR 194. Each CARD details the logic and information EPA used to evaluate WIPP's compliance with that section. In
addition, EPA developed technical support documents for each CARD which presents the details and back-up calculations of EPA's analysis. All this material was developed before the proposed rule was announced and was placed on the docket so the public could review the entire basis of EPA's proposal during the entire 120-day comment period. This dedication to keeping the public informed is commendable.

In addition, EPA has taken other measures to assure that the public is involved in the rulemaking. EPA allowed the New Mexico Environment Department, the Environment Evaluation Group, and the New Mexico Attorney General's Office to observe meetings between EPA and DOE staff to discuss technical issues during the pre-proposal period. EPA has summarized all meetings between EPA and DOE and placed them in the public docket. While these actions are not required, EPA believed that they could be useful to the public.

In summary, I commend EPA on its thoroughness and the professionalism with which it has conducted its evaluation of our application. The record is clear: EPA's proposed decision to certify WIPP has been based on the most comprehensive regulatory effort DOE has yet seen on the part the Agency. It has been conducted in an atmosphere of extraordinary visibility, and the
public has been given every possible opportunity to
influence the results every step of the way.

Thank you very much.

MR. WILSON: Thank you very much for coming.

We're having problems with our timer, I guess. Not that
the speaker took too much time, but we haven't gotten
the lights to work.

The next person to sign in is Benny Hooda.

MR. HOODA: I don't have a prepared
statement, so I'm just going to talk offhand.

My name is Benny Hooda, and I work for
Westinghouse-WIPP, and the Environmental Monitoring
Program. We monitor the environment for air, water,
soil, and any other thing that might be dispersed into
the environment. Basically, we comply with DOE 10 CFR
834 and EPA 40 CFR 61, subpart H.

That's basically effluent hazards that might
be associated with the environment.

The other part that is -- we have been doing
the baseline study, I guess since '82, and we have the
data available, which we publish in the annual Site
Environmental Report. That is -- if the public wants
to view those data, that is available in the library,
as well as we can put you on our mailing list and you
can review that data to scrutinize, or look for
Basically, I just want to affirm that we have a very good program in monitoring the environment, and we comply with the 100 millirem limit for the public, and if there is -- even 1,000 percent closer to that limit, we take administrative, as well as ecological action; that is, we do our best to develop the best available technology on the screening for the radionuclides.

That's all I have. Thank you.

MR. WILSON: Okay. Thank you very much for coming and for your statement.

Next, Mayor Gary Perkowski.

Mayor, we want to thank you and all the citizens for this nice place have the hearing, and for your hospitality.

MAYOR PERKOWSKI: We want to welcome you to Carlsbad. Thank you very much for being here. We have had a good had relationship with the EPA over the years. We have worked very closely with them, and we think it's been a very good process, and thank you.

My name is Perkowski, P-e-r-k-o-w-s-k-i, Gary, and I'm the mayor of the City of Carlsbad.

First of all, again I'd just like to thank the EPA for all the work they have done.
As I say, Mr. Weinstock, myself, and some of the others members of the EPA have worked very closely to ensure the safety of this project for the citizens of this community. We have worked closely with both the EPA and with DOE to make sure it is.

My No. 1 concern, and the major concern of the City Council, is to make sure this is a safe project. We want to do anything we can to ensure that safety, and protect our citizens. And we think that has happened.

We have been the host community for the last 25 to 30 years, and we are proud to be at the forefront of the efforts to safeguard the citizens of this country from the hazard of the transuranic waste. We are proud we are the community that was willing to take the first critical step that will lead to the solving of our nation's nuclear waste problem.

Twenty five years ago one of my predecessors or the other representatives of the City of Carlsbad had invited federal officials to Carlsbad to look at and discuss the possibility of locating the nuclear waste repository in the salt beds that surround the City. That as after the site in Kansas was turned down for various reasons.

We have been through the business of working
through the salt in potash mining for many, many years, and the people in this community were very well aware of the qualities that were displayed in salts and the things that could be done with salts, and what was possible at that time.

Since that first invitation, we have supported this project and feel strongly that WIPP can safely isolate the transuranic waste forever, much less meet the 10,000 years as required by EPA. We think it is a very good project and the waste can be totally isolated and safe for the citizens of the country much better than the way we are storing it at the present time, which is temporary and in concrete pads, et cetera, at various sites around the country.

The project has been ready to open for the last seven years and has been engineered and studied by some of the best scientific minds in our country and the world. We feel the allegation with most of those people is it is a very safe project and is ready to start accepting the wastes from around the country.

It's time to stop wasting the taxpayers' money on these trivial details and further scrutiny. It is time to open the WIPP and use it for its intended purpose.

As mayor of this community, I would again like to congratulate EPA for the review of the project.
It is vitally important to the citizens of this community that the WIPP be safe, not only the project but the transportation and other things, and we feel all of those meet the criteria, are very safe, and we are willing to take it in our community.

We were pleased by EPA's announcement this past October that the agency proposed to certify the WIPP's compliance with the long-term disposal standards for transuranic waste. It is strongly urged that any unnecessary redundant requirements are removed and EPA issue the final certification for the WIPP as soon as possible.

The project is ready, the community is ready, and the nation desperately needs the project to open. Carlsbad is ready to fulfill its commitment to the rest of this country and help to protect future generations from the nuclear storage of transuranic waste.

We think the project is ready to open. Thank you very much for your time. Welcome to Carlsbad.

MR. WILSON: Thank you, Mayor. As you probably know, our schedule is to have a final decision on this matter from EPA's standpoint by May. So we are moving promptly.

MAYOR PEROWSKI: We appreciate that, and we appreciate how prompt you have been with the amount of
work you have had to do to get through all the
documents presented.

MR. WILSON: And thank you and the community
for your help.

MAYOR PEROWSKI: If we can help you in any
way while you are here, let us know.

MR. WILSON: Thank you.

Next I have Representative John Heaton.
(Note: No response.)

Next I have Tracy Hill.

MS. HILL: Good evening.

You have to pardon me. I came down with a
sinus infection, so I brought my water bottle just in
case.

I appreciate the opportunity to stand before
you tonight to offer my views on the U. S.
Environmental Protection Agency's --
(Note: Reporter interruption.)

MS. HILL: I appreciate the opportunity to
offer my views on the U. S. Environmental Protection
Agency's Proposed Certification decision for the Waste
Isolation Pilot Plant. I am representing the Chamber
of Commerce as its Executive Director.

As a newcomer to Carlsbad, I am very
impressed with the Waste Isolation Pilot Plant and its
mission to safely and permanently dispose of
radioactive transuranic waste.

The Carlsbad Chamber of Commerce is pleased
by the Environmental protection Agency's proposal to
certify the WIPP's compliance with the long-term
disposal standards of radioactive waste.

The WIPP is a well-thought-out solution that
has evolved over the past 22 years with a foundation of
top scientific and engineering minds and national
research organizations. Independent groups and the
public have scrutinized the project from all angles.
The WIPP is a carefully, deliberately designed,
developed and implemented facility, closely audited by
domestic and international experts the in nuclear
waste and mining technology.

Some 25 years ago the representatives of the
City of Carlsbad invited federal officials to visit
Eddy County and discuss the possibility of locating a
nuclear waste repository in the saltbeds that lie to
the east of the city. Over the years, the people of
Carlsbad have come to know the Department of Energy as
an agency committed to the safe, environmentally
responsible operation of the WIPP.

As the host community for this project,
Carlsbad wishes to stand up and be counted as the city
that took the first critical step towards solving the
nation's nuclear waste problem. The WIPP, the
Department of Energy, and Westinghouse are good
neighbors. I, along with the Chamber and the 425-plus
Chamber businesses and individuals who are associated
with the Chamber, urge the EPA to issue a final
certification decision as soon as possible. With final
EPA certification the WIPP can start doing what it is
so very capable of doing: Protecting our nation's
people and the environment from transuranic waste, and
eliminating the risks associated with this waste
sitting in temporary storage.

This is an important time for Carlsbad and
the citizens of this nation. Thanks to the EPA's
preliminary proposed rule, which represents its
decision to certify the WIPP, we have within our grasp
a solution to an environmental problem that affects
more than 50 million Americans. It has taken more than
two decades of world-class science to get to this
point. No other public project in recent history has
been studied like the WIPP has. The facility is
scientifically and technically sound. It meets all
applicable federal nuclear waste disposal standards.
We cannot afford to delay any longer. The time to deal
with the transuranic waste problem is now.

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In closing, I strongly urge the EPA to remove unnecessary, redundant requirements and issue final compliance certification for the WIPP.

One possible example of redundancy in the requirements might be Conditions 2 and 3 of the EPA's proposed decision to certify the WIPP. The DOE's processes and requirements for certifying each waste generating site are quite stringent. Adding additional oversight, rulemaking and public comment periods to the rulemaking process will do nothing to improve the protection of human health and the environment.

Thank you.

MR. WILSON: Thank you.

Next I have Senator Carroll Leavell.

(Note: No response.)

I understand Representative John Heaton --

REPRESENTATIVE HEATON: Perfect timing.

MR. WILSON: Welcome.

REPRESENTATIVE HEATON: Thank you.

You must be ahead of schedule.

MR. WILSON: We are a little ahead of schedule.

REPRESENTATIVE HEATON: Okay. My name is John Heaton. I'm State representative for District 55.

WIPP is in my district, and that district is comprised
of 23,000 people that I represent in the district.

When I look back on this occasion, in thinking that it might be, hopefully, the last time we testify in a hearing before EPA, I sort of become nostalgic after some 22 years of doing this. I don't know how many times we have done it, maybe 70 or 80 altogether, but a lot of hearings through that period of time.

When I look back, also I think of a trip maybe four years ago when we visited with EPA, and I think we tried to -- when we went to Washington, we tried to visit with EPA each time we went to try to get their perspective on where things were, the community primarily being very interested in safety factors and those issues associated with WIPP. But I think that might have been one of the most important visits that we made, in that I think that DOE at that time was off on their tangent and EPA was going on their tangent, and it was helpful, I believe, for us to hear both perspectives and go to both parties and say, "You need to come to the table."

And I think that that was perhaps one of the most important meetings that we attended, and subsequently it became codified in the amendment to the Land Withdrawal Act.
But I have sat through almost all of the scientific presentations that were made publicly when they had the systems privatization process going on, sat through most of those hearings, and I think that have learned a good deal about it, and I think that we have -- that with as long as we have mined potash in this basin, which is basically in that zone, for some 55 years now, I think we have a very good understanding of it.

I think the science is very clear, I think that the National Academy's endorsement of the project is very clear. I think that those people that I represent I believe support this project very, very strongly, and I think it's time to certify the project and certify WIPP, and I encourage you to do so at the earliest point.

Thank you very much.

MR. WILSON: Thank you very much for coming. Sorry to get you as soon as you walked in the door.

REPRESENTATIVE HEATON: That's quite all right. It happens frequently.

MR. WILSON: You're well experienced, then. Has Senator Leavell come yet?

Okay.

Next I had Mike Brown. Is he here?
(Note: No response.)

Chris Pflum, if I pronounced that right.

Did I mess up the pronunciation?

MR. PFLUM: It's pretty good. Most people don't get it.

A half hour. Away ahead of schedule here.

I'm wearing my Santa Fe jacket. I guarantee you won't see anybody in Santa Fe wearing a Carlsbad jacket when you go up there.

MR. WILSON: Maybe we can get somebody to come up.

MR. PFLUM: My name is Chris Pflum. I live in Carlsbad, New Mexico, and I speak on behalf of myself and my employer Roy F. Weston, Incorporated. Weston employs more than 2,800 staff, representing diversified disciplines in environmental fields. Here in Carlsbad we provide technical and management support services to the U. S. Department of Energy Carlsbad Area Office.

I commend the EPA for its thorough review of the DOE application for the certification of the Waste Isolation Pilot Plant. Anyone who accuses the EPA of blindly endorsing the WIPP has not taken the time to read EPA's proposed rule and supplementary reviews.

Besides accurately and succinctly translating complex
information into plain English, you communicated your review in a way that leaves no doubt as to where you stand on the WIPP project. Such frankness is a refreshing relief from the circumlocution that often plagues regulatory agencies.

Of course, I'm not speaking about EPA at all when I say that.

MR. WILSON: I can tell.

MR. PFLUM: Hardly a blind endorsement, the EPA's rules and analysis clearly demonstrate that you have read and understand each of the 24,000 pages that compose the application and its appendices. I also commend the EPA for its decisiveness.

With the WIPP's period of performance set at 10,000 years, anyone can dream up scenarios that would cause WIPP to fail. The most popular scenario, inadvertent human intrusion, has inspired the imagination of many WIPP opponents. Some claim that humans would inject brine into a borehole, the borehole casing would fail, the brine would then find its way into the repository, it would dissolve the waste, and then find it's way back out again.

More recently, the same opponents argued that someone would drill into WIPP using air, rather than
fluid, and thereby create releases that are,
supposedly, much larger than what was modeled in the
Compliance Application.

Although the EPA has courageously confronted
these doomsayers, I guarantee that you will hear more
from them. The desperate opponents of the WIPP are
like drowning men grasping at straws. They are driven
to concoct even more preposterous ways for people to
inadvertently exhume waste that is buried some 2,100
feet below the earth's surface.

I urge you not to take these fairy tales too
seriously. Heed the words of the National Academy of
Sciences who stated, and I quote: We consider that it
is not possible to assess the probability of human
intrusion into a repository over the long term, and we
do not believe that it is scientifically justified to
incorporate alternative scenarios of human intrusion
into a risk-based compliance assessment.

The alternatives they were speaking of are
alternatives to what already appear in 191.

That's the -- Let's be honest. Could you
imagine any EPA administrator refusing to certify the
WIPP because some person thousands of years from now
could inadvertently exhume more waste than the
regulations allow?
Finally, I commend the EPA for giving the public so many opportunities to comment on the WIPP. Clearly, the EPA seeks and wants to accommodate the will of the people. By the same measure, the EPA should obey our elected officials, who speak for the people. In the Land Withdrawal Act Congress clearly expresses the public's desire for EPA to expeditiously certify the WIPP as a disposal site for as much as 6.2 million cubic feet of transuranic wastes. The EPA now proposes to certify each of some 570 waste streams that are destined for disposal and introduce a 30-day comment period prior to the certification of each stream. If we optimistically assume that a certification rule can be completed in three months, which would be a record for any regulatory agency, it would take the EPA 142 and 1/2 years to certify all the waste streams. Even if EPA could simultaneously certify 10 waste streams at a time, the process would take more than 14 years.

I cannot find a passage in the Land Withdrawal Act that gives the EPA authority over the 21 sites to generate transuranic radioactive waste. Perhaps EPA cannot find it, either, otherwise you would have have credited Congress rather than an obscure provision in your own regulation as a source of your
authority over waste streams and waste sites.

The DOE has adequately regulated itself in this area, and Congress has never indicated that EPA could do a better job. I, therefore, recommend that you not create any more certification hurdles that would protract the disposal of transuranic radioactive waste. Rather, practice what you preach in the opening pages of your proposed rule. There you say: The EPA is committed to the intent of the Congress clearly expressed in the Land Withdrawal Act.

Thank you for the opportunity to speak.

MR. WILSON: Thank you very much for coming.

If you want to join us in Santa Fe and wear your Carlsbad jacket, we will break the rule of only being allowed to testify once.

MR. LEAVELL: State Senator Carroll Leavell.

I understand you --

MR. WILSON: Yes, Senator. Please come forward.

SENATOR LEAVELL: Thank you very much. I appreciate the opportunity to testify here this evening.

I'm State Senator Carroll Leavell, and I serve State Senate District 41. State Senate District 41 consists of the south half of Eddy County and the

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south half of Lea County. It includes the south half
of Carlsbad, Loving, and down the Pecos Valley, the
south half of Hobbs, and Eunice. The WIPP site lies in
the center of this senate district that I represent.

My home is in Jal, which is approximately 42 miles
southeast of the WIPP site.

I also serve on the Radioactive and Hazardous
Materials Interim Legislative Committee. And I might
say that on that committee we have had approximately
six meetings, and always at every meeting had some
testimony and discussion of the Waste Isolation Pilot
Project.

I have followed the Waste Isolation Pilot
Project from its initial conception to development and
through the previous Environmental Impact Statements.

I might add that I was reared in Southeast
New Mexico and have lived here most of my life, and
watched the development of this project. I continue
to support the continued phased development of WIPP to
receive transuranic waste from the Department of Energy
facilities in 1998.

While I was elected by the citizens of
District 41, I am concerned for all the citizens of New
Mexico. My greatest concern is for the waste held in
temporary storage, such as in Los Alamos, New Mexico. I
had the opportunity early this year to spend a day at that facility and look at their current storage and how everything is being held at that point. The transuranic waste has been developed and simply will not go away. It is not acceptable to leave the transuranic waste in temporary storage rather than transporting it to the WIPP for permanent storage.

The long-term solution is necessary and available. The no-action alternative has been too high a risk to the health of our people and the cost to the taxpayers.

There are approximately 53 million people within a 50-mile radius of the 24 sites around the country where the transuranic waste is stored. This is simply not an acceptable risk. The total WIPP project has been well thought out.

I support the transporting of transuranic waste by truck. It has been well tested and proven to be safe. The TRUpac II containers are proven strong and safe during extensive testing programs. The trip plans required are more stringent than any required by any other trucking operation. The State has worked together to design the shipping routes of the WIPP. The trucks are monitored and in constant communication along the route.
Again, the planning and safety requirements exceed anything in the trucking industry. During the past fall the Radioactive and Hazardous Materials Legislative Committee heard testimony from the results of the survey that was funded by the University of New Mexico. This has been an ongoing survey that started some years ago to test the support for the Waste Isolation Project throughout New Mexico. It was interesting that the strongest support for the project comes from Eddy County and from Los Alamos County. Los Alamos County was certainly understandable. They have barrels of transuranic waste stored in trenches and above the ground in buildings. A spill or leak can cause health injury to the local population, and it also exposes persons below, throughout the Rio Grande Valley, should the transuranic waste reach the water table, to affect the entire Rio Grande Valley. This would include the populations of Santa Fe, Albuquerque, Belen, Los Cruces and El Paso. Again, interesting that the closer to Eddy County the stronger the support. I can only assume that the local population has taken the time and the interest to investigate and understand the Waste
Isolation Pilot Project.

In this area you truly have a reverse of the "not in my back yard" syndrome.

I might add that the strongest opposition to the project came from the northeast part of the state, and I found it interesting that would be the Santa Fe to Raton corridor. And as such I can only assume that the concern is with the transportation. Some argue that it's better to leave the transuranic waste in temporary storage, rather than transporting it to the WIPP site for permanent disposal. These recommendations are not acceptable because they provide a short-term storage solution. Eventually, a long-term solution is necessary. It probably will be a greater -- it will probably be at a greater cost to taxpayers and at a greater health risk. Additionally, it would have the greatest long-term health impacts to store on a temporary basis. It would have a potential of 2235 deaths over 10,000 years as predicted.

This, again, is simply unacceptable and an unnecessary risk.

Some argue that there's no way to predict or prevent human intrusion into the repository area, which would bring radioactivity into the human environment.

The Performance Assessment done for the Second
Supplemental Environmental Impact Statement clearly shows there were no releases to the environment under any of the scenarios considered except for waste brought to the surface by multiple drilling. Even those amounts of waste material do not exceed the radioactivity limits of EPA regulations. In all considerations the WIPP is technically safe and cannot affect our health adversely.

The Waste Isolation Pilot Project near Carlsbad was selected for many good reasons. Deep geologic disposal for isolating nuclear waste is based on the large body of U.S. and international research. Let's put this research knowledge to good use and not waste it. The Waste Isolation Pilot Project repository, almost a half mile underground, is carved out of a 225-million-year-old bedded salt formation. These salt beds are found only in geologic regions that lack significant flows of ground water, thus reducing the possibility that waste could be carried out of the repository by natural process.

Additionally, salt tends to heal itself when mined. After several hundred years the salt bed is expected to close upon the waste and permanently lock it deep below the surface.

The repository, personnel, transport,
emergency programs are all in place for safe disposal
of the transuranic wastes at the WIPP. I ask you to
act favorably.

I appreciate the opportunity to be with you,
and thank you for the opportunity to give my testimony.

MR. WILSON: Thank you, Senator, for coming.

Mike Brown.

MR. BROWN: Hello. I'm Mike Brown, and I've worked on various aspects of the WIPP project for the last 13 years. Over that period of time I've seen the life cycle cost of the WIPP project add another billion dollars to that life cycle cost with no added safety or no reduced risk to the public or anything.

What I'd like to do is thank the EPA for putting out their draft rulemaking and finally recognizing that we're close and have met all the requirements and have exceeded a lot of the requirements that the law established, but one of the conditions, Condition 3, is one of those things that is going to add to the cost of the project without adding any value to the project; and that is, the condition that requires a 30-day public comment period after the audits of the site, and when we're getting ready to certify the assignment to ship waste or added waste streams.
EPA and DOE have the technical expertise, and the EPA, through the draft rulemaking, accepted the standards that DOE had worked with EPA and various NMED and EEG to establish. And when they accepted those standards, they have that expertise in-house to ensure that we meet those standards, and the addition of a public comment period will not do anything to add value to the thing, it will just add a lot of cost and delay.

And time is money.

The next thing I'd like to say is that as a citizen in New Mexico -- as you go through these hearings, you are going to hear a lot of people or different groups say they represent the citizens of New Mexico. I am a citizen of New Mexico, and I'm here to say that they don't represent me, necessarily, and so take that into consideration when they speak.

The next thing is I'd like to address some of the hazards of the plutonium, because a lot of our detractors and opponents have said, "Well, plutonium is one of the most hazardous substances known to man," and all kinds of things. And with that, I'd like to say that over the past 50 years, 17,000 workers have dealt with plutonium and handled it and worked in the different facilities where this plutonium was generated, and none of the deaths of those people have
been associated with plutonium-related deaths.

And so that's part of it.

Most of the hazards come from inhalation, contamination to open wounds, or ingesting it, and when it comes in sealed, certified containers, that part of it is not going to be a hazard to us, and we can control that, and we've worked with it.

You have all dealt with many other numerous safety hazards and toxic chemicals. Alcohol has -- and stuff. We all know people that have died in alcohol-related deaths, drug-related deaths. We haven't killed anyone related to plutonium-related deaths.

So I think we can handle it safely.

I would just like to reemphasize that the drums coming to WIPP will hold anywhere from the average of 8 to 16 grams of plutonium. That is about a chiclet size through a 55-gallon drum. It is not like finding -- like a lot of other people that are pointing out different things about WIPP have said. It's distributed on different materials and stuff, and it's not easily removed from that material, so that's why they have scrapped this material and called it waste, and would like to send it to WIPP.

The last point I would like to make is that
this is a problem that many people hope will get better by just leaving it and not doing anything. WIPP is a movement towards the solution. If opening WIPP is a movement in that direction, then we need to go ahead and move forward, because the longer we wait and the longer we delay and the longer we keep adding to all the reports and studies are not going to make this problem go away. It will continue to fester, and when it finally erupts, it will be more costly and more hazardous to everybody, workers and public, to resolve.

So I just want to reemphasize that it's time to act and continue on, and I'd like to see the rulemaking go through and continue.

Thank you.

MR. WILSON: Okay. Thank you very much for taking the time to come tonight.

The next scheduled witness is Paul Robinson.

Is he here?

MR. ROBINSON: Thank you. I'm Paul Robinson, president of the Sandia National Laboratory, and it is a great pleasure for me to appear on behalf of Sandia and on behalf of all the men and women who have worked on this project for so long.

In 1975 Sandia was asked by the then Atomic Energy Commission to assume the scientific
responsibility over what became the Waste Isolation Pilot Plant. We believed this mission was an important one and agreed to the role, first because it was very consistent with Sandia's mission to try and perform exceptional service in the national interest. It clearly is the necessary first step in addressing a major problem in resolving the legacy of nuclear weapons development; namely, the transuranic waste disposal. We had been a major player in weapons development and had the talent to assist in the waste disposal, particularly the areas of expertise of the geotechnical skills, high consequence analyses, and risk assessment methodologies which we had pioneered in the early days, and we have been employed in the Application you have seen.

Our involvement since 1975 has included, first, site characterization, conceptual design, scientific experiments, and the Performance Assessment work.

The project has, in fact, been one of the longest, continuous projects in the history of the Sandia Laboratories, and our laboratory was established during the Manhattan Project of World War II. We have been involved for over 22 years, and the price tag for the work we have done in support of this repository has...
been $475 million over that time, with the peak being
$53 million in a single year with 134 full-time people
employed in the work.

I think it's fair to say that this site has
received more intense scrutiny and scientific study for
a longer period of time than any other comparable
activity in the history of our country.

We have worked closely with the folks here in
Carlsbad and with the community and with the state, and
I would like to say on behalf of Sandia we have
appreciated the open minds with which the people have
considered our work both locally, and now, at this
stage, nationally.

All of the work has now come to fruition in
the compliance certification issues each of you are
addressing here today.

A number of folks have devoted their entire
careers to this work. You are probably familiar with
Wendell Weart, who has been one of the folks touring
the site, who has spent his second scientific career on
this work.

The repository has a dimension of 16 miles
within -- 16 square miles, with a waste area of 200
acres about a half a mile underground, an operational
lifetime of 35 years, and calculations which have

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filled some of our largest computers and have employed
more skills, technical skills than any other comparable
project, with people trying to analyze from every
possible direction the questions which came forward.
The site was selected in December of 1975;
the characterization report and the conceptual design
report completed in '78. The first Environmental
Impact Statement was done in 1980, which then was a
Sandia responsibility, the first half in 1981.
Extensive in situ studies were carried on
from '83 through 1995, when they were completed.
We were assigned the Performance Assessment
role in 1985, and the result is the EPA preliminary
rule on the WIPP certification in October of last year.
No doubt we all recognize the controversial
nature of the issues, and we've tried to adopt, as a
laboratory, a policy of openness. I think we have set
new standards for ourselves, and I hope they will be
useful for other similar projects in the future with
the level of information which has been provided. CD
Roms were made available with all the analyses in which
we said to the community and anyone interested: Here
are all the analyses we believe that supports this
certification. If there's anything you feel we have
not done, please, we would like your input.
That information has been made available now through the World Wide Web.

We've also characterized the work with thorough scientific reviews. The National Academy of Science review is a hallmark for us of the technical excellence that is involved in the work.

We have also carried out a number of international peer reviews and a review by an environmental evaluation group, the EEG. And over this 22-year history there have been lots and lots of Scientific Journal publications and peer review journals.

EPA, of course, has the ultimate review of the adequacy and the soundness of the work in demonstrating the long-term safety of the repository. Our review of the work done has convinced us that you do have a very thorough understanding of the issues that are involved, and we think you have addressed those issues in a very conservative fashion, as is appropriate for the task you've been assigned.

I think the analysis, along with our analysis, showed that WIPP complies with the standards with a large margin of safety, which is appropriate for such a project. Sandia believes that WIPP will be a safe repository for the long-term isolation of
radioactive waste.

Our studies show the repository is so robust that it will comply even with the stringent regulations, even in the unlikely event of the human-intrusion scenarios. This clear assurance of compliance I think means we have successfully completed the investigatory phase and it's now time to move forward to certify the WIPP and to operate it for its intended purpose.

On behalf of Sandia, I'd like to strongly recommend that EPA certifies WIPP as provided in the draft rule.

Thank you very much.

MR. WILSON: Thank you, Mr. Robinson, for coming, and all the good work by you and your very accomplished staff.

MR. ROBINSON: Okay. Thanks.

MR. WILSON: I'm going to have one more. Is Paul Sanchez here? Paul Sanchez.

(Note: No response.)

If not, we are a little ahead of schedule.

I'm going to take a break at this point.

(Note: A discussion was held off the record.)

MR. WILSON: We have a couple of people who signed up that I thought we would try and fit in now,
if we could, before we take the break.

Mr. Loftus?

MR. LOFTUS: Welcome.

My names is Charles M. Loftus, and I seem to be the first person to speak against the WIPP. I have no objection to the underground or on the road. My problem is with the building. They spent ten years on the underground and transportation, but they haven't done anything with the problems that I wrote to the first Secretary of Energy eleven years ago, which were in the plans of the building.

They never put concrete walls on the exterior south side of the building. It's still the metal siding.

We were out there in July of this year, and the person said, "Well, what are you worried about? It's the same metal siding used on all commercial buildings."

This is not a commercial building, it's a waste handling plant. It requires concrete walls on the outside the same as it has on the inside. It has six- and eight-foot concrete walls on the inside. Outside is metal.

The man says, "Well, if we put a hole in it, we will just shut down the whole operation until these
repairs are made."

That is Rocky Flats.

We are talking about opening something that is not ready.

The other thing was the WIPP was designed to handle all barrels, leaky ones, corroded barrels, and the good barrels. WIPP themself has said: No leaky barrels will come on the site. We'll send them back. The reason for that is they told us again on the 31st of July they would not be ready to handle that type of material until the year 2006 or 2008, because the section of the building that handles that has the same problems that were in the design eleven years ago. The way I look at it, the site is not ready to open. You can't bring material into the building to unload it. They have to unload it out in the yard with forklift trucks, bring it in the so-called air locks and into the building.

The design was, and it has been wrong since Day One, and they know it.

The air locks were built 90 degrees from the building. There's no way to back your trucks into that 110-foot, you know, long air lock to get in the building.

From Day One we told them concrete walls,
concrete air locks parallel with the building, drive
your truck in, open your doors, unload safely into the
building. They have opted to do none of this.
So the conditions that I wrote to the Admiral
eleven years ago -- He flew in here to town and fired
everybody that was supervisor out there, because they
told him they were ready to open.
I take responsibility partly for being
delayed for ten years, and I'm still fighting it,
because I consider until they put the concrete walls up
and do what's needed to bring these leaky barrels,
which for the last five years everybody has said the
barrels are leaking, they got to go underground. They
can't handle them. They won't handle them until the
year 2006.
So why open a site that all you can bring in
here is good barrels that aren't leaking and aren't
corroded. Leave them where they are at. The ones to
worry about are the leaking barrels and the corroded
barrels. They can't handle them till 2006.
So let's go ahead and do what's needed out
there: Put up your concrete walls, get the site ready,
and when you open it, you can handle everything that's
needed to put underground.
Thank you very much.
MR. WILSON: Well, thank you for taking the
time to come.

I noticed you have -- Do you have some
materials?

MR. LOFTUS: That is what I did at the last
EPA, just tells who I am and all about what happened in
the last ten years.

MR. WILSON: If you would like to give it to
us, or if you would like to send it in.

MR. LOFTUS: I will give it to her.

MR. WILSON: Okay. Thank you very much.

MR. LOFTUS: Okay.

MR. WILSON: Is Mr. Chuck Williams here?

Chuck Williams.

(Note: No response.)

MR. WILSON: Did Paul Sanchez come? Did Paul
Sanchez come?

(Note: No response.)

MR. WILSON: Bruce Baker?

MR. BAKER: My name is Bruce Baker. I work
for Technadyne Engineering Consultants. For ten years
I've worked for -- as a consultant to Sandia National
Laboratories Performance Assessment Group. I'm a
computational hydrologist. I work on the groundwater
flow problems at WIPP.

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Rather than actually commenting on the science that's gone into WIPP, I'll just mention that after ten years of working on the project, this year I've decided to move my family to Carlsbad. And I think the WIPP is safe, and I encourage the EPA to go forward with the rulemaking.

Thank you.

MR. WILSON: I have an E. Shirley.

(Note: No response.)

One more. Is Joe Archuleta here?

How about Ross Kirkes?

Sorry. We are fairly ahead of schedule, so I think some people are probably planning to come later.

We will do this one and then take a 15-minute break. Thank you.

MR. KIRKES: My name is Ross Kirkes, K-i-r-k-e-s. I'm from Carlsbad; I'm a lifelong resident of Carlsbad. And I appreciate EPA's openness to public input, and I'd like to take this opportunity to discuss air drilling and its relationship to the WIPP project.

Fluid or mud drilling is by far the most common drilling method use at the Delaware Basin. Air drilling technology has been around for more than 25 years and it offers economic benefits over fluid
drilling in certain site-specific -- when site-specific characteristics are met.

The initial capital needed for air drilling far exceeds that of fluid drilling due to the additional expenses of air compressors and equipment, but because of the faster penetration rates offered by air drilling it results in less rig time and therefore lower drilling costs. However, if the driller anticipates in the interim any interruption in the air drilling process, you would have to convert back to fluid drilling, and, in doing so, you would diminish the economic advantages that air drilling offers to begin with. So you would probably be better off to start with fluid drilling and stay with it.

In order to find out what's going on in this area around the WIPP site, I personally conducted a survey of over 30 drillers in the area. Out of these 30, 15 responded. In the 15 that did not respond, several have gone out of business over the last ten years, and several of the others have been absorbed or bought out by the active companies.

Thirteen out of those 15 responding claim that they do possess and understand air drilling technologies, but they all agreed they would not use air drilling near WIPP. They cite the reasons such as
overlying water-bearing zones in the Rustler and the potential or threat of pressurized brine between the WIPP and the Castile. And probably the most important reason they state they don't use air drilling around WIPP is the primary reason for using air is that it's fast. In the formations near the WIPP they can drill quite fast with conventional methods, with fluid, so they don't have to incur those high costs of air drilling, they simply use fluid and make the hole quickly.

That is what they do.

In addition to this survey that I conducted with the drillers, I also performed a records search at the New Mexico Oil Concentration Division. And we looked at every Well file within the nine townships around the WIPP site. That included 767 well files, 324 square miles around the WIPP site.

There was absolutely no evidence whatsoever of air drilling. None.

So, with that, we expanded the scope even further. We looked at 1400 well files, and we did find two holes that were drilled, at least in part, with air. These two holes I presume are the two Jim Amos mentioned in his memo that is attached to the Attorney General's analysis of air drilling. These were drilled
in 1979. And in that 16-mile radius of the WIPP, there are 1401 wells and only two drilled with air. Apparently they weren't very successful, or else the industry would continue that practice.

In conclusion, I would like to say air drilling is not conducted near the WIPP site. Two out of 1400 certainly does not represent a current or a well-used practice. The drillers use air drilling where it's applicable, but only after they consider certain site-specific characteristics such as dry formations and areas in which they are certain there's no opportunity to encounter water-bearing formations.

That is not the case near WIPP.

Thank you.

MR. WILSON: I just had one quick question. Do you know if there's anything happening with the technology of air drilling that would make those facts change in the future, that would make it more economical?

MR. KIRKES: Certain small quantities of water could be dealt with, but it's not the technology, it's the economics, and oil companies operate strictly based on that.

Stiff foams and certain coagulants may be used to carry the cuttings to the surface using air,
but, again, you are talking about lots of expense, and near the WIPP the holes drill quite easily and quite straight to begin with using fluid. Water is cheap.

MR. WEINSTOCK: You have obviously done a lot of work, and we appreciate your testimony, but if you have any kind of written report, I just --

MR. KIRKES: Absolutely.

MR. WEINSTOCK: If you can submit one either now or sometime during --

MR. KIRKES: I will. I will provide it tomorrow.

MR. WEINSTOCK: Okay. Thank you.

MR. KIRKES: Thank you.

MR. WILSON: With that we will take about a 15-minute break. It's 25 after 7:00 on my watch, so about 20 of 8:00.

(Note: A recess was taken at 7:25 and proceedings resumed at 7:45 p.m.)

MR. WILSON: Okay. If we can get everybody to sit down.

Is Paul Sanchez here?

MR. SANCHEZ: Yeah, I'm here.

What I'd like to do, I just found out you called me, because I was ahead of the schedule. Just to make sure I don't break up any continuity, I was
talking to Kathy, and Frank Hansen, and I was wondering
if they could go first and I could go after those two.

MR. WILSON: That is fine.
All right. We will jump -- Kathy Knowles. Is
that who you were referring to?

MR. SANCHEZ: Yeah.

MS. KNOWLES: Yes. That's me.
I have a written statement that I am just
going to read from. I assume you want it when I'm
done.

MR. WILSON: I think if you could give it to
the reporter, that would help a lot.

MS. KNOWLES: This goes down?

MR. WILSON: Look like it.

MS. KNOWLES: That works. Thank you.
Where's the light so I know when...

MR. WILSON: Right here.

MS. KNOWLES: My name is Kathy Knowles, and
this is my personal statement regarding the WIPP.
I am a senior member of the technical staff
at Sandia National Laboratories. I came to Sandia in
1993 from the University of California in Santa
Barbara, and I came specifically to work on the WIPP
project. One of the compelling reasons that I accepted
a position on this project was the logo that resides
Disposal of hazardous waste is a national problem. Others have spoken more eloquently than I on this very topic.

Within every person's lifetime, there are relatively few opportunities to work on a program that is of significant importance to the general population. There's also few opportunities in which it is assured that the work will be conducted according to the highest scientific and ethical standards.

Because WIPP encompassed both these ideals, a program which could benefit society at large and a commitment that studies supporting this program would be of the highest quality, I welcomed the opportunity to participate in the evaluation of WIPP for permanent disposal of transuranic waste.

My technical background is in mechanical engineering, in which I hold a Bachelor of Science, a Master of Science, and a Ph.D. I specialize in the design and implementation of computer simulations of transport processes, which is just a fancy way of saying I build computer models and codes to predict where contaminants will end up. I have also planned, supervised, and conducted laboratory field experiments.
to gather data used in these simulations. Over the past ten years I have worked on engineering issues relevant to heat transfer, offshore oil exploration, contaminant transport in lakes and rivers, sediment diffusion in estuaries, and, most recently, on several transport issues included in the Compliance Certification Application for WIPP.

Having developed computer models and codes for a large spectrum of physical settings, I believe I can offer an informed perspective on the validity of the simulations of long-term WIPP performance.

In December of 1996 I was asked to work on one of the release scenarios for the WIPP known as spallings. Spallings is defined within the WIPP as one of three processes leading to the release of solid material to the surface during drilling of a hypothetical exploration borehole into the disposal areas. In the interest of time, I won't be giving any other information on the technical details, but will instead talk in general terms about the scientific studies that were conducted to demonstrate that releases of solid material due to spallings will, in fact, not pose a threat to public safety.

At the request of DOE, staff from Sandia subjected the spallings process to complete and
vigorous evaluation during the months between December 1996 and April, 1997. This evaluation included assessment of the assumptions included in the CCA's design and implementation of experiments on waste forms and properties, consultation with oil industry professionals on gas blow-out processes, and development of computer codes and models to predict the outcome should an inadvertent intrusion occur. We spent more than 10,000 hours of time on this program, and demonstrated that releases due to spallings would, in fact, be quite small.

I consider my contribution to this program to be one of the highlights of my professional career. Computer simulations of spallings releases were only one part of this large effort. As I said before, the calculated releases during the spallings events were shown to be very small. There are a number of processes that will act to limit releases which were not included in the calculations.

Principal among these are controls imposed by the drilling operator, and the inherently massive nature of the waste itself. As a builder of models, I can assure you that these are very difficult processes to capture in a computer code, and that is the only reason they are not included in the models used to date. As an
engineer, I can also assure you that these processes will mitigate releases to the surface.

It is the task of an informed researcher to merge predictions of simplified processes that we can model with the more complex world in which we live. The notion of an uncontrolled gas blowout is not consistent with practice in the Delaware Basin.

Standard --

Standards -- Am I almost out of time?

MR. WILSON: You have --

MS. KNOWLES: Okay. Then I'm going to skip a paragraph.

The evidence that WIPP is a safe site for the permanent disposal of transuranic waste is overwhelming. To find otherwise is to acquiesce to those who base their opposition to WIPP on irrational fears and similar motives.

In the end, it is my hope that reason will prevail and that the exceptional work performed on the WIPP project comes to the only reasonable conclusion, and that is, to open WIPP.

MR. WILSON: Thanks. If you would leave this on the table, we would make sure --

MS. KNOWLES: Okay.

MR. WILSON: Thanks very much.
Frank Hansen. Okay.

MR. HANSEN: This is a personal statement, although I work for Sandia National Laboratories. I am a member -- I'm a principal member of their technical staff. I have a B.S./M. S. in civil engineering and a PhD. in geology and tectonophysics, and I've been a professional engineer since 1978. I have over 20 years exploring natural and experimental deformation of engineering and natural materials. In civil engineering, I emphasize structures, mechanics and materials. My geotechnical applications have ranged from the first order of structures of the earth to the micromechanical processes.

I've been intimately involved in the WIPP project since its inception, working since 1974 on the thermomechanical testing of salt from the exploratory drillholes AEC 7 and 8 and ERDA 9. My research and development specific to the WIPP is well documented in something like 40 plus technical publications that have something to do with the relationship and the experimental deformation of salt. I believe I have personally tested and examined more salt than anyone in the world.

Now, based on this breadth of personal experience and an abiding appreciation for the problem
at hand, I testify here that I feel strongly that the
WIPP provides a sound, robust repository for the
disposal of the nation's transuranic waste.

   Now, within this protocol of public comment
on the WIPP, I would like to focus on one topic
particularly germane to the inadvertent drilling into
the site that received some spectacular press lately.

   To review, it has been postulated that at
some future date there exists a remote possibility that
a drilling operation may penetrate the site. If
several other low probability assumptions are invoked,
it could be calculated that degraded waste material
spalls into the drill string and out the hole to the
surface -- at least theoretically.

   When taken all together, these contributing
assumptions have led to the largest theoretical
releases between one and two orders of magnitude below
the EPA limit.

   My position regarding impact of human
drilling is this: It will be impossible to extract any
appreciable material from the repository by way of a
drilling intrusion. This conclusion is based on a
large body of recent work, much of which is documented
based on the consideration of the state of the waste
over time has led to the unequivocal conclusion that
crushed, compacted, cemented, partially degraded
55-gallon drums are not primary candidates for
extraction through a borehole.

As these four artist's renderings of the
underground show, at times zero you have this excavated
geometry with that type of material packing in the
underground.

The next slide shows -- these are based on
rigorous scale model calculations and field evidence.

In 12 years time the salt compacts the waste.

Next one.

In 50 years time the original repository room
is one half its original height. In this time there's
only minimal degradation of the material.

These are facts.

And the last, the last slide shows at 1,000
years plus. There is some conjecture at what it might
look like, but I would assert that long before any
appreciable degradation occurs, the waste will be
reduced to less than half its original height. And, as
noted by the NRC report, in a nearly dry repository,
degradation is minimal.

And this fact is borne out by natural analogs
from ancient salt mines where metal, ceramics, and
organic materials have been encapsulated in salt for millenia.

In addition, the blocky, heterogeneous architecture of compacted waste inventory is not conducive to gas-driven transport under any circumstances.

As a concluding remark, I would like to say I appreciate the opportunity to make a personal public comment on this important issue at this historic time. The National Academy of Sciences had the story correct back in 1957 when they identified the storage in salt as a scientifically sound solution to close the nuclear cycle. Opening WIPP is an overdue first step towards cleaning up the nuclear legacy.

MR. WILSON: Thank you very much for your testimony.

Next is Mary Ellen Klaus.

MR. SANCHEZ: I'll go next.

MR. WILSON: I'm sorry. I was just going through the list.

MR. SANCHEZ: Okay. My name is Paul Sanchez. I am speaking as a private individual who resides here in Carlsbad raising two small children, and have a grandchild every year or two, as well.

I have a Bachelor of Science degree in...
geology from Humboldt State University in Northern California, and a Master's degree in geology from Northern Arizona University. These are two very environmentally conscious schools -- I would say extremist in some cases -- and I've come to be very environmentally conscious myself on all the projects I worked on. And I worked in California on assessing the seismic safety of hazardous waste facilities. When I moved out here, I again took that stance, and I still continue to do so working for the scientific advisor to the Department of Energy. I work for Sandia National Labs.

It's been my observation over the years that despite -- notwithstanding the credibility of our P. A. that there's a whole lot of intuitive reasons for believing the viability of the WIPP project. It's also been my observation that a lot of rational and non-biased scientists, geologists, and related disciplines have the same opinion, through informal discussions with the New Mexico Geological Society, and friends and associates that still work in the field that I keep in contact with.

Anyway, it makes me very proud to observe after reading the EPA proposed ruling that you guys gave the WIPP project a fair assessment, and it appears
ruling in favor of the project, a lot of issues that
were outstanding, you guys ruled in favor of.

For the route that follows, I'm going to
quote Mark Twain. He said: Why shouldn't the truth be
more strange than fiction, because fiction, after all,
has to make sense.

Well, I think some of the political agendas
that will come to the surface during the comment period
will be speculative and perhaps nonsensical, so, as a
citizen and professional, I worry about how these
outstanding issues will be handled, and I hope the EPA
will again give the WIPP project a fair shake.

MR. WILSON: Okay. Thank you for coming.
There's one other person we skipped over
earlier.

Joe Archuleta. Is he here?

Hi.

MR. ARCHULETA: My name is Joe Archuleta. I
have a Bachelor's degree in civil technology from New
Mexico State University. My family and I live in
Carlsbad, and I work for Sandia National Laboratories.
I have been working as a quality assurance engineer
since I became assigned to the WIPP project in 1994.
I am currently the assessment task leader, audits and
surveillance, supporting Sandia/WIPP-related work. I
am here as an individual to let the EPA and the public
know about our assessment program.

The Sandia/WIPP assessment program is based
on nuclear quality assurance requirements. We have
been very active in support of experimental activities
which have been identified by the DOE Carlsbad Area
Office as critical to the WIPP project. In fiscal year
1997 alone we performed 12 audits and 25 surveillances
of our contractors and of Sandia work. Our lead
auditors are trained to manage their audit teams so
that each auditor reviews assigned work activities to
assure that procedures, calibration test plans,
scientific notebooks, and software meet NQA standards.

As assessment task leader, it's my
responsibility to ensure that we use our limited
resources and funding as efficiently as possible, and
because of our assessment program we have a high level
of confidence that we are doing the most scientifically
defensible work possible in support of the WIPP
project.

Thank you.

MR. WILSON: Thank you very much for that
testimony, and thanks for coming.

Now we will try Mary Ellen Klaus. Is she here?

MS. KLAUS: Hello. My name is Mary Ellen
Klaus. I'm the Chairman of the Eddy County Republican
Party.

First I would like to sincerely thank you
all for choosing Carlsbad to have these hearings today.
As I am sure you are well aware, the opening of the
WIPP is a very important topic to the residents of
Southeast New Mexico.

You may be wondering why an officer of a
political party would be interested in testifying
today. You may be asking, "Isn't opening WIPP a
technical and scientific issue? What possible reason
could there be for a party official to want to speak
today?"

If the decision to open the WIPP were based
simply on good science, it would have been open years
ago, in my opinion. A large portion of our nation's
transuranic waste would safely be now underground,
rather than spread across the nation in temporary
sites.

I wish it weren't necessary for political
activists such as myself to comment on what should be a
straightforward scientific decision; however, the
actions of WIPP's opponents have made the opening of
the WIPP a political rather than a scientific issue, to
a large extent.
For instance, our New Mexico Attorney General has chosen, in my opinion much to the detriment of the residents of New Mexico and our nation, to take action to delay the WIPP's opening. Never mind that every independent scientific review has declared it safe. Never mind that it is vitally important to our nation. These facts don't seem to matter. Some feel that by twisting the truth they can incite many citizens to oppose the WIPP, and some apparently feel that will increase their political careers.

Opening the WIPP should be based on science, not politics.

In my limited time, I would like to discuss how WIPP contributes to our national prosperity and security, a topic on which I know the EPA is vitally interested.

For over 50 years America's security has been partially dependent on a strong nuclear deterrent. In the past, because of a potential nuclear threat posed by the Soviet Union, the United States deployed a large number of nuclear weapons. Not only did this nuclear umbrella protect us from overt aggression, but, in my opinion, it also discouraged more covert aggression. I feel to a large measure it has guaranteed peace in Europe, Japan, and other region of the world. Under
the masterful leadership of Presidents Reagan and Bush, our nation stood fast. We saw the collapse of the former Soviet Union and the end of the Cold War. Due to the changing international climate, the United States now is reducing its stockpile of nuclear weapons. It is also in the process of closing up and cleaning up many of its nuclear sites across the nation. That is where WIPP comes in. Many of these sites have been storing transuranic waste, and TRU waste is a well-defined by-product of nuclear weapons and manufacturing. I wouldn't even try to attempt to talk about that at this time, but, as a step in cleaning up and closing these sites, TRU waste should immediately be sent to a final resting place: WIPP.

As long as the WIPP's opening is delayed the clean-up activities at these weapons sites will be frustrated and likewise delayed. Without a final resting place, TRU waste will continue to accumulate in less protected, temporary places.

I understand the EPA is vitally interested in cleaning up these sites. Without the clean-up, these sites pose a potential long-term environmental problem. It is fortunate for the WIPP that the federal
agency most concerned with environmental protection is
deciding WIPP's fate. It would be a shame if the EPA
delayed WIPP yet again. I know that won't happen,
because I feel the EPA clearly understands how
important WIPP is to the environment.

I must speak from a layman's point of view.
As a layman, I put my personal trust for our safety now
and for the future in the hands of the highly
qualified, dedicated scientists and engineers who
helped develop and build the WIPP. They have worked
diligently to plan and implement safe procedures for
transporting the TRU waste across the country and into
the Carlsbad area, and for handling and storing TRU
waste at the WIPP site.

I ask one thing of the EPA: Please review
all the evidence. Make your decision based on science,
not politics. If you do so, I am confident you will
conclude that WIPP is safe, vitally needed, and should
be opened now.

Thank you.

MR. WILSON: Thank you very much for coming, and
for that testimony.

We have a couple of other people who signed
in here.

Chuck Williams. Is he here?
MR. WILSON: Okay. And an E. Shirley. I think it's E. Shirley.

This is the list of -- We are going to double check. That's the list of people we had. Is there anybody else here who wanted to make a statement tonight that hasn't had a chance?

For your information, we are here tomorrow starting at 9:00 o'clock in the morning for most of the day. Then we will be in Albuquerque on Wednesday afternoon and evening and Thursday morning, and then in Santa Fe Thursday afternoon and evening, and most of Friday. So we will be spending all this week here in New Mexico listening to testimony about this issue.

If any of you have friends or colleagues who are interested in coming tomorrow, tell them we will be here starting at 9:00 through most of the day, and if they let us know, we will be able to fit them in tomorrow.

Let's double -- hang on a second before closing to see if any -- We did have a couple of people who signed up who may have had to leave.

Okay. Unless there's somebody else who wants
to comment, we'll close the hearing for tonight and
start up again tomorrow morning at 9:00.

Thank you all for taking the time to come
out tonight. We appreciate it.

(Note: Proceedings adjourned at 8:20 p.m.)