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INITIAL gj DATE 3-01-94



February 3, 1994

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U.S. Department of Energy
Idaho Operations Office
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Idaho Falls, ID 83401

SUBJECT: CONTRACT NO. DE-AC07-90ID12918; FORMATTED PAD-A PUBLIC
COMMENT DELIVERABLE FOR INCLUSION INTO THE PUBLIC
INFORMATION REPOSITORIES

Dear Mr. Hula,

Enclosed are the formatted public comments for Pad A which have been delivered to M. Sean Breen, Ecology and Environment, for inclusion into the Public Information Repositories. The formatted public comments constitute the final deliverable identified to date from Advanced Sciences, Inc. (ASI) on the Pad A project.

If you require further ASI assistance on the Pad A Project, please give me a call at 529-2002.

Sincerely,

A handwritten signature in black ink, appearing to read 'Douglas L. Brown', is written over a horizontal line.

Douglas L. Brown
Advanced Sciences, Inc.

Enclosure
As Stated

cc:

W. Sato, DOE, MS 1118 with enclosure
R. Pence, DOE, MS 1221 without enclosure
V. Arpin, DOE, MS 1221 without enclosure
K. Hastings, DOE, MS 1217 without enclosure
T. Steele, ASI with enclosure
M. Breen, E&E with enclosure
ASI Task File, 9939.08.01

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PAD A PUBLIC MEETING

Westbank Inn
475 River Parkway
Idaho Falls, Idaho

August 17, 1993
7:05 P.M.

AGENCY REPRESENTATIVESU.S. Department of Energy, Idaho Operations Office

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1 IDAHO FALLS, IDAHO, TUESDAY, AUGUST 17, 1993, 7:05 P.M.

2 *****

3
4
5 MR. HULA: My name is Greg Hula. I'm the
6 Project Manager for the Department of Energy on the Pad A
7 project. I'd like to welcome you all for coming out
8 tonight. I appreciate you taking the time out of your
9 schedules to come down and hear what we have to say.

10 The purpose of tonight's meeting is basically
11 threefold. We'll be providing an overview of the Proposed
12 Plan for Pad A, some additional details on the types of
13 wastes on the pad, as well as how the pad was constructed.
14 We'll have a question and answer session in which you'll
15 have a chance to ask questions about the Proposed Plan, the
16 alternatives we evaluated for Pad A, as well as the study
17 that was conducted on the pad. And that will be followed
18 by a formal verbal comment period at which time you'll have
19 the opportunity to provide verbal comments on the Plan, on
20 the alternatives that we evaluated in the Plan.

21 We've got some forms in the back of the room,
22 comment forms, that you're welcome to provide written
23 comments on. These forms are also included in the back of
24 the Pad A Proposed Plan. So if you want to get a copy of
25 that, just write your comments down. The forms are

3

1 pre-addressed to the Department of Energy and they're
2 prepaid, so just drop them in the mail, and we'll be sure
3 to get those.

4 In addition, on the back of the agenda, we've
5 got an evaluation form. I would appreciate you, if you
6 have the time, if you want to take the time to do this,
7 give us your comments, your feedback on how the meeting
8 went tonight, how well the presentation was provided, how
9 well we answered your questions, and how well you felt the
10 verbal comment period went. I want to mention that the
11 formal comment period will run through August 26th, about
12 two more weeks to get comments in on the Proposed Plan for
13 Pad A.

14 With that, I'd like once again to thank
15 everybody for coming out. And I'd like to introduce Mr.
16 Dean Wygard with the State of Idaho Department of
17 Environmental Quality, and Ms. Mary Jane Neerman with EPA,
18 Region 10, out of Seattle. I would also like to introduce
19 my counterpart at EG&G Idaho, our contractor for DOE, Mr.
20 Vaughn Halford, who will be giving the discussion -- the
21 details on Pad A and the wastes on the pad. With that,
22 we'll hit off the meeting.

23 The Idaho National Engineering Laboratory is
24 an 890 square mile facility located in this portion of
25 Idaho. There's several facilities located on the INEL.

4

1 The one being of importance to us tonight, the Radioactive
2 Waste Management Complex located in the southwest portion
3 of the INEL. The Radioactive Waste Management Complex was
4 opened in 1952 for the disposal of low-level radioactive
5 wastes generated at the INEL. In 1954, the Radioactive
6 Waste Management Complex began accepting wastes from other
7 DOE sites such as the Rocky Flats Plant, as well as
8 commercial nuclear facilities.

9 This picture here shows basically the
10 Radioactive Waste Management Complex, and it's composed of
11 two main areas. We've got the Transuranic Storage Area
12 over here with the white air-support buildings. This
13 facility was constructed in 1970 and is used for the
14 aboveground storage of transuranic waste. It's basically
15 wastes generated at the Rocky Flats Plant from nuclear
16 weapons production. These wastes are ultimately destined
17 to go to the Waste Isolation Pilot Plant in New Mexico for
18 final disposal.

19 The other large area you see here is an
20 88-acre site known as the Subsurface Disposal Area. That's
21 the area that contains all of the buried waste at the
22 RWMC. It's made up of several pits and trenches throughout
23 the 88 acres, and it also contains the area which is the
24 subject of tonight's discussion, Pad A. Pad A is one of
25 several operable units within the Radioactive Waste

1 Management Complex.

2 With that, I'd like to turn it over to Vaughn
3 Halford, who will give some background information on the
4 pad, as well as the wastes.

5 MR. HALFORD: Good evening. Pad A was built
6 in 1972 for the disposal of containerized radioactive
7 waste. The pad is a three- to four-inch asphalt pad that's
8 laid over three inches or so of gravel. The 55-gallon
9 drums and boxes were stacked on the asphalt pad and then
10 covered with polyethylene or plywood and then covered with
11 three to six feet of soil. Then the soil cover was seeded
12 with crested wheatgrass to attempt to eliminate or prevent
13 erosion.

14 The waste containers were stacked in this
15 configuration on this portion of the pad, and you can see
16 it's located in that north central portion of the
17 Radioactive Waste Management Complex, specifically the
18 Subsurface Disposal Area. Closure was completed in 1978,
19 so it was open from 1972 to 1978.

20 The types of wastes that were disposed of on
21 Pad A consist of entirely solid wastes in the form of
22 55-gallon drums and boxes. These are evaporator nitrate
23 salts from the Rocky Flats Plant, and that makes up about
24 71 percent of the total volume of the waste.

25 In addition, we have uranium oxides and

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1 uranium and beryllium foundry and machining wastes also
 2 from the Rocky Flats Plant, combined with some barrels of
 3 dry sewage sludge that totals another approximately 22
 4 percent of the waste. The remaining waste is made up of
 5 miscellaneous INEL-generated wastes, which were wastes
 6 produced here at the site.

7 This gives you an idea of the pad just before
 8 its closure in 1978. It gives you the configuration of the
 9 waste containers. The drums were stacked a maximum of
 10 eleven high and the boxes were stacked a maximum of five
 11 high.

12 The inventory records that we have on Pad A
 13 give us a really clear picture of the waste types and
 14 contaminants that we have at Pad A. The inventory records
 15 that I'm talking of consist of shipping records from our
 16 generators such as the Rocky Flats Plant. Additionally,
 17 the process information that we have based on those
 18 operating facilities and discussions with personnel from,
 19 for example, the Rocky Flats Plant.

20 Two investigations were conducted at Pad A,
 21 one in 1975, the other in 1989. The investigation in 1975
 22 was done at the northeast corner to go in and try to get an
 23 idea of the condition of some of the oldest drums on the
 24 pad. Those had been placed there in 1972. That
 25 investigation showed that the drums were in really good

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1 shape, but some of the boxes were starting to show various
 2 stages of deterioration.

3 The investigation or penetration project in
 4 1989 went in at the south central portion of this waste
 5 here in an attempt to actually retrieve some drums. After
 6 the soil cover was removed, the drums and boxes were
 7 observed. The boxes were in deteriorated stages, and the
 8 drums where the plywood box -- or the plywood layer had
 9 been laid on top of it actually helped corrode the drum at
 10 those contact points and there was some rusting of those
 11 drums. The drum was then -- one single drum was retrieved
 12 and transported to the Transuranic Storage Area where it
 13 was stored for two years.

14 At that point in our investigation, we
 15 retrieved that drum, pulled it out, and took it out to a
 16 lab for analysis. The analysis of the contents showed,
 17 first of all, that we had some of the nitrate salts from
 18 Rocky Flats. Those nitrate salts that we analyzed for
 19 showed that the contaminant types and concentrations that
 20 Rocky Flats said we had been shipped were almost identical
 21 or very similar to the analyses that we performed on those
 22 drums. That drum that was opened, the liners inside were
 23 intact and the drum and all was in fairly good shape.

24 The monitoring that's done at Pad A has
 25 consisted of taking soil samples at various locations

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1 around the overburden or soil cover. We've also taken
 2 surface water samples when surface water or pools of
 3 rainwater are available. We are also currently monitoring
 4 groundwater in and around Pad A at the RWMC, and we are
 5 also taking air samples, continuously monitoring air out
 6 there. And to date, we have no indication of any
 7 contaminants from Pad A that have left the site or the Pad
 8 A area.

9 And with that, I think I'll turn it back over
 10 to Greg, and he will continue to walk us through the
 11 investigation done on Pad A.

12 MR. RULA: I wanted to mention a couple of
 13 other things before I get going to discuss the risk
 14 assessment. I wanted to mention that we do have a court
 15 reporter here tonight who is taking an official transcript
 16 of the meeting, including the presentation, question and
 17 answer session, and the formal verbal comments.

18 And also, Mr. Alan Duda from the
 19 Department of Energy will be providing a 15- to 20-minute
 20 overview of activities associated with the Central Facility
 21 Area Landfill following the Pad A meeting tonight.

22 Vaughn talked about the wastes that are
 23 sitting on the pad, the types of wastes and things like
 24 that. Once we identified the wastes and what we had, the
 25 next question we had to answer in the assessment was what

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1 problem or potential problem did those wastes pose to
 2 workers or the public or the environment. The way we do
 3 that is through conducting a baseline risk assessment,
 4 basically evaluate the potential risks from the site
 5 assuming no action is taken at the site. For purposes of
 6 Pad A, we evaluated the risk for a period of one thousand
 7 years into the future.

8 The baseline risk assessment essentially
 9 identifies the contaminants that pose the risk, as well as
 10 how people could come in contact or be exposed to those
 11 contaminants. For example, this is kind of a conceptual
 12 model of how we assume contaminants could move from Pad A.
 13 We assume that burrowing animals could dig into wastes, and
 14 through their burrowing, contaminants would be brought to
 15 the surface. Also, we assume plants with fairly long root
 16 systems could grow into the waste and the root systems
 17 would basically uptake the contaminants. When the plants
 18 die, you've now got additional contaminants on the surface
 19 of the pad.

20 Once the contaminants reach the surface of
 21 the pad or the cover, people can be exposed to the
 22 contaminants through inhalation of air contaminated with
 23 dust, as well as ingestion of contaminated soil, or direct
 24 exposure to radionuclides in the soil.

25 To approach -- or to determine how the wastes

10

1 can move down to the groundwater basically because these
 2 are solid wastes, we have to have water moving through the
 3 wastes. Water in the form of rainfall moves through the
 4 wastes, dissolves the salts, much like table salt dissolves
 5 in a glass of water, and that water moves all the way down
 6 to the aquifer beneath Pad A 585 feet. Once those
 7 contaminants reach the groundwater, people can become
 8 exposed to those contaminants through drinking the
 9 contaminated groundwater, or for the future use scenarios
 10 we looked at, by using that contaminated groundwater to
 11 irrigate food crops and then eating those food crops.

12 To evaluate or estimate how much
 13 contamination can move from the pad to the groundwater, we
 14 used computer models that simulate how the contaminants
 15 move through the environment, to the groundwater, to the
 16 surface. But because there's uncertainties associated with
 17 the site -- for example, we don't know how long the plastic
 18 liners of the drums will remain intact on the pad; we don't
 19 know specifically how much water is actually moving through
 20 the wastes on the pad; and once that water reaches the
 21 waste, we don't know how far down in the aquifer -- how far
 22 down in the subsurface it moves. Does it move only ten
 23 feet, does it move fifty feet, does it move the entire 585
 24 feet to the groundwater?

25 To account for this type of uncertainty, we

1 made conservative assumptions in our modeling. For
 2 example, we did not take credit for the plastic liners
 3 being intact in the boxes which contain about 54 percent of
 4 the wastes right now. We assume that because there's no
 5 plastic liners and the boxes are virtually nonintact, that
 6 the mass of waste, or 54 percent of the waste on the pad,
 7 could move or was available to migrate to the groundwater
 8 right now.

9 Similarly, we assumed about five centimeters
 10 per water -- five centimeters of water or two inches per
 11 year was moving through the wastes and to the groundwater.
 12 Based on studies outside of the Radioactive Waste
 13 Management Complex surrounding the RWMC, the actual
 14 infiltration area in undisturbed areas out there is about
 15 one centimeter per year. So we tried to be conservative by
 16 a factor of four or five in this assumption.

17 The overall result of the conservative
 18 modeling we did is that it tends to overestimate the
 19 potential concentrations of contaminants that could reach
 20 the aquifer. We wanted to be conservative to ensure that
 21 we weren't underestimating future potential impacts to the
 22 groundwater beneath Pad A, in other words, give us a margin
 23 of safety.

24 Using the results of the modeling we
 25 conducted for Pad A, the risk assessment basically

1 indicates that there is no current risk to workers, public,
 2 or the environment from the contaminants on the pad. The
 3 only potential future risk is based on a family living at
 4 the Pad A boundary about 250 years in the future and
 5 drinking contaminated groundwater or groundwater
 6 contaminated with peak concentration of the nitrates.
 7 Those peak concentrations based on the results of our
 8 modeling, which we moved the contaminants from here to
 9 here, were about 117 parts per million. The drinking water
 10 standard for Pad A -- the drinking water standard for
 11 nitrates is about ten parts per million.

12 As the nitrates -- or as the modeling
 13 indicates, there was no unacceptable risk to human health
 14 at the RWMC boundary and outward. The concentrations of
 15 nitrates at the RWMC boundary were shown to be about 17
 16 parts per million, and then they decrease and dilute
 17 themselves as they move on to the -- as they move on
 18 towards the INEL boundary.

19 I'd like to emphasize the fact that this is
 20 modeling. The risk here, assuming someone is located here
 21 and drinking contaminated nitrate -- or groundwater
 22 contaminated with nitrates is based on modeling results
 23 which set up a certain hypothetical case in the future
 24 given a certain set of assumptions and conditions. As
 25 Vaughn indicated, based on past sampling and monitoring

1 activities, we have no indications that the contaminants
 2 are leaving the pad at this time.

3 Using this information, we wanted to go back
 4 and do a reality check, if you will, about what we knew
 5 about the risk assessment and the physical characteristics
 6 of Pad A at this time. As I mentioned earlier, to ensure
 7 that we weren't underestimating the risk, we used
 8 conservative assumptions in our modeling which tends to
 9 overestimate the concentrations -- potential concentrations
 10 of contaminants in the groundwater, which ultimately
 11 overestimates the potential risk from the pad.

12 In addition, the existing cover prevents
 13 exposure of wastes to the groundwater pathway as well as
 14 the surface pathway. We believe that maintaining that
 15 existing cover will continue to provide protection of -- or
 16 continue to be protective to the public and workers. In
 17 addition, as I just mentioned, we have no indication that
 18 contaminants are migrating from Pad A based on about
 19 fifteen years of sampling and monitoring data.

20 With that information, we focused our
 21 feasibility study on alternatives that ensure a cover
 22 continues to remain intact over the Pad A wastes. We
 23 looked at two action alternatives, containment of the Pad A
 24 materials, and limited action. The No Action Alternative
 25 up here is required to be carried through the feasibility

1 study in accordance with the CERCLA laws. That would --
 2 this alternative assumes no action is taken at the site.
 3 We would continue groundwater, soil, surface water, and air
 4 monitoring as has been done over the last several years.

5 The first action alternative, containment of
 6 Pad A materials, would consist of constructing composite
 7 earthen cover over the existing soil cover on Pad A. This
 8 composite cover would consist of rocks, a sand layer, a
 9 clay layer, as well as soil, and be revegetated. One of
 10 the options that could be evaluated -- or that we evaluated
 11 under this containment alternative was the inclusion of a
 12 synthetic liner or a geomembrane liner in addition to the
 13 other materials on the containment alternative.

14 As with the No Action Alternative, because
 15 wastes would be left in place, we would continue to monitor
 16 groundwater, surface water, air, and soils to provide early
 17 indication of any potential release of the contaminants
 18 from the pad.

19 The second action alternative we evaluated,
 20 we've identified it as our Preferred Alternative, basically
 21 is based on the fact that the existing soil cover can be
 22 protective both now and in the future of -- can be
 23 protective of public and the workers. And this action or
 24 this alternative essentially continues to maintain the
 25 existing soil cover. We would go in and recontour it to

1 enhance -- to enhance surface water runoff from the cover,
 2 and then continue to maintain that existing soil cover.

3 As with the other alternatives, we would
 4 continue monitoring groundwater, surface water, air, and
 5 soil to provide early indication of any release of
 6 contaminants from the pad.

7 With these two action alternatives, we are
 8 assuming that DOE is going to continue to maintain control
 9 of the Radioactive Waste Management Complex for the next
 10 hundred years. That's based on current policy which
 11 requires us to prevent -- basically control low-level
 12 radioactive waste disposal sites for a hundred years
 13 following closure.

14 With this alternative also, the State of
 15 Idaho Department of Environmental Quality and EPA would
 16 provide independent reviews of this monitoring data to
 17 ensure that the cover continues to provide protection of
 18 the workers and the public. This alternative would result
 19 in a Record of Decision for Pad A being reevaluated in two
 20 years and at least every five years thereafter.

21 With that, I would like to open it up to any
 22 questions you might have.

23 And, Reuel, I thought -- we have comment
 24 cards?

25 MR. REUEL SMITH: We have some cards

1 available. If you'd like to write a question down and hand
2 that card in, I'll pick up the cards and deliver those to
3 Greg or the State or EPA. So we'd like to hand those out
4 now.

5 Does anybody need a pen to write with? We've
6 got extra pens.

7 AUDIENCE: I'd like to ask about the relative
8 toxicity of the materials stored on Pad A in terms of how
9 much total contamination is available in terms of how much
10 water would it contaminate to a simple index such as the
11 drinking water limit.

12 MR. NULA: Are you asking how much water we
13 believe could potentially be contaminated from -- if the
14 contaminants were to reach the aquifer at some time in the
15 future?

16 AUDIENCE: Yes. Assume that they are.

17 MR. NULA: Okay. We didn't do any specific
18 calculations to evaluate how much water would be
19 contaminated for our assessment. However, I know Dave
20 Frederick went off and did some calculations assuming that,
21 I think, all the waste was basically dumped in the
22 aquifer?

23 MR. FREDERICK: That's correct, Greg.

24 MR. NULA: Do you want to talk to that?

25 I'm sorry. Let me introduce Dave real

1 quick. Dave is -- he works with Dean Nygard with the
2 Department of Environmental Quality at the state.

3 MR. FREDERICK: Thank you, Greg.

4 I did some calculations just to determine if
5 all the wastes at Pad A were just dumped right into the
6 aquifer instantaneously, all of the waste, and I don't know
7 really what -- you know, it would certainly take a
8 catastrophic event of some sort for that to happen. But
9 the area that would be -- the area of the aquifer that
10 could be contaminated or would be contaminated if that
11 mechanism were to occur, for nitrate, it would be two
12 square miles of the aquifer would be -- could be
13 contaminated if that occurred. That would be to the MCL.

14 And I also did the calculation for uranium,
15 and that was 42 square miles. And for plutonium, it was 17
16 square miles.

17 MR. NULA: Does that answer your question,
18 sir? Does that help?

19 AUDIENCE: Yes. What was the assumption
20 about the depth of the aquifer?

21 MR. FREDERICK: Excellent point. I assumed
22 that the aquifer was a hundred meters thick.

23 AUDIENCE: Isn't it known to be far thicker
24 than that?

25 MR. FREDERICK: Yes. This would be

1 conservative. Using that hundred meters would give you a
 2 small volume of water, so it would be more conservative in
 3 the area that you would predict would be possibly
 4 contaminated.

5 AUDIENCE: Thank you.

6 MR. NULA: Other questions? Yes.

7 AUDIENCE: You mentioned the boxes when you
 8 went in -- I think Vaughn mentioned when you went in and
 9 did some observations of the various states of decay the
 10 boxes or the barrels were in. You said they were in
 11 various states of decay. Can you be more specific and tell
 12 us what sort of condition they were in?

13 MR. HALFORD: Sure. In the '89
 14 penetration --

15 MS. NEARMAN: Would you repeat the question
 16 one more time?

17 MR. HALFORD: One more time louder?

18 MS. NEARMAN: Yes.

19 MR. HALFORD: He's asking what condition the
 20 boxes were in during those investigations. The boxes in
 21 the '89 penetration were basically nonexistent. The
 22 structure was still there, but what was holding them
 23 upright, for example, would be the soil. The plastic
 24 liners that -- the one box that they could see during that
 25 penetration was still intact. That liner, that

1 polyethylene liner was still intact, but the box itself, if
 2 you were to move soil away from the wooden structure, it
 3 wouldn't maintain.

4 AUDIENCE: Inside that liner, what condition
 5 -- is that solid waste directly inside that liner?

6 MR. HALFORD: Did everybody hear that one?
 7 He's asking what waste was directly inside that
 8 polyethylene liner. Those are solid wastes. The boxes
 9 also contain, for the most part, the nitrate salt wastes.

10 And I would encourage everybody after the
 11 question and answer comment period, there is a photograph
 12 of those salts back on the blue photo section back there.
 13 It gives a good idea of what they look like.

14 MR. NULA: Did that answer your question?

15 AUDIENCE: Yes.

16 MR. NULA: Yes, sir.

17 AUDIENCE: The legend back on the photos, I
 18 got the impression that in the '89 investigation that the
 19 intent was to remove possibly several barrels, but the
 20 integrity of the barrels was such that only one was able to
 21 be retrieved, that the others had holes or were otherwise
 22 damaged. What is the amount of damage on the barrels?

23 MR. NULA: I believe the question is to what
 24 extent are the barrels deteriorated or were known to be
 25 deteriorated in the 1989 penetration.

1 At that time I believe there were pinholes
2 and maybe pan-size holes in the top layer of the barrels.

3 I think you've got some more detail on that.

4 MR. HALFORD: What they observed was anywhere
5 where the plywood was in contact with the drums -- the wood
6 that they used was a fire retardant type wood, and the
7 chemicals in that wood had reacted where they had touched
8 the metal drums. In some of the photos that they got of
9 one or two layers down, there was some external rust, but
10 none of the holes that were observed on that top layer was
11 exposed to either the polyethylene or the wood. And those
12 holes that they saw were various sizes depending on where
13 the wood came in contact, but the drums themselves were
14 corroded to the point that there were holes in them.

15 MR. MULA: I think this gentleman had a
16 question.

17 AUDIENCE: Now solid is this solid waste?
18 When the boxes decompose, is there going to be a lot of
19 subsidence to where we're going to end up with a big hole
20 in there where you can't drive a Cat up on top to pile more
21 dirt up on top of there? How solid is that waste?

22 MR. MULA: There is, I believe, some --
23 the waste doesn't completely fill a container, so that if
24 the containers fail, you would have subsidence. There is
25 some air in the containers, the boxes and the drums. And

1 we've had -- we've noted times of subsidence in the past.
2 And to correct for that, to design for that, to implement
3 any one of these actions, that would definitely have to be
4 taken into consideration before putting another cover on
5 the pad. We would have to account for that in the design
6 phase for implementation of an alternative like this. Does
7 that answer your question?

8 AUDIENCE: Okay. So this Preferred
9 Alternative only indicates an alternative that we need to
10 design for, it doesn't really give us an actual plan of
11 what we really are going to do; is that correct?

12 MR. MULA: Yeah, I think you're right. This
13 is -- the actual design of this alternative is yet to be
14 determined. This is -- conceptually, this is an
15 alternative that we could implement, and it can be compared
16 -- we'd develop it to the point where it can be compared
17 to other alternatives in the feasibility study, but the
18 actual design of that has not yet been done.

19 Did that answer your question?

20 MR. MACDONALD: I'm not sure that got to the
21 heart of your question.

22 AUDIENCE: The heart of my question really is
23 if the Preferred Alternative is to maintain that cover, and
24 maintaining that cover just means filling in the holes
25 where something subsides, how are you going to do that?

1 Can you drive a piece of earth-moving equipment up on top
2 of that cover? Do we know that?

3 MR. NULA: Vaughn, can you talk to that?

4 MR. HALFORD: We have had subsidence --
5 that's the term for that -- events in the past, and those
6 have not been so extensive that we couldn't get
7 earth-moving equipment up there. The number of those that
8 have occurred in recent years has dropped quite
9 significantly. So either we have had the number of
10 containers fail that are going to subside or the support
11 underneath from the soil or the boxes and drums has stopped
12 indicating subsidence now.

13 But the design would have to incorporate some
14 allowance -- I don't want to use the word allowance. What
15 do I want to get at? I can't think of the word right now.
16 I just let my train of thought.

17 MR. MACDONALD: We've got to take into
18 account the fact that subsidence can take place and allow
19 for that and make sure that whatever specific designs we
20 come up with, we can in fact implement those. And that
21 shouldn't be that hard of a problem to be able to correct
22 subsidences. There would be ways to place material without
23 having to initially drive up -- drive up the pad
24 necessarily, so there are ways to deal with subsidences and
25 place material without having to drive up on the pad cover

1 every time, but that would be something that would be
2 planned for is to make sure that subsidences are corrected.

3 MS. KENTHILL: Greg, could you introduce --

4 MR. NULA: Yeah. This is Don Macdonald with
5 the Department of Energy. He's basically the Buried Waste
6 Program Manager, has responsibilities for Pad A and all the
7 other RWMC ER activities.

8 AUDIENCE: Part of this question, Greg, was
9 how solid is solid. Do you want to try and quantify that?
10 Some of it was filled with cementitious material to absorb
11 the free liquids, at Oetara.

12 MR. NULA: I don't know that I know the
13 answer to that right off the top of my head.

14 Sir?

15 AUDIENCE: All the drums had cement put on
16 the top of them, all the evaporated salt drums.

17 MR. NULA: But as far as -- are you getting
18 at like compactibility and things like that?

19 AUDIENCE: No. He asked how solid is solid.
20 You said it was a solid mass. So is it the consistency of
21 concrete, consistency of sludge?

22 MR. NULA: I see what you're saying.
23 Basically, as the gentleman in the back mentioned, there
24 was concrete material, portland cement basically, dry
25 cement, placed on the bottom of each drum and box before

1 the salts were placed, and then there again, placed on
2 top. We're talking fairly solid material, sir, similar
3 with the uranium oxides and the beryllium wastes and that.

4 AUDIENCE: How about the sewage sludge?

5 MR. HULA: Sewage sludge, our --

6 AUDIENCE: Aren't they relatively fluffy?

7 MR. HULA: I think that's probably a fair
8 assessment. Also, the miscellaneous INEL wastes,
9 miscellaneous wastes generated at the INEL, lab wastes,
10 things like that, there's probably going to be quite a bit
11 of air in that such that it's not -- you know, maybe 50
12 percent, 40 percent solids in drums, something like that.

13 Other questions? We've got a couple up
14 here. One question, "Why pile conservative assumption upon
15 assumption? We've tried for years to be conservative, but
16 realistically so."

17 I think the gist -- let me take a stab at the
18 gist of the question, which is why be overly conservative
19 in our modeling, and I'll try to answer that. The reason
20 we made conservative assumptions is for purposes of what
21 we're doing here, assessing potential risks to the future
22 -- to future receptors, to the public, or the workers. We
23 want to ensure that we don't underestimate what the
24 potential risks from the contaminants of Pad A are or is.
25 As such, we have to use the best available information

1 we've got. And in many cases, that tends to be -- it tends
2 to be conservative in nature, and it's how we work through
3 the process.

4 "The waste is a nitrate salt mixture.

5 Nitrate salts are known to undergo rapid exothermic
6 reactions (explosions). What is the potential for the
7 waste to explode?"

8 Vaughn, I know you guys have looked at that
9 to a small degree. Do you want to take that?

10 MR. WALFORD: The nitrates that are on Pad A
11 are results of some solar pond evaporation activities that
12 are basically from dried nitric acid baths. And those
13 nitrate salts are contained in containerized -- with the
14 exception of perhaps the poly liners in the drums, there's
15 no fuels available for that type of reaction, and the
16 chance of a thermal --

17 MR. HULA: Exothermic reaction.

18 MR. WALFORD: -- exothermic reaction wasn't
19 specifically evaluated. However, I guess in the case that
20 you were digging it up or working with it and exposing it
21 to oxygen and fuels and gave it an ignition source, there's
22 a probability that that could happen. In its current state
23 where it's static and not being disturbed or provided fuel
24 and oxygen, I think the likelihood is very low of that
25 occurring.

1 AUDIENCE: Zero. Nitrates don't explode on
2 their own. You have to mix them with a fuel first.
3 MR. MULA: That's what Vaughn was mentioning.
4 AUDIENCE: Yeah, in one short sentence.
5 MR. MULA: Other questions? Anything that
6 you'd want clarified?
7 Yes, sir.
8 AUDIENCE: In the May REPORTER, mention was
9 made that DOE was seeking private interests to take low
10 specific activity wastes and reprocess it off site. Was
11 the Pad A material considered part of this?
12 MR. MULA: No, it wasn't. And actually, the
13 details of what you're talking about, I'm not quite sure.
14 Reuel, do you have -- I assume it's a Waste
15 Management initiative, but I don't have any details on
16 that.
17 MR. REUEL SMITH: There was an introductory
18 article about treating the wastes that we had stored at the
19 Radioactive Waste Management Complex at the Transuranic
20 Storage Area, for which right now we are storing those
21 wastes. The Department of Energy and EGS Idaho are
22 looking at some alternatives that would invite the private
23 sector to bring in treatment technologies. There has been
24 a request for information that has been released to the
25 public and to private contractors, and at some point in the

1 future a request for proposal will be going out to
2 potential bidders on a project like that. The more we know
3 about that in the next few months, we'll also put follow-up
4 articles in the REPORTER. But right now, that's about
5 where we are with it.
6 MR. MULA: We've got another question here.
7 "Records of waste. You appear to feel that the records
8 provided by Rocky Flats are 'good.' Nothing can be further
9 from true. Drum counters were crude at best. Workers used
10 evaporator salts to 'bury mistakes.' At best, records are
11 one plus or minus a factor of ten."
12 We acknowledge the fact that there are some
13 uncertainties. There is uncertainty in the quantity of
14 waste that's sitting on Pad A. And to address that in the
15 risk assessment, we identified -- and I believe it was up
16 to an order of magnitude that we could be off
17 nonconservatively with the contaminants -- the quantity of
18 contaminants that could be in Pad A, and we've addressed
19 that through the risk assessment process and in the
20 discussion of uncertainties in this entire process in the
21 remedial investigation report.
22 I don't know if that answers your question.
23 We acknowledge -- we acknowledge this. We acknowledged it
24 in our study.
25 Yes, sir.

1 AUDIENCE: Have you actually found errors in
2 the analyses you've done?

3 MR. NULA: No. No. We've got the one drum
4 that was retrieved in '89, and it confirmed what the
5 shipping records told us came up here.

6 AUDIENCE: Are you saying that you never
7 found an occasion when the stated amount was proven to be
8 wrong?

9 MR. NULA: Let's see. We went through a --
10 to give you a direct answer to your question, Vaughn, a
11 validation that was done on the Pad A shipping records, was
12 there ever a case when the quantities were found to be
13 wrong?

14 MR. MAFORD: The shipping records that we
15 received and respectively were turned into our disposal
16 records were verified against what the data base that we
17 use contains for those totals. And in reviewing all the
18 records for Pad A, we found five records that had curie
19 contents missing from the record that were later able to
20 recover and one set of records that were unreadable or we
21 couldn't ever determine the quantity of the curie content.
22 I don't know if that answers the question.

23 MR. NULA: I'm not sure it does.

24 AUDIENCE: Well, I think you need to
25 understand that again, because of the state of the art of

1 the drum count, there's wide variances. I know of drums
2 listed as LSA that contained over one kilogram of
3 plutonium. I'm not saying it's on Pad A.

4 MR. NULA: We don't know that it is.

5 AUDIENCE: But don't think just because it
6 comes from down at Rocky Flats and it has LSA on it, that
7 that's what it is.

8 MR. REUEL SMITH: Could we explain what LSA
9 stands for?

10 MR. NULA: The acronym means low specific
11 activity, and that's basically a certain amount of activity
12 in a radioactive waste shipment.

13 AUDIENCE: Could you define it more
14 carefully, please?

15 MR. NULA: Bob, do you have that?

16 I can't. I don't know specifically what the
17 threshold for an LSA shipment is.

18 AUDIENCE: Nanocuries, isn't it, less than
19 ten nanocuries?

20 MR. NULA: I don't know. I can get back with
21 you. I don't know right off the top of my head what that
22 is.

23 AUDIENCE: I think it's ten nanocuries.

24 MR. NULA: "The three bullets on your 'risk
25 management poster' seem to indicate no risk nor a possible

1 development of risk, so why not No Action? What is driving
2 the choice of Alternative 2?"

3 The alternatives that continue to ensure that
4 a containment -- that the Pad A wastes are contained is
5 driven by the fact that we know the existing soil cover is
6 eroding. And over time, there's a lot of uncertainty as to
7 the long-term integrity of that existing cover. So the
8 reason, although the risk to the groundwater and the
9 surface was not unacceptable, because there is uncertainty
10 in the long-term integrity of the cover, we want to make
11 sure that a cover remains in place over the Pad A waste.

12 AUDIENCE: Could I address that in a little
13 more detail?

14 MR. MULA: Sure.

15 AUDIENCE: Following up on that question, I'm
16 wondering how the Limited Action varies from No Action or
17 what is currently good management practices on the pad.

18 MR. MULA: It differs from No Action in the
19 sense that No Action would be nothing. It wouldn't even be
20 good management practices, John. The Limited Action
21 basically continues what has been done, the good management
22 practices over the last fifteen years since the pad was
23 closed in '78. But it also includes additional monitoring,
24 for example, monitoring of infiltration rates, to try and
25 better define how much water is moving through the wastes

1 and things like that. So in reality, limited action isn't
2 the same as no action.

3 MS. WEARMAN: It also includes institutional
4 controls.

5 MR. MULA: Thank you, Mary Jane.

6 As Mary Jane pointed out, it does also
7 include institutional controls. DOE will continue --
8 basically will continue to control access to the site for
9 the next hundred years.

10 AUDIENCE: I assume that No Action would
11 simply move up the whole schedule of leakage by about a
12 hundred years from what you actually estimated or modeled;
13 is that right? Everything that you modeled from a hundred
14 years on when presumably there is No Action would be moved
15 up a hundred years; is that right?

16 MR. MULA: You mean to now?

17 AUDIENCE: Yes. We would be beginning that
18 period now instead of beginning that period a hundred years
19 from now, so that 150 years from now, the nitrates would
20 start leaking instead of 250 years from now.

21 MR. MULA: No. I think I disagree with that,
22 John, and let me see if I can formulate why.

23 We assumed that the waste in the boxes could
24 move now, about 56 -- the waste in the boxes comprises
25 about 56 percent of the total waste on the pad. I believe

1 the liners, the plastic liners, and the drums themselves
 2 will remain intact for some period of time, be that 100
 3 years, 20 years, or 150 years. In order to have all that
 4 waste available to migrate now, one would have to assume
 5 that none of the containers are intact, i.e., to move it
 6 all up a hundred years, we'd have to assume that none of
 7 the containers on the pad are intact, i.e., the drums or
 8 the liners themselves. And I'm not -- that would
 9 definitely be conservative, I think, based on -- did that
 10 answer your question?

11 AUDIENCE: Yes. I guess it means that the No
 12 Action alternative wouldn't move up the schedule as much as
 13 I thought.

14 MR. NULA: No, it doesn't.

15 Other questions?

16 AUDIENCE: What percentage does Pad A
 17 represent of the total of the so-called disposed wastes?

18 MR. KEMPHILL: What was the question, Greg?

19 MR. NULA: What percentage of the total
 20 disposed wastes at the INEL does the Pad A wastes
 21 represent. And if I could clarify that, I assume you're
 22 asking what percentage of the wastes at the Subsurface
 23 Disposal Area, buried at the Subsurface Disposal Area?

24 AUDIENCE: For starters, yes.

25 MR. NULA: Okay. I believe the estimate of

1 the total quantity of waste buried at the Subsurface
 2 Disposal Area is about two million cubic feet.

3 Does that sound right, Vaughn?

4 MR. HALFORD: I can't remember the numbers.

5 MR. NULA: I don't know the numbers off the
 6 top of my head.

7 MR. HALFORD: That's good for the transuranic
 8 wastes.

9 MR. NULA: What's that?

10 MR. HALFORD: That's good for the transuranic
 11 wastes.

12 MR. NULA: I don't know the specific number
 13 of the total quantity of waste buried out there. Pad A,
 14 being thirteen thousand cubic yards, would be a very small
 15 fraction of several million cubic yards of waste in the
 16 remaining 88 acres.

17 AUDIENCE: Why are you even considering
 18 volume? It's curies that are important, the curie content
 19 of Pad A compared to the curie content of all of the rest
 20 of the waste buried at SDA.

21 MR. NULA: The curie content's important for
 22 the radionuclides. For the nitrate salts, the mass --

23 AUDIENCE: For the risk, it is.

24 MR. NULA: Yeah.

25 AUDIENCE: So why compare volume on Pad A

1 with SDA? That's really immaterial.
 2 MR. NULA: I was just responding to this
 3 gentleman's question.
 4 AUDIENCE: Could you finish the sentence?
 5 The radiological part of it is also of much interest here.
 6 You said the curie content is what with respect to the rest
 7 of it? Is it small or is it large?
 8 AUDIENCE: They've got the numbers. I can't
 9 quote them right here.
 10 MR. NULA: There again, I think the curie
 11 content on Pad A would be just a small fraction of what's
 12 buried in the rest of those 88 acres.
 13 AUDIENCE: Almost negligible, right?
 14 MR. NULA: Yeah, probably negligible. I
 15 mean, if you look at 13,000 -- just on a volume
 16 perspective, 13,000 yards divided by several million cubic
 17 yards, you're down in less than fractions of a percent, and
 18 my gut feeling would be -- I don't know the specific
 19 numbers. My gut feeling would be it's fractions of a
 20 percent for the activity also, maybe even much less.
 21 AUDIENCE: That number is available.
 22 AUDIENCE: I'll have to dig it out, I
 23 suppose. Thank you.
 24 AUDIENCE: Isn't that material also less than
 25 ten nanocuries?

1 MR. NULA: All but two drums, yeah. And the
 2 average activity of the waste on Pad A is approximately one
 3 nanocurie per gram.
 4 Yes, sir.
 5 AUDIENCE: You say all but two drums is less
 6 than ten nanocuries?
 7 MR. NULA: Yes.
 8 AUDIENCE: I beg to differ. In the reading
 9 that I've done on the material on Pad A, I saw an
 10 itemization of sixteen shipments of material that was
 11 greater than ten nanocuries, and the specific activity
 12 ranged up to five hundred nanocuries per gram.
 13 MR. NULA: You're absolutely correct. I
 14 believe the two I was referring to, there were two drums
 15 that are greater than a hundred, and then I believe the
 16 remaining were between ten and a hundred. They were
 17 greater, you're absolutely right.
 18 AUDIENCE: The list I saw of the sixteen
 19 shipments that exceeded ten nanocuries per gram was very
 20 unspecific about how much of those shipments -- it left one
 21 impossible to deduce what was really in those shipments or
 22 who directed them to disposal as opposed to the removable
 23 fractions. But I certainly want to correct the two drums
 24 and say there were sixteen shipments.
 25 MR. NULA: Correction well noted. I agree.

1 That's in the report.

2 MR. KALFORD: Sixteen drums. Sixteen drums,
3 not shipments.

4 MR. HULA: Thank you. Sixteen drums, not
5 shipments. There are sixteen drums --

6 AUDIENCE: The material said shipments. It
7 said shipments, not drums.

8 AUDIENCE: There's a listing in that --
9 wasn't it Bob Passmore who put out a listing of the drums
10 that exceeded ten nanocuries on the pad?

11 MR. HULA: That's what we're talking about.
12 It may have said shipments, but the intent was there were
13 sixteen drums of waste placed on the pad that exceed ten
14 nanocuries per gram.

15 AUDIENCE: Is your intent to leave those
16 sixteen among the disposed wastes?

17 MR. HULA: Yes. We don't know where they're
18 located within the pad.

19 A comment to "please clarify the risk of
20 radionuclide versus nitrates." And I don't know who wrote
21 the comment. I'm trying to get some clarification. Are
22 you asking did our risk -- what the risk assessment showed
23 the potential risk from radionuclides to be versus that of
24 the nitrates?

25 Basically the risk assessment indicates that

1 the radionuclides don't pose an unacceptable risk to the
2 groundwater or the surface pathway for the one thousand
3 years we evaluated. Based on the modeling, because the
4 nitrates reached the groundwater, that was the contaminant
5 that basically posed the risk from Pad A.

6 AUDIENCE: Is your assumption, then, that the
7 radionuclides don't reach the groundwater, that the
8 nitrates do?

9 MR. HULA: Based on the modeling, that's
10 correct.

11 AUDIENCE: Over the next thousand years?

12 MR. HULA: That's correct, based on the
13 modeling we conducted for the pad.

14 Actually, I need to clarify that because one
15 radionuclide does reach the aquifer within a thousand
16 years, and it's the potassium-40, the potassium-40 portion
17 of the nitrate salts, but that radionuclide didn't pose an
18 unacceptable risk from the groundwater.

19 As the salts -- maybe I can clarify this. As
20 the nitrates move with the groundwater -- I mean, move with
21 the water to the aquifer, along with the nitrate salts,
22 potassium-40 is a constituent in that salt, and that is a
23 naturally occurring radionuclide, and that radionuclide did
24 reach the aquifer within a thousand years. The plutonium,
25 the uranium, the americium did not reach the aquifer within

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AS1 PEA

P.38

1 a thousand years. But the potassium-40 didn't pose an
2 unacceptable risk for the period we evaluated.

3 If there are no other questions, what I'd
4 like to propose is we take a 15-minute break, come back
5 about 8:15, and we will accept formal comments on the plan
6 and the alternatives.

7 (Recess taken.)

8 MR. KULA: We've had one individual who has
9 shown an interest in providing formal comments tonight, and
10 would like to welcome any of you other folks, if you want
11 to stand up and provide formal comments, verbal comments,
12 feel free to do that.

13 I wanted to reiterate the fact that we do
14 have the forms, comment forms, in the back of the room.
15 Feel free to take those and provide written comments. And
16 also, the evaluation sheets for how the meeting went on the
17 back of the agenda, if you'd take your time, take a couple
18 of minutes and give us some feedback on that. I would
19 really appreciate that.

20 With that, I believe --

21 MR. RUEL SMITH: Could we mention that when
22 they come up, if they would state their name for the
23 record, and that would help us and help the court reporter
24 know who to put down.

25 MR. KULA: In case you didn't hear that, if

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AS1 PEA

P.40

1 you opt to come up and provide formal verbal comment
2 tonight, please state your name and spell the name for the
3 court reporter so we have an accurate record of who
4 provided the comments.

5 With that, I believe, Mr. Donnelly, you had
6 signed up.

7 MR. DENNIS DONNELLY: My name is Dennis
8 Donnelly. I live in Pocatello.

9 I would like to give what is not a formal
10 presentation. I don't have any neat pictures, slides, or
11 anything like that. I would like to take a little bit of
12 your time and give my perspectives on these things. I
13 haven't finished reading all the material on Fed A. I've
14 been making the attempt. There's a lot of it, and I only
15 discovered that it's accessible kind of recently, so I
16 haven't been through it all, and my formal comment will
17 have to be done in writing. We've got a couple weeks that
18 we can finish our comment and mail it in, so I guess I'll
19 do that.

20 But I would like to take a little bit of
21 time, maybe equal time with the folks from DOE. We had a
22 whole hour here. And I would like to invite you to
23 interrupt with questions in any case in which I may be
24 incorrect.

25 First, a little bit of history. The dumping

40

#T01-01

#T01-02

#T01-01

#T01-03

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AS1 PLA

P.41

1 of plutonium wastes at the INEL went on from the early '50s
2 until 1970 essentially in secret. And I was here in 1970.
3 I was young then, single. Now I'm a grandparent.

4 In 1970, these matters became public when
5 what happened? Well, I think it was a news clip about the
6 fire in '69 that made it -- made it public here. In 1969,
7 there was a disastrous fire at the Rocky Flats Plant in
8 which plutonium burned and contaminated the plant. And in
9 the course of shipping the fire waste to Idaho, it became
10 public knowledge, I think, that these materials were being
11 shipped here.

12 Now, that became of great concern to the
13 agricultural and livestock folks, and I believe it was
14 Erkins, a fish farmer, who was really pressing the
15 government to assure us that the aquifer not be
16 contaminated. The fish farmers, of course, down in the
17 Hagerman area use the water directly in their operations.

18 And in response to that, the then chairman of
19 the Atomic Energy Commission, Glenn Seaborg, a discoverer
20 of plutonium, co-discoverer of plutonium, promised our
21 Governor Andrus and our Senator Church that the plutonium
22 -- that the -- yes, he said the plutonium waste. He said
23 the alpha-emitting wastes. That would cover all
24 transuranics. That the transuranics and the high-level
25 wastes would be removed from INEL. He did not qualify that

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#T01-03

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AS1 PLA

P.42

1 except to say hopefully by the end of the decade, the
2 '70s.

3 Now, this again one man's history here of
4 this story. If I'm wrong, let me know. He didn't qualify
5 that statement to say, woop, we're going to leave the
6 low-level wastes here or we're going to fail to remove the
7 materials that were here from 1954 -- that were dumped here
8 from 1954 to 1970. He essentially promised to right the
9 wrong that had been done to Idaho by secretly doing this
10 stuff. And it was pretty straightforward and stated with
11 some caveats about finding a place to put the stuff. And,
12 of course, you may be aware that salt burial in Lyons,
13 Kansas, was then the big solution.

14 And, well, our friends in the profession here
15 know what happened to that, I guess. The Lyons, Kansas,
16 site basically became deemed to be geologically unsuitable
17 for waste disposal. But it's a solution that they thought
18 they had in hand. The site is remarkably similar to the
19 WIPP location, and I have personally little faith that that
20 site is geologically suitable. But that's another story.

21 Let me continue my story about the wastes
22 here at Idaho. We had this -- this will be my blackboard.
23 We had this stuff that was dumped here, okay, from 1954 to
24 1970. And the promise was made in 1970, and he said we're
25 going to get the alpha emitters and the high-level waste

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#T01-03

#T01-04

#T01-03

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AS1 P1A

P.43

1 hopefully out by the end of the decade, probably to Lyons,
2 Kansas, as soon as we get the ball rolling on that.

3 Well, the people at this site immediately
4 said, woop, that promise didn't pertain to anything before
5 1970. We're going to leave all that stuff there. We don't
6 want that stuff to see the light of day ever.

7 Now, there's a lot of chemical things in
8 those wastes as well as your radionuclides. Large amounts,
9 I've heard, of mercury, beryllium, heavy metal contaminants
10 that you don't ever want to see in the aquifer.

11 Well, our team, the Department of Energy --
12 well, the AEC, then ERDA, then DOE, immediately partitioned
13 the waste and said, well, only the stuff received since
14 1970 that promise applies to. And furthermore, anything
15 less than ten nanocuries per gram is low level and we're
16 going to leave that here, too. So they've got, at least in
17 my conceptual scheme, the wastes partitioned. And I've
18 never seen an explanation of how much of the wastes that
19 means that they mean to leave here in Idaho, but it's
20 roughly a quarter segment of the stuff that I'm aware of.

21 MR. JOHN TANNER: Excuse me. You invited the
22 interruption. Do you have a minute?

23 MR. REUEL SMITH: John, excuse me a second.
24 A procedural question here. This is a formal comment
25 period and, you know, when Mr. Donnelly concludes his

43

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AS1 P1A

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1 comments --

2 MR. TANNER: That's all right. I took him at
3 his word.

4 MR. REUEL SMITH: I understand. But then at
5 some point in time after the comment session if you people
6 would like to get together and do some discussions here,
7 that would be okay. But, you know, it would be appropriate
8 to continue the comment for the record.

9 MR. DONNELLY: Mr. Tanner, do you have a
10 question?

11 MR. TANNER: Well, I guess he's moderating
12 it, so I'll ask mine afterwards.

13 MR. DONNELLY: Okay. I don't mind taking it
14 now because admittedly these meetings normally constrain
15 public commentary like mine to a five-minute thing in which
16 you can address only one issue. I really usually feel
17 limited by that. Here the DOE folks took an hour to
18 describe their operations and answer our questions. And
19 I'm admittedly taking longer than one normally takes for
20 public commentary. Why not? This is our meeting, too, and
21 I don't think that it should be regulated by these folks.
22 We are the public. I wouldn't mind taking your question
23 regardless of what Mr. Smith says.

24 Well, there is the business of partitioning
25 the wastes such that big chunks of them will stay here.

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AS1 FLA

P.45

1 And as far as I know, the other part of that promise -- and
 2 we are -- our site is unique in that we are the only
 3 recipients of such a high-level promise that I'm aware of
 4 from the chief federal operator of -- well, in this case,
 5 the chairman of the Atomic Energy Commission and the
 6 co-discoverer of plutonium promised us while he was sitting
 7 chairman of the Atomic Energy Commission that he was going
 8 to get these materials out of here. He knows a lot more
 9 than I know about the nature of these materials, but such a
 10 promise is, well, not to be forgotten, not to be
 11 forgotten.

12 As far as I'm aware, there is no meaningful
 13 motion to get those high-level wastes removed. Now,
 14 correct me if I'm wrong, but the high-level wastes of which
 15 he spoke is essentially the stuff that is submarine reactor
 16 wastes processed through the Chem Plant, stored as nitric
 17 acid solutions of very high specific activity, and then
 18 calcined to these powders that are in the bins up there at
 19 the Chem Plant.

20 And it has the embarrassing quality that the
 21 powders are very environmentally dispersible. They're not
 22 palletized or stabilized such that you can transport them.
 23 And the business of converting them to transportable --
 24 safely transportable form is, to my knowledge, not being
 25 addressed. Nobody -- is anybody doing anything about the

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#T01-03

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AS1 FLA

P.46

1 high-level fraction of the wastes to get out of Idaho per
 2 the promise?

3 No. Well, okay. So we've got a quarter of
 4 the transuranics, you know, the alpha emitters, that
 5 they're a quarter, a conceptual quarter. And I don't know
 6 where these boundaries are.

7 But I'm no longer young. I'm a grandfather.
 8 And this has been going on for forty years or so, this
 9 disposal at INEL, and I just want to point out that -- and
 10 I'm seeing this already in some of the meetings that I come
 11 to here in Idaho Falls conducted by DOE employees who
 12 happen to be fairly youthful, that it's psychologically
 13 difficult for them to address the wastes that were left by
 14 their predecessors that -- okay. I would fully expect that
 15 unless we solve this matter in our lifetimes, why, there is
 16 going to be no action, and I doubt that our children will
 17 take seriously the obligation to clean up our mess. And
 18 that's unfortunate.

19 Okay. So this business of discussing the
 20 wastes at Pad A is a fraction of the quarter that they --
 21 well, no, it's not. It's a fraction of the piece that they
 22 do not plan to move ever, I don't think. I would mention
 23 that that's only the current -- current proposal. It's
 24 like talking -- something to talk about. But obviously,
 25 from the fact that Pad A represents a very small fraction

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#T01-03

#T01-07

11-30817 (8)

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AS1 PEA

P.47

1 of what our obligations are to safely address the materials
2 even at the Subsurface Disposal Area, something's wrong
3 here. Something's wrong here.

4 Obviously, we haven't yet figured out what to
5 do with these wastes, and we're talking of leaving a
6 relatively harmless fraction of them sit. And we address
7 that with an environmental assessment that analyzes these
8 wastes for a period of one thousand years.

9 Now, one thousand years is, of course, very
10 short in respect to the half-lives of the radionuclides
11 involved. And I suggest that it is a farce to analyze
12 things for one thousand years when it is known that they
13 will be radiologically dangerous for a long time. The
14 beryllium wastes, of course, will be forever toxic, and
15 whatever other chemicals that are there are always going to
16 be dangerous.

17 And what you have here is a polite assumption
18 that there will be no tectonic activity. We are not going
19 to have earthquakes shake the hell out of this pad. The
20 cover's going to be intact for over a hundred years.
21 That's not allowed, right? We will not have the Big Lost
22 River come back through the site and wash it all into the
23 aquifer directly. We will not have the volcanoes go off up
24 there. Those are assumptions that are in this assessment.

25 In my mind, it is unconscionable and

47

#T01-07

#T01-08

#T01-05

#T01-09

11-30817 (9)

12-09-1993 14:44

SOS 623 6636

AS1 PEA

P.06

1 unacceptable that we be given environmental assessment for
2 these dangerous wastes that does not include the real
3 geologic threats to the integrity of the storage area and
4 analyze what will happen when those things eventually occur
5 that will stir these things into the water supply in
6 Idaho.

7 Now, I personally don't feel very threatened
8 by these materials up there. I tend to agree with them
9 that the volcanoes are probably not going to go off next
10 week. However, that fails to address what I think our
11 known responsibilities are in these matters. And I guess
12 I'm going to say I'm insulted by that. I think that to
13 read out their side of the problem -- and I've asked them
14 -- it's in their book, too, it turns out -- that why do
15 you address these things only for a thousand years. And
16 they say, well, our models -- our models fail to be
17 sufficiently accurate that we can accurately and
18 conservatively predict the fate of these wastes beyond that
19 time. It gets wildly inaccurate, and we just can't be
20 inaccurate around here.

21 But, of course, it fails to address where the
22 real impacts of these wastes are going to be, as we all
23 know, from the alpha emitters and the high-level wastes --
24 Folks, don't forget the high-level wastes -- is when they
25 get released to the water supply and perhaps the air when

48

#T01-09

#T01-08

#T01-10

11-30817 (10)

11-15-1993 11:27 505 023 6626

AS1 PEA

P.49

1 the volcanoes start to go off and when the Big Lost River
2 comes through. And when it comes through, it can come
3 through pretty big.

4 Well, anyway, I just want to say that there's
5 a lot that's missing here, a whole lot that's missing
6 here. And these folks have had years to prepare this one
7 and this one -- well, in my mind, it's comparable to the
8 Asian countries dribbling out information about the war
9 debt from our country that have been there for thirty
10 years.

11 We've got a small fraction -- and I get angry
12 at this. We've got a small fraction of the problem being
13 addressed spread out now over twenty years since it became
14 a public issue and publicly promised to remove this stuff
15 since it became an action item in the AEC, DOE. It's been
16 twenty years since then. Of course, it's been forty years
17 since they started putting stuff in the -- in the waste
18 dump out there.

19 And I am upset, but also formally I want to
20 say it's unacceptable to me to see our region treated so
21 crassly by the interests that will bring these materials
22 here and then fail to clean them up when it's pointed out
23 that they are not addressing the real problems that they
24 are bringing here. We only have a hint, a clue of how
25 important these wastes are when we say no, you can't bring

49

#T01-10

#T01-03

#T01-11

11-30817 (11)

11-15-1993 11:28

505 023 6626

AS1 PEA

P.50

1 any more. You've seen that go by; and I think that the
2 stress that's involved when they can't bring the wastes
3 here shows you how important these matters are, shows you
4 how important it is to find the proper solution as to what
5 to do with these matters -- materials.

6 And I guess my conclusion from that is that
7 the folks that -- that the folks that have been doing this,
8 that have been conducting these affairs, are the wrong
9 folks, that they really have not much interest and have
10 shown that they have not much interest in cleaning the
11 wastes up in a manner that will not threaten the entire
12 water supply of the state of Idaho.

13 Where to go from there, I don't know. But
14 this is only a clue. And, of course, because this is only
15 a small part of the wastes at INEL, we are going to see
16 these conversations go on for a long time. And there are
17 many decisions yet to be made, but I suggest that the
18 current stewards have shown over entire careers that
19 they're not the people that are going to fix our problems.

20 That finishes my -- the first part of my
21 formal testimony. I have more. But I would like to pause
22 and take any questions and do what I can with them.

23 The second part of my commentary has to do
24 with a description of the Radioactive Waste Management
25 Complex in terms of how it got there, what it's like from

50

#T01-11

#T01-03

#T01-12

11-30817 (12)

11-15-1993 11:29 505 823 8826

AS1 PLA

P.51

1 the point of view of the geology, the safety, the
2 hydrology. We have experts in the room. If I mispeak,
3 please let them correct me at once.

4 The Radioactive Waste Management Complex.

5 Well, there's a portion of it.

6 MR. NOLA: Actually, Dennis, that's --

7 AUDIENCE: Sanitary landfill.

8 MR. DONNELLY: Oh, that's not it.

9 AUDIENCE: It's close.

10 MR. NOLA: Do you want it --

11 MR. DONNELLY: Sure. If you have a picture
12 of it, that would be nice. I didn't bring mine. I don't
13 have one.

14 I'll describe it in words. In the early
15 '50s, the EBR-1 plant had a nasty accident. And as a
16 result, they had -- as a result of the cleanup at EBR-1,
17 they had some radioactive wastes to get rid of. Mostly
18 beta gamma emitters. Not transuranics, not alpha
19 emitters. Alpha emitters are the very long-lived ones.
20 Alpha emitters are the ones that really get you if they get
21 inside you.

22 But for beta gamma emitters, there was a real
23 need for something to do with those wastes, and the
24 geologists -- geologist at the site helped them choose a
25 low-lying area out behind the EBR-1 plant where there is

51

#T01-12

#T01-13

#T01-12

11-30817 (13)

11-15-1993 11:29

505 823 8826

AS1 PLA

P.52

1 more than a little bit of soil cover. There is more soil
2 there in this low-lying area because it happened to be a
3 former course of the Big Lost River and it's basically a
4 riverbed.

5 I don't know. Is this the Big Lost River
6 going by? No. Is it?

7 AUDIENCE: No.

8 MR. DONNELLY: It's miles away, isn't it?
9 It's miles away and twelve feet uphill from the current
10 level of the radioactive wastes -- the Radioactive Waste
11 Management area, which is to say that it's only a
12 precarious accident that that riverbed doesn't flow right
13 through this thing. And it kind of wants to flow right
14 through this thing. And the next time that the surface is
15 changed by lava flows, it very well could flow right into
16 this area again.

17 But what we have here is a large basin down
18 to this area where snowmelt tends to collect and flow down
19 to it, and they've cut into the soils and it's basically a
20 hole in the soil where they put the waste. And in the
21 early years -- in the early years, they used to scrape it
22 right down to the lava rock and no soil underneath it. And
23 so the fraction that was left prior to 1970 -- and in my
24 reading, it's only after 1970 that they specifically
25 provided a foot or two of soil underneath it to help stop

52

#T01-12

#T01-14

#T01-14

#T01-15

11-30817 (14)

11-15-1993 11:30 905 823 8628

AS1 PEA

P.53

1 the flow of -- the percolation of these things down toward
2 the water.

3 But basically it's like a large coffee
4 percolator. You've got the grounds up there and -- well,
5 potential threats of water intrusion from catastrophic
6 events. An earthquake taking out the dam up at Mackay is
7 one potential thing. They vary actively prevent water from
8 coming in it now.

9 Do they do snow removal really? Do they
10 remove snow from this area in the wintertime?

11 AUDIENCE: Yes.

12 MR. DONNELLY: They do snow removal in the
13 winter so that you don't see water intrusion as the snow
14 melts. They have large dams and water diversion, kind of
15 floodplain sorts of things, where if the Big Lost should
16 flood, why, they divert it and keep it away. That's very
17 active management. But this site requires active
18 management because of its low -- you know, its lowness with
19 respect to the Big Lost valley. And I guess what this
20 suggests and what I suggest is that this place is obviously
21 not suitable for a radioactive waste dump or a chemical
22 waste dump.

23 What you're going to have in the unmanaged
24 future is snowmelt, Big Lost, violating the polite
25 assumptions that are made in the models that are shown to

53

#T01-15

#T01-16

#T01-17

#T01-18

#T01-09

11-30817 (15)
12-30817 (1)

11-15-1993 11:31

905 823 8628

AS1 PEA

P.54

1 you here today.

2 Now, as we go on to address the larger issues
3 of what are we going to do with all the rest of the stuff
4 -- I mean, this is a small fraction, right? I hope that
5 these things will be treated more fairly, I really do,
6 because we have a very threatened location. The next layer
7 of threats, of course, is earthquakes and the Mackay Dam
8 threatening the cover that's put over these things. And,
9 of course, the final layer of threats -- yes, sir.

10 MR. JOHN MORAN: Dennis, I hate to interrupt
11 you -- John Moran, for the record, M-o-r-a-n.

12 I find that your facts are very convoluted,
13 that many of the things that you are saying -- in fact,
14 I'll say from 40 to 50 percent -- are not correct.

15 MR. DONNELLY: Please address specifics.

16 MR. MORAN: I'd like to.

17 MR. REUEL SMITH: Excuse me, Mr. Moran. For
18 purposes of the comment period, if you have information
19 that you would like to enter into the record, that's your
20 -- you can do that at your discretion. This purpose isn't
21 to have interchange. It's to obtain Mr. Donnelly's ideas
22 and suggestions for the agencies. The agencies will
23 address a lot of these concerns in the responsiveness
24 summary.

25 MR. MORAN: Okay. Great.

54

#T01-09

#T02-01

11-30817 (16)
12-30817 (2)
13-30817 (1)
14-30817 (1)

11-15-1993 11:31 505 823 8828

ASI FIA

P.55

1 MR. REUEL SMITH: But you're very welcome,
2 and members of the audience are invited and welcome to say
3 what is on your mind in a similar manner that Mr. Donnelly
4 is. And at some point in time, we may need to say -- we
5 have another topic of discussion tonight. There may be
6 other individuals who choose to make comments.

7 MR. GEORGE WEIDMANN: There are, and I think
8 it's unfair --

9 MR. REUEL SMITH: So we want to be fair.

10 MR. WEIDMANN: -- for him to ramble on.

11 MR. REUEL SMITH: We want to be fair to
12 everyone in terms of time.

13 MR. TANNER: I agree it's unfair for one
14 person to have so much time.

15 MR. DONNELLY: No one else has asked for
16 time. I will yield the floor if people want to.

17 MR. REUEL SMITH: Let's just preliminarily
18 take a head count here. Who else would like to give
19 comments in tonight's comment session?

20 Mr. Donnelly, is it fair to say another five
21 minutes?

22 MR. DONNELLY: Okay. I note that I'm still
23 ten minutes under the time that the DOE presenter had. Not
24 that I want to prolong the meeting unduly. I have better
25 things to do, too. But five minutes, is that okay?

55

11-30817 (17)
12-30817 (3)
14-30817 (2)

12-08-1993 14:45

505 823 8828

ASI FIA

P.67

1 I would appreciate your being specific
2 because I want to learn, too. And for what it's worth, if
3 you would like to be specific right now, I wouldn't mind.
4 I'd like to learn because if I have misconceptions, I want
5 to hear about them and be corrected. And I welcome that,
6 as a matter of fact, because I don't -- I worry a lot about
7 these things obviously.

8 MR. MORAN: I would rather follow the rules.

9 MR. DONNELLY: Okay. I'll continue.

10 MR. REUEL SMITH: One point for the record.
11 In Pocatello on August 11th, a public open house was held
12 at the INEL Outreach Office. The purpose of that forum is
13 to allow the type of interchange that Mr. Donnelly is
14 looking for. And it was -- you know, it's a fairly --
15 there's no restrictions and there's no guidelines. Members
16 of the State of Idaho Division of Environmental Quality,
17 the Department of Energy were there from 12:00 noon until
18 7:00 p.m. and even later than 7:00 p.m. But the idea is
19 that we have several -- or a variety of opportunities for
20 interchange and comments. The purpose of tonight's meeting
21 is that formal comment.

22 So again, to reiterate something that was
23 mentioned a while ago, if those of you would like to stay
24 afterwards, after the comment session, we can make a
25 portion of the room available after the Central Facilities

56

#T01-18

11-30817 (18)
12-30817 (4)
14-30817 (3)

11-15-1993 11:33 505 923 0020

AS1 PEA

P.57

1 Area discussion to have a citizen discussion group. We
2 could help facilitate that. But for now, if we could stay
3 on the comments. So about another --

4 MR. DONNELLY: Just a brief response to
5 that. The very reason I'm coming here and discussing my
6 concerns with you folks is to meet people like Mr. Moran
7 who can perhaps correct my incorrect notions at the Open
8 House which I want to. I didn't find a whole lot -- in
9 fact, I essentially told you of my disappointments in the
10 level of the information that we got at the Open House.
11 And in particular, I didn't -- I didn't find people like
12 Mr. Moran who will correct me if I'm wrong, and I hope he
13 does.

14 Just a little bit more about my history of
15 the Radioactive Waste Management Complex is that it was
16 initially okayed by the local geologist -- geohydrologist
17 for purposes of beta gamma disposal. The business of
18 introducing alpha wastes from Rocky Flats, Mounds
19 Laboratory, and wherever else it comes from, was something
20 that was above and beyond the initial okayes that were given
21 here, but those things had a place to go.

22 No one has ever, it appears, done a
23 comprehensive environmental impact statement of what the
24 long-term consequences of these materials will be. It's 40
25 or 50 years later, folks, and it's time to figure that

57

#T01-18

#T01-18

#T01-18

#T01-13

#T01-03

11-30817 (19)
12-30817 (5)
14-30817 (4)

11-15-1993 11:34

505 923 0020

AS1 PEA

P.58

1 out. It's a whole career after these things were started.
2 Most of the people that were involved are retired. Some of
3 them are here tonight. We're failing to address the
4 situation still.

5 I will stop -- I'll leave it at that. But
6 the current course of events in terms of, well, let's leave
7 this here and never dig it up and never worry about it is
8 unacceptable to me personally. I just want to say that
9 again and again. I've said it. Thank you.

10 MR. HULA: There are a couple of other
11 gentlemen that want to provide verbal comments. Thank you,
12 Mr. Donnelly.

13 It's been mentioned, please provide your name
14 and spell it out for the court reporter. Thanks.

15 MR. WEIDMANN: Yeah. My name is George
16 Weidmann, W-e-i-d-m-a-n-n. And just a couple points I want to
17 bring out relative to your accuracy.

18 You mentioned an accident at ESR-1. There
19 was no accident, but there was a planned experiment,
20 BORAX-1. That did indeed -- and, in fact, the biggest
21 thing that it produced was some contamination very close in
22 to the BORAX area which was ultimately chosen.

23 MR. DONNELLY: I said ESR-1. That's what I
24 meant.

25 MR. WEIDMANN: No.

58

#T01-03

#T01-20

#T04-02

12-30817 (6)
14-30817 (5)

11-15-1993 11:34 505 623 8628

ASI PLA

P.59

1 MR. HULA: Could we allow Mr. Wehmann to
2 state his comments uninterrupted, please?

3 MR. WEHMAN: I think you acknowledged, but I
4 don't think you realize the effort that was put forth by
5 the AEC and the USGS in the selection of that original 88
6 acres for the burial ground.

7 Now, the effect of the Mackay Dam failure was
8 examined in the '70s, and I believe you can find the
9 results of that in the Waste Management Operations
10 Environmental Impact Statement.

11 Earthquakes, that's a favorite subject of
12 mine because a woman in the League of Women Voters, who
13 were at one time quite critical of us, wondered if we
14 couldn't have an earthquake big enough to have a fault all
15 the way down to the aquifer. And I simply asked her, as I
16 will ask you, what do you think's going to be left of
17 Pocatello and Idaho Falls when you have an earthquake of
18 that magnitude?

19 But in the interest of time, I think what I
20 want to simply say is that I'm obviously in a hundred
21 percent agreement with the Preferred Alternative. But my
22 reason for doing that is I happen to be the, I guess,
23 founder of Pad A because at that time I was in charge of
24 waste management for the AEC. So I support one hundred
25 percent that one because basically what that one is saying

59

#T04-03

#T04-04

#T04-05

#T04-06

12-30817 (7)
14-30817 (6)

11-15-1993 11:35 505 623 8628

ASI PLA

P.60

1 is continue with some engineered efforts to keep that area
2 as it is, which was the intention from the beginning.

3 And if one looks at the risk of -- to the
4 workers to remove the waste from there, you'll find that
5 you've got a much greater risk than if you leave it alone.
6 That's it.

7 MR. HULA: Thank you. John?

8 MR. MORAN: John Moran. I'm a little tired.
9 I'm going to relax here, if you don't mind, and be very
10 informal.

11 Dennis, I had no plans to make any comments
12 tonight, but there were just too many things that you said
13 that were half-truths or not truth at all that I think some
14 focus has to be brought to them.

15 First of all, you talked about secrecy, you
16 started out. There has always been secrecy in the national
17 interest. There has never been secrecy as far as health
18 and safety has been concerned.

19 I first appeared in 1959 before the Joint
20 Committee of Congress and gave a full report on the waste
21 management activities at the INEL. It's part of the open
22 record. It was at that time. All the releases to the
23 atmosphere, to the water, to solid waste, and it was
24 couched in the best terminology that we had at the time,
25 the best knowledge.

60

#T04-06

#T02-01

12-30817 (8)

11-15-1993 11:36

505 623 6626

AS1 FLA

P.61

1 The AEC began in 1957 an annual report of its
2 activities. These were put out consistently for a
3 seven-year period. And in every one of these reports,
4 there was an up-to-date information on the releases to the
5 environment, on the accidents that had happened in the
6 plants, and also on the exposures to the people on site.
7 And I think it was perhaps in '59 that we started including
8 in that report an annual report on releases to the
9 environment which continues to this day under the NESH
10 program.

11 Today what they're putting out is about a
12 200-page report. We at that time were putting out a
13 two-page summary because we felt it should be something
14 concise and something that the public could understand
15 rather than all the science jargon that may be appearing in
16 reports to this day.

17 In the early days at the site, our interest
18 was focused on atmospheric releases because this has the
19 most impact, the immediate impact upon the public.

20 The liquid waste releases or the potential of
21 contamination of the aquifer was considered extremely
22 remote. However, it was the focus of concern from day one
23 for the Atomic Energy Commission.

24 George Wehmann mentioned about the selection
25 of the burial ground. It was selected with the best advice

61

#T02-03

12-30817 (9)

11-15-1993 11:37

505 623 6626

AS1 FLA

P.62

1 available in this country. And incidentally, we were the
2 first peacetime site that was established. So we were able
3 to benefit from the experiences of Oak Ridge, Brookhaven,
4 and Hanford.

5 One of the first rules that was established
6 was that there would be one burial ground as opposed to the
7 multiplicity of burial grounds at each site location such
8 as at Oak Ridge where I received my training, as well as up
9 at Hanford. That site was selected because of its ideal --
10 the best location on the entire 900 square mile area and
11 the distance to the aquifer, the availability of soil
12 cover.

13 And by the way, waste was never buried, the
14 ditches were never dug directly to the assault -- to the
15 basalt. There was always the requirement that there be
16 several feet of soil over the rock at the bottom. And in
17 fact, the way the USGS selected the location -- and it was
18 probed and there were plots made of the distance to the
19 basalt, but we rarely had a difficulty in not having
20 adequate soil cover.

21 It's interesting how history is totally
22 forgotten. And I might mention this particularly for state
23 people. We had in the early days an NRTS Advisory
24 Committee, and the director of health -- of the department
25 of health was a sitting member of that committee. We also

62

#T02-03

#T02-04

#T02-02

12-30817 (10)

11-15-1993 11:37 905 823 8828

AS1 PIA

P.63

1 had a professor of radiology from the University of Utah.
 2 We had Dr. Taylor from the Idaho State University, the
 3 chairman of their nuclear engineering department, was part
 4 of it. We had -- the medical profession in Idaho Falls was
 5 represented. And a total of about ten people which met
 6 annually, and they could ask any questions which they
 7 liked. It was an all-day meeting. There was a formal
 8 program.

9 And my first knowledge of this was that I was
 10 at NRP in 1954, when of all places I represented NRP to
 11 make an unclassified presentation on the occupational
 12 exposure and the releases to the environment from the NRP
 13 facility. And, you know, this is the facility that to this
 14 day people are talking in terms of their being classified
 15 and not providing information.

16 I still have a copy of the outline of the
 17 talk that I presented at that meeting, because naturally I
 18 did have to have it approved by the Navy. But nothing was
 19 held back from the standpoint of our experience.

20 Dennis, I think you're right that there was
 21 an accident at EBR-1. It was -- EBR-1 did have a meltdown
 22 of some their fuel elements I think in about 1953, but no
 23 release to the environment. There was some waste generated
 24 from that.

25 What George mentioned was the intentional

63

#T02-02

#T02-05

12-30817 (11)

11-15-1993 11:38 905 823 8828

AS1 PIA

P.64

1 destructive test of BORAX-1 just before the Geneva
 2 Conference in 1955. And that, by the way, was totally
 3 documented in the open literature.

4 I'm talking longer than I had intended.
 5 Waste has always been managed at an advanced level of the
 6 state of the art at INEL since 1951 when the first waste
 7 was generated, so the best practices and the best
 8 technology was taken from the other sites and applied.

9 With Jack Barraclough being in front of me, I
 10 have to mention to you that we never considered ourselves
 11 as AEC employees as experts in either the field of geology,
 12 hydrology, or the weather bureau. And in fact, George
 13 Wehmann was originally a weather bureau employee on the
 14 site. But we had gone to the best in the federal agencies
 15 to provide their expertise.

16 Something that a lot of people are not aware
 17 of was that when I first joined AEC in '57, I had an
 18 adviser on my staff from the U.S. Public Health Service,
 19 and this man was on my staff for about three years. I
 20 think that the reason that he was pulled back to Washington
 21 was that I was giving him too much responsibility and they
 22 were afraid that he was being used to make some of the
 23 policy decisions which I don't think the Public Health
 24 Service wanted to be involved in. But we had that much
 25 confidence in these people that we used them to the maximum

64

#T02-05

#T02-06

#T02-07

12-30817 (12)

11-15-1993 11:30 905 823 8828

AS: PLA

P.05

1 extent that we could.

2 Dennis, you also mentioned about one thousand
3 years being too short a time. For some wastes, it is, when
4 you're talking about plutonium. When it comes to the type
5 of thing that's on Pad A, a thousand years is really too
6 long a period of time.

7 And I have to get in a little plug here that
8 the Integral Fast Reactor is a great blessing that we have
9 that's on the horizon to take care of a lot of our
10 plutonium waste problems.

11 And this I think indicates something to us
12 that perhaps we, like the rest of the world, should not be
13 in that much haste to solve some of these major problems in
14 a very expensive way now. As long as there is no real
15 threat to the environment -- and I'm saying environment is
16 aquifer -- we should not be wasting these rare resources,
17 namely tax dollars, on doing precipitous cleanup.

18 Concern was expressed about the volcano, and
19 I'm of the opinion that perhaps the greatest thing that
20 could happen to the buried waste on the site is for
21 volcanism to take place and to cover it over. And I say
22 that somewhat facetiously, but I say it somewhat seriously,
23 too, because this type of thing, there have been
24 occurrences like this in the past, not with any great
25 frequency, thousands of years in between, but this would

65

#T02-07

#T02-09

#T02-08

#T02-10

#T02-11

12-30817 (13)

11-15-1993 11:40

905 823 8828

AS: PLA

P.06

1 isolate it once and for all. And I think after a little
2 consideration, even the governor would be happy over the
3 situation.

4 Well, basically those are the items that I
5 thought might be of interest for the group. And if I can
6 answer any questions privately or another time, I'd be
7 happy to try it.

8 MR. MULA: Thank you. Do we have anyone else
9 that would like to provide comments?

10 If not, I would like to thank you all for
11 showing up tonight and have a good night.

12 (The meeting concluded at 9:05 p.m.)
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#T02-11

#T02-01

REPORTER'S CERTIFICATE

STATE OF IDAHO)
County of Canyon) ss.

I, CAROLE A. WALDEN, a Notary Public in and for the State of Idaho, do hereby certify:

That said meeting was taken down by me in shorthand at the time and place therein named and thereafter transcribed by means of computer-aided transcription, and that the foregoing transcript contains a full, true and verbatim record of the said meeting;

I further certify that I have no interest in the event of the action.

WITNESS my hand and seal this 23rd day of August, 1993.

Carole A. Walden
CAROLE A. WALDEN, CSR
Notary Public in and for the State of Idaho, residing in Caldwell, Idaho.
My commission expires 10-21-93.

FOR A PUBLIC MEETING

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Boise, Idaho

August 18, 1993
7:10 p.m.

AGENCY REPRESENTATIVES

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DOE: JAMES WINTERHAY, MONDAY, AUGUST 16, 1993, 2:10 P.M.

MR. WITA: My name is Greg Wita. I'm the Department of Energy Project Manager on the Fed A project. I'd like to welcome everyone to the meeting tonight and thank you for taking the time to come out and hear what we have to say.

The purpose of tonight's meeting is basically threefold. One, we're going to give you an overview of the Proposed Plan and the alternatives that we evaluated for Fed A. Two, we'll have an informal question and answer session. If there's anything in the Proposed Plan or anything we talked about tonight that's not clear that you have questions on, feel free to ask us, and we'll provide answers. And third, we'll have a formal verbal comment period, allow you to come up and provide formal verbal comments on the Proposed Plan.

We do have additional copies of comment forms, also additional copies of the Fed A Proposed Plan on the back table in the room. For those of you who would like to provide written comments, these forms are pre-addressed to the Department of Energy and they're already prepaid. So all you need to do is write your

1 comments down, drop it in the mailbox, and we'll be sure to
2 get it and respond to that.

3 I'd also like to point out that we've got --
4 on the back of the agenda, there's an evaluation form. I'd
5 like to encourage you to take a couple minutes, give us
6 some feedback on how the meeting went tonight, how you
7 thought it went, things we might do better the next time
8 around to make the meetings more informative for you.

9 I would also like to point out that we do
10 have a court reporter here tonight who is taking an
11 official transcript of the entire meeting, including
12 presentation, the Q and A session, and the formal verbal
13 comments. Our purpose for having the court reporter is to
14 ensure we have an accurate record of the meeting.

15 Once again, welcome. And following Fed A's
16 meeting, Alan Dudziak of the Department of Energy will be
17 giving a quick overview of the status of activities of the
18 Central Facilities Area Landfill which is also at the Idaho
19 National Engineering Lab.

20 With that, I'd like to introduce Dean Wyyard
21 with the State of Idaho Department of Environmental
22 Quality, and Mary Jane Nearman with Environmental
23 Protection Agency out of Seattle. As you know, the Federal
24 Facility Agreement implemented at the Idaho National
25 Engineering Lab is a tri-party agreement between the State

1 of Idaho, DOE, and EPA.

2 With that, I'll start off here. The Idaho
3 National Engineering Lab is an 890 square mile facility
4 located in this portion of Idaho. There are several
5 facilities throughout the lab, the one of which is of
6 importance to us tonight being the Radioactive Waste
7 Management Complex, or RWMC, located in the southwest
8 portion of the INEL.

9 The Radioactive Waste Management Complex was
10 opened in 1952 for the disposal of INEL-generated low-level
11 radioactive wastes. In 1954, other DOE facilities, for
12 example, Rocky Flats Plant in Colorado, began shipping
13 their wastes to the RWMC also.

14 There's basically two main portions of the
15 Radioactive Waste Management Complex. One is this 56-acre
16 -- and it's kind of out off here. I apologize for that
17 picture. But the 56-acre Transuranic Storage Area, and
18 this area was opened in 1970 for the aboveground storage of
19 transuranic wastes. Transuranic radioactive wastes are
20 basically wastes generated at the Rocky Flats Plant from
21 the production of nuclear weapons.

22 Next to the Transuranic Storage Area we have
23 the 81-acre Subsurface Disposal Area commonly referred to
24 as the burial grounds. This is where the waste was dumped
25 in pits or trenches, covered with soil, and basically the

1 radioactive wastes were buried. Within the Subsurface
2 Disposal Area, we have Pad A. It's in the north central
3 portion of the SDA.

4 I'd like to introduce Mr. Vaughn Halford with
5 EG&G Idaho, contractor to DOE, who's going to provide some
6 information and details on the wastes on Pad A.

7 MR. HALFORD: Thank you, Greg.

8 Good evening. Pad A was constructed in 1972
9 for the aboveground disposal of radioactive containerized
10 wastes. The waste containers, which consisted of 55-gallon
11 drums and four by four by seven boxes, were placed on a
12 three- to four-inch asphalt pad which is laid on top of at
13 least three inches of gravel.

14 The containers, once the pad was closed, was
15 covered with three to six feet of soils and then seeded
16 with a crested wheatgrass to attempt to minimize erosion.
17 The boxes and drums in some areas were covered with plywood
18 and some areas with plywood and polyethylene covering. The
19 arrangement of the boxes and drums indicated here and you
20 can see its location in that north central portion of the
21 Radioactive Waste Management Complex.

22 The wastes disposed of on Pad A -- I'll give
23 you another photo here that gives you a little better
24 picture of the actual waste as it was in 1978 prior to
25 closure. The wastes disposed at Pad A in these drums and

1 boxes were all solid wastes. These wastes consist of
2 evaporator salts, which are those nitrate salts that I
3 think Greg mentioned, that came from the solar evaporation
4 ponds at Rocky Flats. Also from Rocky Flats Plant, we have
5 some uranium oxides, beryllium foundry and machining
6 wastes, and some dry sewage sludge. Also placed on Pad A
7 were miscellaneous INEL-generated wastes. The Rocky Flats
8 Plant salts comprise about 71 percent of the wastes
9 disposed of on Pad A.

10 We have a really clear picture of the types
11 of wastes on Pad A, the concentrations and how they were
12 disposed, from our disposal records and shipping records
13 from the Rocky Flats Plant. Additionally, we have talked
14 to the processing facilities that produce these wastes and
15 the operators that work there and, from that process
16 knowledge, have a really good picture of those wastes.

17 Two investigations have been done in the past
18 at Pad A, one in 1979, one in 1989. The '79 penetration
19 project simply came in and removed dirt from the northeast
20 corner of the pad to expose a row of drums along this
21 corner. The 1972 drums were placed here, so these are the
22 oldest containers at that time. And that was done to see
23 what the condition of those containers were after seven
24 years of burial. They found that the drums were intact and
25 the boxes were showing various stages of deterioration.

1 In 1989 -- I think you may have seen the
2 white enclosure that was placed on top of Pad A -- they
3 actually went in and penetrated in the south region of the
4 pad and were going in to retrieve several drums. They
5 retrieved one drum from this location, and we took that
6 drum to the Transuranic Storage Area after it was
7 overpacked or put in another larger drum, and stored there
8 for two years.

9 In 1992, we went back and retrieved that
10 drum, opened it up, and we're going to sample and analyze
11 the contents. The nitrate salts that we found in the drum
12 very closely matched the inventory or the sampling and
13 analysis records that Rocky Flats had indicated for the
14 contaminant types and concentrations. So the analysis that
15 we did confirmed what Rocky Flats said they had sent to
16 us.

17 Past monitoring at Pad A that has gone on
18 since 1978 when the pad was closed has included taking
19 surface soil samples any time there's any surface water
20 available, continuing to monitor groundwater around this
21 Pad A and around the RWMC, and additionally taking air
22 samples out at the Radioactive Waste Management Complex.
23 The indications from that sampling is that there's no
24 contaminants attributable to Pad A that have left the
25 site.

1 With that, I'd like to turn it back over to
2 Greg and have him discuss our investigations.

3 MR. HULA: Okay. Once we identified the
4 types of wastes that were on Pad A and the types of
5 contaminants that were in those wastes, we had to -- the
6 next step in the process was to try and determine what
7 problem those contaminants could pose now or potentially in
8 the future to people and the environment.

9 We do that by conducting a baseline risk
10 assessment, basically evaluate potential risks both now and
11 in the future assuming no action is taken at the site. The
12 baseline risk assessment allows us to identify which
13 contaminants pose the risk, and it also allows us to
14 identify how people could be exposed to those
15 contaminants. Just because you have contaminants doesn't
16 mean that there's a risk. Those contaminants have to come
17 in contact with people to have a risk.

18 For Pad A, we assumed that burrowing animals
19 could dig into the waste and bring contaminants to the
20 surface. We also assumed that plant root systems could
21 take the contaminants up. When those plants die, the
22 contaminants were then at the surface of the cover.

23 Once the contaminants are on the surface,
24 people can be exposed to the contaminants by breathing air
25 contaminated with -- well, air that contains contaminated

1 dust, eating contaminated soil, or through direct radiation
2 from the radionuclides on the soil.

3 Similarly, once the contaminants -- we
4 assumed a certain amount of water moves through these
5 wastes, dissolves the wastes similar to like table salt
6 dissolves in water, and that water moves down to the
7 groundwater with the contaminants in it. Once in the
8 groundwater, people can be exposed to the wastes by
9 drinking the contaminated groundwater. And we assumed in
10 the future somebody might be living at Pad A, and as we
11 assumed that they could use -- they would use this
12 contaminated groundwater to irrigate their food crops, and
13 in eating those food crops, they would be exposed to the
14 contaminants.

15 In order to evaluate how much of the
16 contaminants can move from the pad to the surface or from
17 the pad to the groundwater, we relied upon computer
18 modeling. Basically it's just -- the computer modeling we
19 do is a mathematical code that kind of simulates how the
20 contaminants can move from here to here or from the pad to
21 the surface.

22 Because there's a lot of unknowns about the
23 site itself and how contaminants might move in the ground
24 below the pad, we used conservative assumptions in the
25 modeling. For example, in order to get any contaminants

1 down to this groundwater, the contaminants have to be
2 available to move. Right now, as Vaughn mentioned, the
3 wastes are in plastic liners and in drums and in boxes. We
4 assumed, because we don't know how long those plastic
5 liners and the drums will remain intact -- they could
6 remain intact for ten, fifteen, fifty years or longer.
7 Because we don't know how long they'll remain intact, we
8 assumed that a little over half of the waste or 54 percent
9 of the waste was not in any container and could move right
10 now.

11 Similarly, because these are solid wastes, in
12 order for the wastes to get to the groundwater, you have to
13 have water moving through the wastes and dissolving the
14 wastes, and carrying them downward. We don't know
15 specifically how much water infiltrates into this waste
16 every year. By infiltrating, I mean if it rains, you're
17 going to get a certain amount of water that runs off the
18 surface of the pad. Some of it's going to evaporate, quite
19 a bit will probably evaporate, and some will be taken up by
20 the root systems, by the vegetation that's on the cover.
21 Whatever's left over is the amount of water that
22 infiltrates into the waste.

23 Because we don't know how much --
24 specifically how much water infiltrates that waste, we
25 assumed two inches per year or five centimeters per year

1 was moving -- five centimeters per year of water was moving
2 into the waste. Based on studies conducted a couple of
3 years ago outside of the RWMC, infiltration rates in --

4 AUDIENCE: Excuse me. What's the RWMC?

5 MR. HULA: I'm sorry. That's the Radioactive
6 Waste Management Complex.

7 AUDIENCE: Thank you.

8 MR. HULA: Pad A is located within the
9 boundaries of the Radioactive Waste Management Complex.

10 I lost my train of thought. Based on studies
11 conducted outside of the Radioactive Waste Management
12 Complex a couple years ago, the infiltration rates in
13 undisturbed areas are on the order of one centimeter per
14 year or about one-fifth of the amount of water we assumed
15 was infiltrating here.

16 Once the water infiltrates the waste, it has
17 to move down to the groundwater. We don't know how much
18 water or how far the water moves. We don't know if it goes
19 down ten feet or if it goes down to this 100-foot interbed,
20 or if it goes all the way down to the groundwater.

21 We assumed that this two inches of water,
22 once it moves through the waste, it moves down to the
23 groundwater in one year. And we continue moving that two
24 inches of water through the waste down to the groundwater
25 every year until there's no waste basically left on Pad A.

1 Given the conservative assumptions we used in
2 the modeling, the overall result is that it tends to
3 overestimate the potential concentrations of contaminants
4 down in the groundwater. The reason we use the
5 conservative assumptions is to ensure we have a margin of
6 safety in our assessment to ensure we're making the right
7 decision.

8 Using the concentrations of contaminants in
9 the groundwater, we assessed the risk from Pad A to people
10 for a period of one thousand years from now. Basically we
11 assumed for the next hundred years that DOE would continue
12 to remain on the site, control access to the site, prevent
13 access. But after that one hundred years was over, because
14 of the uncertainties associated with future land use at the
15 INEL, we assumed DOE was no longer at the INEL, that
16 anybody could live anywhere on the INEL. So we assumed
17 families would be located at the Pad A boundary, the
18 boundary of the Radioactive Waste Management Complex, as
19 well as the INEL boundary.

20 Using those assumptions and the results of
21 the modeling, our risk assessment showed no current risk to
22 workers, the public, or the environment from the
23 contaminants on Pad A. The only future risk is based on a
24 family living at the edge of the Pad A boundary at the same
25 time the nitrate concentrations reach their peak -- the

1 nitrates reach their peak concentration in the groundwater,
 2 which occurs about -- well, based on the modeling, in about
 3 250 years, and that assumes that these people are basically
 4 drinking that nitrate contaminated groundwater. The peak
 5 concentration of nitrates at this point in 250 years was
 6 shown based on the modeling to be about 112 parts per
 7 million. The drinking water standard -- just to put it in
 8 perspective, the drinking water standard for nitrates is
 9 ten parts per million.

10 We didn't show -- the risk assessment showed
 11 no unacceptable risk to the family at the Radioactive Waste
 12 Management Complex boundary or out further. The reason for
 13 that is by the time the nitrates move from here to here,
 14 they're diluted to concentrations low enough that there's
 15 no risk to the family. Similarly, in addition, the risk
 16 assessment showed no risk from the radionuclides in the
 17 groundwater or no unacceptable risk from the surface
 18 pathways.

19 The results of our risk assessment, the
 20 hypothetical case, what could potentially happen in the
 21 future, were then taken, and we used those against a
 22 reality check of what we know about the site right now and
 23 about the assessment we did. We used the conservative
 24 assumptions to err on the margin of safety, and
 25 conservative assumptions basically result in overestimated

1 concentrations of contaminants in the groundwater. We
 2 believe, if and when the nitrates move from Pad A and reach
 3 the groundwater, actual concentrations will be much lower
 4 than what our modeling predicted.

5 Similarly, based on those conservative
 6 assumptions and the overestimates, the fact that the
 7 modeling tends to overestimate the concentrations, we
 8 believe the existing soil cover on Pad A is a protective
 9 barrier to both the groundwater and the surface pathways if
 10 maintained. Also, we have, based on several years of
 11 monitoring and sampling data, no indications that
 12 contaminants have left the pad up to this point in time.

13 Based on this information, we evaluated
 14 alternatives in our feasibility study that ensure a cover
 15 is maintained over the wastes on the pad. As such, we
 16 evaluated a containment alternative, and this alternative
 17 basically evaluates -- or would construct an entirely new
 18 cover system over the existing soil cover on Pad A, and
 19 that cover system would include rock layer, a soil layer, a
 20 layer of sand and clay, and then would be revegetated and
 21 maintained over time.

22 An option under this containment alternative
 23 includes possibly using a geosynthetic or a geomembrane
 24 liner in addition to these other materials. With this
 25 alternative, we would continue to monitor groundwater, air,

1 soil, and surface water to get an early indication of any
2 potential contaminant migration or movement from the pad.
3
4 The second alternative we looked at,
5 Limited Action, is our Preferred Alternative. Based on the
6 results of our risk assessment, we believe the existing
7 cover is protective of the groundwater and surface
8 pathways. What we would do under this alternative is
9 basically continue maintaining the existing soil cover on
10 the Pad A wastes, go in and recontour that cover to better
11 enhance surface water runoff, revegetate it, and then
12 maintain it to prevent surface erosion and correct for
13 subsidence events.

14 As with Alternative 1, we would continue
15 monitoring groundwater, the air, soil, and surface water on
16 the pad. And the State of Idaho Department of
17 Environmental Quality, Dean's group, and EPA, Mary Jane's
18 group, would independently evaluate and review this
19 information from the monitoring data, basically
20 independently review the monitoring data to ensure
21 continued effectiveness of the cover, the existing soil
22 cover. Also, under both of these alternatives, DOE will
23 continue to maintain or control access to the site for the
24 next one hundred years.

25 Under the Limited Action alternative, we
would, based on a couple years' worth of monitoring data,

1 reevaluate the Record of Decision on the pad in two years
2 and then every five years thereafter.

3 Also, I'd better touch on this real quick,
4 the No Action Alternative, as required by the CERCLA
5 regulations, Superfund law, the No Action Alternative was
6 carried through the feasibility study for comparison
7 purposes between our two action alternatives.

8 We've basically given you an overview of Pad
9 A and the types of wastes and contaminants on the pad, an
10 overview of the risk assessment, and an overview of the
11 alternatives we evaluated for Pad A.

12 What's next? Well, we'll be accepting
13 comments tonight, verbal comments. Written comments will
14 be accepted through August 16th. At the end of the comment
15 period on August 16th, we will begin developing responses
16 to those comments, to all written and verbal comments
17 received, and those responses will become part of the
18 Record of Decision for Pad A, which we anticipate signing
19 in early 1994.

20 I'd like to open the floor to any questions
21 that anyone might have.

22 AUDIENCE: Are we dealing with radioactive
23 isotopes here, this waste material?

24 MR. RUTIA: Yes, there are radionuclides in
25 this waste.

1 AUDIENCE: And what's the half-life?
 2 MR. NULA: It depends on the radionuclide.
 3 The plutonium that's on the -- the plutonium that's on the
 4 pad, plutonium-239, for example, has a half-life of 24,000
 5 years. The uranium is primarily I believe -- uranium-238
 6 isotope, I believe the half-life of that is four billion
 7 years, Bob?
 8 MR. NITSCHKE: Billion years.
 9 MR. NULA: Four billion years. Very long.
 10 The plutonium and the uranium tend to be very long-lived
 11 radionuclides.
 12 AUDIENCE: Okay. Do you have -- have you
 13 installed monitoring devices which are computer monitored,
 14 in other words, where you could put like the old Geiger
 15 counter and it could relay information to a computer center
 16 so that you could have a virtually one hundred percent
 17 24-hour monitoring system in place?
 18 MR. NULA: No, we haven't done that.
 19 AUDIENCE: Has anyone thought about that?
 20 MR. NULA: I'm not sure that's been thought
 21 about actually. I don't think so.
 22 AUDIENCE: Well, you might want to think
 23 about that.
 24 MR. NULA: What we do is -- the monitoring we
 25 do at the Radioactive Waste Management Complex is primarily

1 soil sampling.
 2 AUDIENCE: We saw how you did it. I think
 3 that's fine. I'm just saying that --
 4 MR. NULA: Point well taken.
 5 AUDIENCE: -- looking back in a hundred
 6 years, not much happened. We had a couple world wars and
 7 some earthquakes and some other things. We really didn't
 8 have any major cataclysmic events. But we just don't know
 9 in the next hundred years.
 10 The other thing who is doing R&D on
 11 accelerating half-life?
 12 MR. NULA: I don't know. I'm not sure you
 13 can accelerate half-life given that it's a physical -- it's
 14 a physical property of the radionuclide itself. I don't
 15 know if you can accelerate it or not. I don't know that
 16 anyone is looking at accelerating half-lives.
 17 AUDIENCE: Well, you might take a look at
 18 finding out if any research is being done on accelerating
 19 half-life, and I think it is a -- I think it is a nuclear
 20 molecular possibility that we can do that. You know, I
 21 don't know if the Super Collider will give you any
 22 information on that or not, but I think that should be
 23 looked at.
 24 MR. NULA: I think that sure could be looked
 25 at, too.

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1 AUDIENCE: Another thing, is there any
2 practical utilization of this material?

3 MR. NOLA: The uranium -- the nitrate salts
4 may have application as a component in fertilizer or
5 something, but it would be dependent upon the ability to
6 remove the radionuclides in the nitrates. We really didn't
7 evaluate that. We didn't evaluate removing the wastes or
8 recovering it for potential other uses.

9 AUDIENCE: Are we spending a lot -- very much
10 money on, you know, this monitoring and reviewing and so
11 forth? I don't understand -- you know, it's like Birken
12 used to say. A billion here, a billion there, and pretty
13 soon it's real money. And so I don't have a relationship
14 of cost value return on a societal basis extrapolated in a
15 computer model over 250 years when a guy gets to live
16 there. But we might take a look at some, you know, cost
17 benefits and get an idea of that because you're not going
18 to be around doing this then, you know, poking in there all
19 that long.

20 And the other thing is encapsulation. It
21 would seem to me we probably have some materials now
22 available that if you wanted to, you could encapsulate this
23 relatively inexpensively with virtually no penetration. I
24 mean, it seems to me, you know, you could take silicone and
25 create silicone blankets and wrap this stuff up, and that

20

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1 stuff is impervious to an awful lot of things, you know.
2 It's flexible. It has a very high temperature resistance,
3 moisture resistance, and so forth. You might take a look
4 at that on a cost return basis.

5 MR. NOLA: That's kind of -- you know, the
6 kind of comments we're looking for tonight.

7 AUDIENCE: You got all you're going to get.

8 MR. NOLA: One of the other alternatives --

9 AUDIENCE: I've got to go see my wife.

10 MR. NOLA: Well, could I get you -- before
11 you leave, could I get you to write that down. Talk to
12 Beal.

13 Beal quick. For other questions, we do have
14 these little three-by-five cards if you want to write a
15 question down. It'll get brought up and we'll respond to
16 the question.

17 Frits.

18 AUDIENCE: I was curious how the wastes were
19 considered for monitored retrievable storage, whether that
20 was -- obviously, you know, subsurface disposal is not the
21 best way of doing things in that we don't know what's going
22 to happen with the waste over a period of time.

23 MR. NOLA: No, we didn't consider the
24 retrievable monitored storage -- or monitored retrievable
25 storage basically because we're not looking at -- we didn't

21

1 consider retrieving that waste from the pad and placing it
2 in different storage configuration. There again, I think
3 that's definitely a comment that could be provided.

4 AUDIENCE: So those wastes would not -- even
5 the transuranic components would not be considered for,
6 say, the Waste Isolation Pilot project or other methods of
7 disposal? We're saying basically we're going to keep it
8 here and keep an eye on it?

9 MR. NULA: That's correct. That's right.
10 And primarily the reason is because this waste is low-level
11 waste. It doesn't meet the criteria for transport -- or
12 disposal at WIPP. There are only two drums that meet that
13 criteria out of 18,000. So, no, it wouldn't be destined
14 for WIPP.

15 AUDIENCE: And then just a final question
16 would be, would the risk of moving -- or removing, I should
17 say, the waste that exists there and repackaging it or, you
18 know, doing whatever, would that increase the potential of
19 risk to people and others?

20 MR. NULA: We didn't evaluate that
21 specifically, but my gut feeling is if you go in and start
22 digging it up and that, whenever you start handling things,
23 you're increasing the probability of something happening.
24 So my gut feeling would be that it probably would pose a
25 little more risk. How much more, I don't know. We didn't

1 -- we really didn't evaluate that.

2 Other questions anyone?

3 AUDIENCE: Is this considered mixed waste?
4 Is there any hazardous materials in here in addition to the
5 low-level?

6 MR. NULA: There are some -- the drum that
7 was sampled in '89 -- to answer your question, yes, there
8 are some other hazardous materials in there. I believe
9 that --

10 MR. MALFORD: The nitrates themselves are.

11 MR. NULA: The nitrates themselves are
12 considered hazardous under DOT regulations, but we also in
13 that one drum of salts picked up some chromium. It was
14 pretty small quantities, but that's still considered a
15 hazardous material. And I believe that was the only one,
16 if I remember right.

17 AUDIENCE: What's the condition of the pad
18 itself, the asphalt pad? I don't think you mentioned that.

19 MR. NULA: We don't know what the condition
20 -- the question is what's the condition of the asphalt
21 pad. We don't know what the condition of the asphalt pad
22 is under the waste.

23 The condition of the asphalt pad that has no
24 waste on it is just about like this today. It really
25 hasn't shown any significant signs of deterioration. As

1 far as the asphalt pad sitting under the waste, we don't
2 know.

3 For the modeling, maybe it's important to
4 point out, we didn't take credit for the asphalt being
5 there in modeling or predicting how much of the nitrates
6 could move to the groundwater. We assumed the asphalt pad
7 wasn't there.

8 AUDIENCE: Okay. Good point.

9 MR. NULA: Yes, sir.

10 AUDIENCE: Well, I just had the other
11 question. You know, the site has had flooding problems in
12 the past. Is there any berming or other work that has been
13 done or is potentially going to be done to prevent
14 flooding?

15 MR. NULA: Yeah, there is. As you say know,
16 we've had three floods out there. What's been done -- this
17 is Pad A and this looks out to the west and the southwest.
18 There's ground areas out here what we call spreading
19 areas. And what you see out here is a dike that runs for
20 quite a few miles south, up north, and the intent of all
21 this is to divert the Big Lost River when it floods, to
22 divert it around the RWMC.

23 We also have a dike or a berm, if you will,
24 specifically around the Subsurface Disposal Area and
25 ditches outside of this berm to divert any water that may

1 make it through the dike if there's a breach or something,
2 divert that water also around the SDA. And then that kind
3 of picks up with -- the Big Lost River comes out this way.
4 This is actually here. And it ties back into the Big Lost
5 River a couple miles away.

6 Don.

7 AUDIENCE: Yeah, I have a question, Greg, for
8 you. The alternative that you have, Preferred
9 Alternative?

10 MR. NULA: Yes, what we have identified as
11 our Preferred Alternative.

12 AUDIENCE: It seems to me that that's the
13 bare minimum, and I'm wondering what criteria you've used
14 to choose number 2 over number 1. It would seem to me that
15 the only criteria I can see that at least looks obvious
16 would be saving money in choosing number 2 over number 1.
17 Is there something I'm missing here?

18 MR. NULA: Yeah. Number 1, it's not the bare
19 minimum. I think the bare minimum would be No Action.

20 AUDIENCE: I'm saying very close to the bare
21 minimum. There's not a lot of action. Just maintaining
22 erosion -- preventing erosion from happening. That's
23 important, but it seems to me that we could go a lot
24 further than that to --

25 MR. NULA: Outside of cost, the limited

1 Action is much easier to implement, short-term
2 effectiveness and that. It's easier to implement. We
3 don't have to bring a bunch of materials in from across the
4 state or out of state, for example, the clays and things
5 like that. The soils we're talking about for maintaining
6 the existing cover are basically taken from right out in
7 this area. That's the one -- those are the two that come
8 to mind.

9 AUDIENCE: So it's the expense --

10 MR. NULA: It's just easier to implement.

11 AUDIENCE: The expense and the fact that it
12 can be done quicker?

13 MR. NYGARD: We need to point out the risk,
14 that no appreciable reduction of risk by going with one
15 alternative over the other. That's first and foremost.

16 AUDIENCE: Could you say that one more time?

17 MR. NYGARD: It's important to note in the
18 risk assessment, there was no appreciable reduction in risk
19 by going with other alternatives over the Preferred
20 Alternative. That's one of the first and foremost things
21 that we look at is that the alternatives that we carry
22 through for further evaluation, things such as cost and the
23 ability to perform the task, the short-term, long-term
24 implementability and those kinds of factors, first the
25 remedy has to be protective of human health and

1 environment. Otherwise, we carry a wide range of
2 alternatives. Some of those may not even be protective of
3 human health and environment. The law doesn't allow us to
4 do that.

5 First and foremost, it has to meet state and
6 federal law. The second thing -- first and foremost,
7 protective of human health and environment. The other
8 thing is meet state and federal law. So those are the two
9 things.

10 MR. NULA: The bottom line, Don, is the one
11 slide I had up here, the existing cover -- based on our
12 risk assessment, the existing cover is protective of the
13 groundwater and surface. And what Dean is getting at is
14 the containment alternative, Alternative 1, affords no --
15 there's no --

16 AUDIENCE: That does not enhance --

17 MR. NULA: -- significant difference.

18 AUDIENCE: That does not enhance protection;
19 is that what I'm hearing?

20 MR. NULA: Basically.

21 MR. NYGARD: That's correct.

22 MR. NULA: There's no significant difference.

23 AUDIENCE: So what would enhance protection
24 aside from Alternative 1 and 2? Has there been any
25 identification of what that would be?

1 MR. HULA: None that we evaluated.

2 AUDIENCE: What do you mean by enhanced
3 protection?

4 AUDIENCE: Well, containing the contamination
5 of the waste itself. I mean, the point is to protect it
6 from seeping into the groundwater and the aquifer,
7 correct?

8 AUDIENCE: Right.

9 AUDIENCE: So it would seem to me that there
10 must be something that could be done above and beyond just
11 improving or maintaining or preventing erosion from taking
12 place. Certainly you've discovered some other means aside
13 from Alternative 1 and 2 to protect the site from becoming
14 a source of pollution in the aquifer.

15 MR. HULA: We don't believe it's going to be
16 a source of pollution. And the monitoring that we're going
17 to continue to do, if we see that stuff leaving Pad A,
18 migrating down towards the aquifer at some point in the
19 future, we definitely will be reevaluating what to do with
20 Pad A.

21 AUDIENCE: I don't want to sound dumb here,
22 Greg, but it seems to me that if it's not a problem, then
23 why are we here tonight? Let's assume that there's a
24 potential for a problem in the future and that future may
25 be two hundred years down the way.

1 MR. HULA: As I mentioned earlier, the
2 potential problem we have with this cover is the potential
3 for it to erode over time and, therefore, expose wastes to
4 the surface. So we're looking at alternatives that
5 maintain a cover on that waste.

6 AUDIENCE: And the soil cover that currently
7 exists is the best means of protecting --

8 MR. HULA: Given the criteria we looked at,
9 yes.

10 AUDIENCE: But that's a question -- let's
11 hear what the criteria are. I mean, one could take
12 different criteria and come up with a different solution.

13 MR. HULA: Mary Jane.

14 MR. NEARMAN: Well, the criteria that we
15 evaluated, the Superfund program, the two criteria that we
16 are referring to, of course, are compliance with federal
17 and state regulations and long-term protectiveness and
18 effectiveness in the two alternatives, the two containment
19 alternatives of soil, be it existing soil or these
20 different layers of soil, that you would apply under the
21 other containment alternative for equal long-term
22 protectiveness and permanence.

23 The other balancing criteria, if you will,
24 that you look at the alternatives relative to one another
25 are cost, implementability, short-term effectiveness,

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1 community --

2 MR. HULA: Short and long-term effectiveness,
3 cost.

4 MS. NEARMAN: Long-term effectiveness and the
5 state --

6 MR. HULA: State and community acceptance.

7 MS. NEARMAN: State acceptance. I'm sorry.

8 So those are the other criteria that are evaluated. Once
9 you find alternatives that pass those -- it has to provide
10 long-term effectiveness and permanence and it has to comply
11 with federal and state regulations. Then you apply the
12 other ones.

13 AUDIENCE: The last one you mentioned, has
14 that been ascertained as to whether the community --

15 MS. NEARMAN: No. Right.

16 (Unreportable three-person discussion was
17 had.)

18 MS. NEARMAN: -- throughout the community
19 throughout the public comment period, looking -- if there's
20 new information, what the comments are from the public.

21 AUDIENCE: I have a question. Go ahead.

22 MR. HULA: Don, did that answer your
23 question?

24 AUDIENCE: Yeah, for now.

25 MR. HULA: Okay.

30

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1 AUDIENCE: Have you figured out the amount of
2 pressure being put on those top -- those bottom drums there
3 from the upper layers, how much pressure is actually put on
4 those drums and the condition the drums are in?

5 MR. HULA: I don't believe we've evaluated or
6 done any calculations to estimate how much pressure is
7 being put on the drums right down here.

8 AUDIENCE: You said you had taken some drums
9 out of there and tested them and they were in good shape,
10 but yet we don't know what's occurring at the bottom part
11 of that pile from the pressures from the upper part plus
12 the earth and materials that's been put on top of it.

13 MR. HULA: That's correct. We do know the
14 one drum that was retrieved in '89, and the drums we looked
15 at in '89 were basically the first couple layers of drums.

16 AUDIENCE: I've been there, yeah.

17 MR. HULA: We don't know what the condition
18 of the drums are down here. But there again, if we go back
19 and look at our modeling, for risk assessment purposes, we
20 assumed that the boxes and the plastic liners in the boxes,
21 which constitute about 84 percent of the waste, that stuff
22 could move now, right now anyway. So I think we -- in a
23 way, we took that into account not understanding what the
24 condition of the containers or the plastic liners are.

25 MS. NEARMAN: And assuming that the drums

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1 failed, catastrophic failure in a hundred years of the
2 drums as well. We actually assumed catastrophic failure of
3 the boxes at the time that they were placed back in 1979.

4 MR. HULA: In 1971.

5 MR. MEARMAN: Yeah, '72.

6 MR. HULA: What we try to do is take that
7 kind of issue -- that's one of those uncertainties and
8 unknowns I was talking about early on in the discussion.
9 So we tried to take that uncertainty and unknown and make a
10 conservative assumption to account or compensate for that
11 unknown.

12 AUDIENCE: Is the groundwater monitoring
13 being done by existing monitoring wells or have other wells
14 been put in place to accomplish this?

15 MR. HULA: Basically existing groundwater
16 monitoring wells. There's a network of 20 or 25 wells in
17 and around the RWMC that monitor the groundwater. Those
18 are DWEL wells. And then the United States Geological
19 Survey, USGS, also has several monitoring wells around the
20 Radioactive Waste Management Complex.

21 The monitoring for groundwater that we're
22 talking about, we would basically evaluate the location of
23 the existing wells, and if they're basically shown to be
24 usable, in the right location and that, to continue giving
25 us the right information, we're looking at using existing

1 wells rather than drilling new ones.

2 MR. NYGARD: Okay, I think it's important to
3 point out that last year six wells were installed for
4 purposes of investigating the RWMC, so there are additional
5 wells going in. There will probably be additional wells
6 going in in the future, so we're taking that into account.
7 That's under another investigation at the Radioactive Waste
8 Management Complex dealing with the organic contamination
9 that I believe we talked about that in our Pit 9
10 discussions. If I recall, you were at those meetings. So
11 that's happened as well.

12 AUDIENCE: Given the characteristics of the
13 waste, you would be able to note with the existing
14 monitoring wells whether the waste was originating from Pad
15 A and not from some other source?

16 MR. HULA: For the nitrate salts, I think
17 that's probably true because Pad A contains virtually all
18 the nitrate salts in the Subsurface Disposal Area. For
19 other contaminants, it's not quite that easy because of the
20 other buried waste.

21 You had a question, ma'am?

22 AUDIENCE: Yeah. Do you do risk assessments
23 only on the isolated sites or have you done one big risk
24 assessment for all of the wastes?

25 MR. HULA: That's a good question. To date

1 we've only done risk assessments, for example, on Pad A.
2 In two years we're going to begin looking at this entire
3 area as a whole under what's called the SPA Pits and
4 Trenches Remedial Investigation and Feasibility Study. And
5 it's basically to get the big picture look at the risks
6 posed for this entire site.

7 AUDIENCE: Because it seems to me like it's
8 quite difficult to say there's no risk when you're only
9 looking at an isolated point and not at all of the possible
10 contaminants that could be migrating down to the aquifer.

11 MR. MULA: That's a good point, and that's
12 why we are in about a year and a half to two years going to
13 start looking at this entire site.

14 MR. NYGARD: Actually, if I could, we've
15 started -- we have a risk assessment that's being developed
16 right now to deal with the organic contamination coming
17 from those TRU pits and trenches, so that's ongoing. There
18 is some preliminary work that's going on in risk assessment
19 as far as, as Greg mentioned, prior to that two years to
20 give us a better idea of what's going on in terms of risk
21 to guide us in some of our investigation strategy out at
22 the RWMC. So there is a lot of risk assessment and risk
23 evaluation ongoing right now in preparation for the
24 comprehensive remedial investigation for the entire RWMC
25 which will be started here in the next couple of years.

1 MR. MULA: Two years.

2 MR. NYGARD: And we'll have a Record of
3 Decision on that I believe by 1994. It's a lengthy
4 investigation and we're doing it in pieces, but we will
5 evaluate the whole, as we will also evaluate the risk
6 reduction for the entire INEL by the year 2000. So we're
7 going to take those pieces, we're going to add those up and
8 take a look at the risks and make sure we didn't miss
9 anything. If we missed something, we go back.

10 AUDIENCE: I guess I'm curious as to why
11 you're not looking at the whole in the first place.

12 MR. NYGARD: Because -- that's a good
13 question. One of the important points we need to realize
14 here is that first we need the data and the information and
15 the problem defined. And we focused on certain areas in
16 the Federal Facility Agreement. I don't know if you have a
17 copy of that. Perhaps Reuel could point that out.

18 Of the various areas at the INEL, there's
19 approximately 160 different sites that have been
20 categorized and grouped for the purposes of performing risk
21 assessments, so we are looking at those areas. They're at
22 various stages of investigation because we can't do
23 everything all at once. There's not enough people and not
24 enough money to do that. So we set up a long-term strategy
25 to arrive at where you're heading by the year 2000.

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ASI FLA

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1 Has that helped, or have I just confused
2 you?

3 MR. NULA: The reason Pad A --

4 AUDIENCE: It just seems -- as I stated, it
5 just seems difficult for me to sit here and say, okay,
6 there's no risk when you're only looking at Pad A. Yeah,
7 maybe you're right for Pad A, there isn't, but when that is
8 added into everything else, what's the result?

9 MR. NYGARD: You're entirely correct. And
10 Pad A is the focus for this meeting, but at the same time
11 we want to keep you informed of what the whole is. It's
12 important to understand that.

13 AUDIENCE: Thank you.

14 MR. NULA: You're welcome.

15 Other questions? Did anybody have any
16 written questions on the little three-by-five cards that
17 haven't made it up here yet?

18 If no other questions, I'd like to recommend
19 we take about a 15-minute break and we'll come back and
20 accept formal verbal comments at about 3:15. Thanks.

21 (Recess taken.)

22 MR. NULA: I know we have a couple of folks
23 who are interested in providing verbal comments. I have to
24 apologize, we don't have a mike system here tonight, so
25 when you come up, please speak up. The court reporter will

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1 get everything down that you say. When you come up, I'd
2 ask that you state your name and also spell your name for
3 the court reporter so we have an accurate transcript of who
4 came up.

5 Also, I'd like to ask that we limit -- or
6 that you limit your comments to about five minutes if
7 possible to ensure that everybody who wants to come up and
8 provide verbal comments has an opportunity to do so.

9 With that, I know Fritz --

10 MR. FRITZ BJORNSEN: Yeah, I had some
11 comments. I'm wondering, is it necessary to actually come
12 up? I have no problem with that but, you know, it's a --

13 MS. HENPHILL: It's okay to sit there. The
14 problem is that the court reporter really needs to be able
15 to see you and hear you clearly. So as long as you're in
16 direct line of sight and somewhat facing her to help her so
17 we get the transcript correct.

18 MR. BJORNSEN: I can do that. One of the
19 comments I have is that I think this might be an ideal --

20 AUDIENCE: Give us your name, Fritz.

21 MR. BJORNSEN: Fritz Bjornsen, Boise.

22 AUDIENCE: Spell it.

23 MR. NULA: Spell that last name.

24 MR. BJORNSEN: B-j-o-r-n-s-e-n.

25 I think that Pad A would be an ideal

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AST FLA

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1 candidate for monitored retrievable storage, that we have a
2 situation here that we can deal with this waste without
3 assuming it to be buried and untouchable. I think that
4 given that it was originally put on an asphalt pad
5 indicates maybe that there were some concerns about the
6 nature of the waste in the first place, that the barrels,
7 the wooden boxes, this sort of thing, obviously are not
8 meant for the long haul and could be either somehow
9 reinterrred, if that is what we decide is the best way, or
10 at least monitored in a different manner.

11 I think that given the -- you know, the
12 problems at the site, we haven't looked at all the
13 alternatives, particularly some of the alternatives that
14 have been brought up with other waste areas at the site,
15 that some of the solutions that have been proposed for them
16 might also be proposed for Pad A.

17 I think we need to look at and perhaps
18 propose some other alternatives besides the three that have
19 been proposed here.

20 That's pretty much all my comments at this
21 point. Thanks.

22 MR. HULA: Thanks. I believe Mike wanted to
23 come up and give verbal comments. State your name and
24 spell it, please.

25 MR. MIKE USHMAN: That's Mike Ushman, Emmett,

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AST FLA

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1 Idaho. That's U-s-h-m-a-n.

2 I have went over the papers that were given
3 to me, and out of the two alternatives, I find faults with
4 both of them.

5 Number one, whatever you have in mind doing
6 will not stop the water from precipitating and flowing down
7 through the waste. And to me, this would be a critical
8 issue right now is to stop any water from going down into
9 the aquifer or onto the pad and infiltrating underneath the
10 pad.

11 So I disagree with the sand, gravel, and clay
12 on top. I personally believe that there should be a fresh
13 layer of sand, clean sand, no rocks, a layer of 100, 125
14 mil welded plastic on top of that. Excuse me. Let me
15 back up. On top of the sand, put your clay liner, six
16 inches of clay, because clay can only be effective when
17 it's wet, and the liner will ensure that if the liner leaks
18 in the precip, the clay will become saturated and be
19 effective as a second barrier in order to protect the drums
20 and the cardboard boxes and the wooden boxes and the
21 plastic sacks and the barrels.

22 So I would say that right now we need to
23 concentrate on stopping the water from percolating down
24 through into the waste pile. By covering it with just clay
25 and covering it with sand and gravel is not going to work

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AS1 FLA

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1 because you're going to have to have moisture on the clay
 2 in order to keep it effective at all times, and that is a
 3 physical impossibility in the desert when we have the hot
 4 dry winds blowing. And what it'll do is just crack just
 5 like all clay does. Clay is only good under a body of
 6 water. So I suggest a 100 mil liner, a 125 mil liner,
 7 welded so that even if the welds do have a tendency to want
 8 to separate, at least we have some protection that we can
 9 stop the moisture from penetrating.

10 I personally believe that prior to -- this
 11 should be a must as of now, but I believe we should wait
 12 until Pit 9 has been proven successful and then retrieve
 13 the waste and do it like we're doing Pit 9 because I think
 14 we're putting the cart in front of the horse. We should
 15 know that Pit 9 is going to be successful or not the way
 16 they're going to retrieve it.

17 It is to me critical that we prevent any air
 18 pollution out there through mistakes in handling at this
 19 present time, and it's just -- I don't want to see any
 20 workers impacted by becoming in contact with that waste
 21 there because I know there's a lot of waste from Rocky
 22 Flats out there.

23 And it just to me doesn't make any sense to
 24 just leave it alone. We have to stop the moisture, and I
 25 think that's the way to go. Stop the moisture now, let it

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AS1 FLA

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1 set, finish Pit 9. Let's see the success of Pit 9. And if
 2 Pit 9 is successful, let's go over there and do the same
 3 thing. One at a time. We're going to get all spread out
 4 over there because you know that waste is there to stay.

5 One other critical thing I think we should
 6 take into consideration is about removing waste from the
 7 INEL to a different state. I don't think it's fair to
 8 other states. I don't think it's fair to create another
 9 waste pile somewhere else where some other generation a
 10 thousand years down the line is going to have the same
 11 problem we're having.

12 I know you're putting your hopes on Tuaca
 13 Mountain and the WIPP site. The WIPP site may open. I
 14 doubt it. But I do know for a fact that Tuaca Mountain
 15 will never open. So I think the DOE is actually breathing
 16 in the wind there somewhere or on something because the
 17 geological makeup of the area just does not warrant it.

18 And like I expressed to you, my concern on
 19 that site was basically the DOE in the past has always
 20 picked an area where there's an abundance of water because
 21 the old theory was dilute it, let everybody have a little
 22 bit of it. But we can't have that anymore. We tried that
 23 at Sanford, Savannah, we've tried it here on the Snake
 24 River Plain. And if we do get a site at Tuaca Mountain,
 25 what they're going to do is pollute one of the greatest and

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#T08-01

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AS: FEA

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1 largest aquifers in the desert, the only one.

2 So, gentlemen, let's take one step at a

3 time. Let's do one thing right and then move on to the

4 next show. But I think we're just spending money foolishly

5 out here. Let's contain it. Let's stop the water right

6 now from sifting down through there. That's your biggest

7 problem, that's what you so stated, is the aquifer.

8 If we move it, what are we gaining?

9 Nothing. We're going to play checkers with it again.

10 We're stuck with it.

11 But in the long term when DOE and the INEL is

12 finished with that site out there, I'd like to see it

13 fenced off and closed forever to prevent any construction

14 10,000 years down the line or 20,000 years down the line

15 where some developer can put people on top of that area.

16 Let's just mark it off the spot. Let's forget it. It's

17 had it. That area is bad. It's fully contaminated all the

18 way down to the Snake River Plain Aquifer. And there

19 should be a buffer zone around that to ensure nobody gets

20 close to it like Love Canal.

21 Anyway, thank you, gentlemen and ladies.

22 MS. MARY BRISSENDEN: Tell us a little bit

23 more about what you perceive as a buffer zone, how we might

24 buffer it off.

25 MR. USHMAN: Five miles around the outer

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#T08-06

#T08-02

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AS: FEA

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1 perimeter of the INEL.

2 MRS. ROBERTA USHMAN: Don't forget the

3 canisters.

4 MR. USHMAN: And, you know, we talked before

5 about the Swedish canisters, about the million year storage

6 capacity that they have for high-level wastes, but nobody

7 ever seems to pursue that. It's a copper-clad canister

8 with bentonite. It has a longevity of one million years

9 for storing radionuclides, high-level wastes, high heat

10 generating wastes.

11 It might pay for some of that high-level

12 waste out there if you just contacted the nuclear industry

13 in Sweden and build a massive canister out there of the

14 same materials and consider putting some of that high-level

15 waste in there for long-term storage. Even if the

16 canisters only lasted half that time, it would give you

17 plenty of time to complete your research where we don't

18 have to put a crash course on all this stuff to try and

19 solve a problem that no technology is available for any of

20 this. We're all just now trying to find out how to do it.

21 Your own scientist says that there are no

22 solutions right now. We're going through a learning

23 period, and I think it's great that the INEL is out there

24 and willing to do this, and I think the INEL has a

25 potential to be in Idaho for a long time doing a lot of

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#T08-07

#T08-08

#T08-09

#T08-10

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AS1 PLA

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1 things, but we need to start putting money on the back end
2 of that program to start researching on what we're going to
3 do with this waste, how we can recycle it, reuse it.

4 To me, a radionuclide that's got any life in
5 it at all is full of energy, and it would appear that these
6 energies can be utilized in some way other than just
7 burying them and throwing them away. That's a good
8 research project.

9 Thank you.

10 MR. NOLA: Do we have other -- would you like
11 to come up?

12 MS. BRISSENDEN: Marj Brissenden. And the
13 follow-up of that is how much of this immense Department of
14 Energy budget is presently going to exactly what you
15 propose of the research to utilize the energy positively
16 instead of creating more waste which nobody knows really
17 how to negate its dangers? And we all better be knowing
18 that and better be getting in the front pages of the
19 papers. What percentage are we going on the positives?

20 MR. NOLA: Do we have anyone else that would
21 like to stand up and provide verbal comments? Whatever
22 you're comfortable with.

23 MR. DON SMITH: Don Smith. I have a question
24 or rather a comment that I'd like to make, and I don't --
25 I'm going to say it at risk of offending Cassandra, but I

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AS1 PLA

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1 already put the question to her and she already gave me the
2 green light to say this, so I'm going to go ahead and say
3 it.

4 I have a concern that the criteria that lies
5 behind the scientific study and that the methodology that
6 is used has implicit with it values that we're not taking a
7 look at that are not being presented. The criteria, the
8 values, and the implicit judgments that are being made --
9 or prior judgments -- top priority judgments that are being
10 made here are not open for review. Instead what we get is
11 something from bureaucrats -- no offense, gentlemen --
12 bureaucrats and scientists instead. The decision-makers
13 aren't here. And I would like to see public hearings that
14 would involve the decision-makers, those who were involved
15 in drawing up the criteria, who are drawing up or making
16 value judgments that then lead to a certain methodology
17 that then results in a particular offering of one
18 alternative versus another.

19 And without that, what I find myself
20 wondering or seeing here, perceiving in public hearings
21 such as this, is that what we have is a glossy, somewhat
22 narrowly -- narrow definition of what the problem is. It
23 comes off looking to me more like a public relations
24 presentation than an actual review of what we can do with
25 the big problem.

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AS1 FEA

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1 And I think if we were able to look at these
2 larger, inherent problems, we might be able to attain
3 solutions that seem more reasonable that are in fact more
4 efficient and more long-term, solutions that this gentleman
5 has suggested and others here I think have suggested as
6 well. Thank you.

7 MR. HULA: Thanks. Do we have anyone else
8 who would like to provide verbal comments tonight?

9 MRS. USHMAN: I won't have to stand up
10 because I'm pretty loud. Roberta Ushman, U-s-h-m-a-n.

11 The reason I reminded Mike to bring up the
12 canister was because he has mentioned it several times.
13 And when we had people sitting at tables up there,
14 everybody was so surprised and, oh, what a good idea. But
15 if they followed through with it, we've never heard another
16 word. I'd like to find someone who will contact somebody
17 -- you guys have the wherewithal -- and let us know what
18 you think of it and what they said to you. Thank you.

19 MR. HULA: Catch me after the meeting or talk
20 to Kathy.

21 Anyone else?

22 MS. BRISSENDEN: Marj Brissenden again. And
23 I would like a more illuminating explanation of the
24 canisters for high-level wastes such as those used in
25 Sweden to give us time to solve the waste and negating it

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#T09-01

#T08-02

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AS1 FEA

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1 type problem. If Mr. Ushman knows more about and could
2 explain it more fully, I'd be pleased. Thank you.

3 MR. HULA: If we can -- I'd ask for any other
4 comments on Pad A. Are there any other verbal comments
5 specific to what we discussed tonight?

6 MS. KEMPWILL: Just to clarify, at this point
7 we are accepting formal public comments on the information
8 that was presented. We encourage you to discuss some of
9 the questions or comments that have been raised tonight
10 with the other people. If we have information that we can
11 provide to you in the future, please make sure that you
12 leave your name and a way to reach you, and we have people
13 available to pursue some of the questions that you have.

14 MS. BRISSENDEN: Are they present?

15 MS. KEMPWILL: They may be. We'll have to
16 find out what your questions are, and we'll do whatever we
17 can to assist you.

18 MS. BRISSENDEN: What I just said. My
19 question, if somebody knows more, please produce.

20 MR. HULA: I want to thank you all for coming
21 tonight.

22
23 (The meeting concluded at 8:35 p.m.)
24
25

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REPORTER'S CERTIFICATE

STATE OF IDAHO }
 } ss.
 County of Canyon }

I, CAROLE A. WALDEN, a Notary Public in and
 for the State of Idaho, do hereby certify:

That said meeting was taken down by me in
 shorthand at the time and place therein named and
 thereafter transcribed by means of computer-aided
 transcription, and that the foregoing transcript contains a
 full, true and verbatim record of the said meeting;

I further certify that I have no interest in
 the event of the action.

WITNESS my hand and seal this 23rd day of
 August, 1993.

Carole A. Walden
 CAROLE A. WALDEN, CSR
 Notary Public in and for the State of
 Idaho, residing in Caldwell, Idaho.
 My commission expires 10-21-93.

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PAP & PUBLIC MEETING

University Inn
 1514 Pullman Road
 Moscow, Idaho

August 19, 1993
 7:00 p.m.

AGENCY REPRESENTATIVES**U.S. Department of Energy, Idaho Operations Office**

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 Alan J. Dudaiah

ERG Idaho
 Vaughn Balford
 Bob Witechke
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Environmental Protection Agency, Region 10

Mary Jane Neerman

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Formal Public Comments:	
Chuck Broncious	17

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GREG NOLA: My name is Greg Nola. I'm the Project Manager for the Department of Energy on the Pad A Project. I'd like to welcome you for coming out tonight and taking the time to come down and to listen to what we have to say.

The purpose of tonight's meeting is threefold. I'll be giving you a presentation on Pad A, overview of the Proposed Plan and type of wastes that were disposed there; results of the risk assessment, and an overview of the alternatives we looked at for the Pad; that will be followed by an informal question and answer session. If you all have any questions regarding what was presented tonight or anything in the Proposed Plan, feel free to ask us and we'll give you some answers. Then we'll have a formal verbal comment period, allow you to come up and provide formal comments on the Proposed Plan and the alternatives. We also have some forms in the back of the room, in the back of the Proposed Plan as well as just the form itself. You can provide written comments. The forms are self addressed to the DOE, they're prepaid. All you need to do is write your comment down, drop it in the mail and we'll get it. Also, on the back of the agenda, there is an evaluation form. If you want to take a

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1 couple minutes, jot down your thoughts, give us any
 2 ideas on how we could maybe make these meetings
 3 better in the future, we'd appreciate any feedback
 4 you could give us; basically rate us on how we did.
 5 I'd like to mention the fact that we have a
 6 court reporter here tonight to ensure that we get an
 7 accurate transcript of the entire meeting including
 8 the presentation, Q and A session, and the formal
 9 verbal comments. A copy of the transcript will be
 10 made available in the Information Repositories
 11 throughout the state.
 12 I would also like to mention following
 13 tonight's Pad A presentation, Alan Dudziak from the
 14 Department of Energy will be giving a quick overview
 15 of activities being conducted at the Central
 16 Facilities Area Landfill.
 17 With that, I'd like to introduce Dean Wygard
 18 with the State of Idaho Department of Environmental
 19 Quality; and Mary Jane Nearman with EPA --
 20 Environmental Protection Agency out of Seattle.
 21 With that, the Idaho National Engineering
 22 Laboratory is an 890 square mile facility located in
 23 this portion of Idaho (indicating). Several
 24 facilities on the site over the lab, the one of which
 25 is of importance to us tonight being the Radioactive

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1 Waste Management Complex located in the southwest
 2 corner of the INEL.
 3 The Radioactive Waste Management Complex was
 4 established in 1951 for the disposal of low-level
 5 radioactive waste from INEL operations. In 1954, we
 6 began accepting wastes from other DOE facilities such
 7 as Rocky Flats Plant in Colorado.
 8 The Radioactive Waste Management Complex
 9 consists of two main areas. One being the
 10 Transuranic Storage Area which was opened in 1970,
 11 and it's for the above ground storage of transuranic
 12 wastes, primarily wastes from the Rocky Flats Plant.
 13 The other area we have at the Radioactive Waste
 14 Management Complex is the 88 acre Subsurface Disposal
 15 Area or the burial ground. This is where the waste
 16 was buried beginning in 1952, radioactive and
 17 hazardous wastes. Consists of several pits and
 18 trenches that were dug down the basalt, and then the
 19 waste was put in the pits and trenches and covered
 20 over with soil. In the north central portion of the
 21 SDA, we have Pad A which is the subject of tonight's
 22 meeting.
 23 With that, I'd like to turn it over to Vaughn
 24 Holford with EG&G Idaho, who's a contractor for the
 25 Department of Energy, to give you some technical

5

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1 details on Pad A.

2 VAUGHN RALFORD: Good evening. Pad A was
3 constructed in 1972 for the disposal of containerized
4 radioactive wastes. Fifty-five gallon drums and 4 by
5 4 by 7 boxes were stacked on a three to four inch
6 asphalt pad which overlays a three-inch gravel base.
7 Now, the containers were stacked, typically, a
8 maximum of 11 high for the drums and 3 high for the
9 boxes. Closure was completed for Pad A by placing
10 polyethylene liners or plywood over the containers
11 and then 3 to 6 feet of soil were covered over the
12 waste containers and then seeded with a crested
13 wheatgrass in an attempt to minimize erosion. You
14 can see that the boxes, this light brown area, and
15 the drums are arranged in this configuration taking
16 up about this much of the actual asphalt pad and,
17 again, located in the north central region of the
18 Subsurface Disposal Area. This gives you a pretty
19 good idea of the waste configuration just prior to
20 closure in 1978.

21 The waste on Pad A consists mostly of nitrate
22 salts produced at the Rocky Flats Plant from their
23 evaporator ponds there. The salts are in nitrate --
24 potassium or sodium nitrate form and comprise
25 71 percent of the wastes on Pad A. Other wastes of

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1 Pad A include uranium oxides, uranium and beryllium
2 foundry, and machining wastes from their foundry
3 operations, and dry sewage sludges. And those wastes
4 make up 22 percent of the waste on Pad A, followed by
5 some miscellaneous INEL generated waste that makes up
6 the remainder of the wastes at Pad A. We have a
7 really good idea or clear picture of the types of
8 wastes, types of contaminants and their
9 concentrations, based on disposal records and
10 shipping records from not only the Rocky Flats Plant
11 but other generators that have supplied waste to
12 Pad A as well. Additionally, we have spoken to
13 operators and personnel from those facilities who
14 were at the facilities during the time of their
15 operation. So, we have a really good idea of the
16 process knowledge that occurred from those
17 facilities.

18 Two investigations were conducted in the past
19 on Pad A; one in 1979, the other in 1989. The one in
20 '79 was performed to determine the condition of some
21 of the oldest containers on the Pad. They stacked
22 waste containers here first in '72, so the 1979
23 investigation simply involved removing some of the
24 soils away from the edge of this side of the Pad to
25 investigate or check out the appearance or condition

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1 of the drums and boxes. The drums appeared to be in
 2 good condition, the boxes were showing various stages
 3 of deterioration. In 1989, they put an enclosure on
 4 the top of here which is evidence some of the other
 5 photos that you've seen, the white enclosure. They
 6 went in and retrieved or were attempting to retrieve
 7 several drums, and they retrieved a single drum which
 8 was transferred to the Transuranic Storage Area which
 9 we later sampled in 1992. The waste containers that
 10 they observed here, the top layer of drums where the
 11 treated wood was laying on top of the drums where the
 12 wood was in contact appeared to accelerate corrosion.
 13 There were actually holes in the drums. The layers
 14 down below showed some signs of rust but no
 15 penetration of the containers that was visible. The
 16 boxes, however, were showing various advanced stages
 17 of deterioration; however, the liners that they could
 18 observe were still intact. The drum that we removed
 19 was sampled in 1992. When we opened the drum, we
 20 found that not only were the double poly liners
 21 inside intact, but the waste was very dry. It was a
 22 solid form, as is all of the wastes on Pad A. The
 23 nitrate salts that were inside were sampled or
 24 samples taken, sent to a laboratory, analysed. Those
 25 lab results for the contaminants and types of

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1 contaminants and concentrations nearly identically
 2 matched the results that the Rocky Flats Plant had
 3 exhibited from grab samples taken in the '70's.

4 Past monitoring has been conducted at Pad A.
 5 It includes taking soil samples from around the Pad.
 6 Any time any surface water is available, they'll
 7 collect that surface water and analyze it. We do
 8 constant air monitoring all around the Radioactive
 9 Management Complex -- Waste Management Complex, and
 10 we also sample groundwater in and around the RWMC at
 11 various times. To date, we have seen no indication
 12 of any contaminants attributable to Pad A leaving the
 13 site.

14 With that, I'll turn it back over to Greg and
 15 let him discuss more of the investigation.

16 GREG BULA: Okay. Once we identified what
 17 type of wastes we had on Pad A and the type of
 18 contaminants that were present in that waste, we had
 19 to evaluate the potential risks that could be posed
 20 by the contaminants both now and in the future. The
 21 way we do this is by conducting a Baseline Risk
 22 Assessment which assumes that no action is taken at
 23 the site. We evaluate the potential risks assuming
 24 no action taken at the site.

25 Through the Baseline Risk Assessment, we

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1 identify the contaminants that pose the risk as well
 2 as how people could be exposed to those
 3 contaminants. By exposed, I mean, for example
 4 drinking contaminated groundwater or breathing
 5 contaminated air. For Pad A, we assumed that
 6 burrowing animals could dig into the waste and bring
 7 contaminants to the surface, and we also assumed that
 8 root system of plants could take -- could uptake the
 9 contaminants, and once the plant dies, those
 10 contaminants would be on the surface. Once on the
 11 surface, we assumed that people could eat
 12 contaminated soil, receive direct radiation exposure
 13 from the radionuclides brought to the surface as well
 14 as breath contaminated air. For the groundwater, we
 15 assume that a certain amount of water would move
 16 through the waste, dissolve the waste and the
 17 contaminants, much like table salt dissolves in a
 18 glass of water. Then that water would move down to
 19 the aquifer. And once in the aquifer or the
 20 groundwater, we assumed that people would drink
 21 contaminated groundwater in the future. We also
 22 assumed that a future family would use the
 23 contaminated groundwater to irrigate food crops and
 24 then eat those food crops, thereby becoming exposed
 25 to the waste.

1 In order to estimate how much of the
 2 contaminants could end up in the groundwater and how
 3 much could end up on the surface, we use computer
 4 models. Basically it's a mathematical code that
 5 allows us to -- or simulates how contaminants move
 6 through the environment. Because there are
 7 uncertainties with some of the things up on the site,
 8 the Pad itself, the waste containers, and also how
 9 contaminants move through the ground below Pad A, we
 10 used conservative assumptions in our modeling to
 11 ensure that we weren't underestimating potential
 12 risks that Pad A might pose in the future. For
 13 example, as Vaughn mentioned, the drums and the boxes
 14 contain plastic liners in which the waste was
 15 placed. And we have no indication that the plastic
 16 liners are deteriorated at this in point in time.
 17 However, we don't know how long the plastic liners
 18 are going to last. They might last 10 years, 25
 19 years, 100 years, we don't know. Because we don't
 20 know that, what we assumed was that the quantity of
 21 contaminants in the boxes about 56 percent or a
 22 little more than half, were not containerized in the
 23 boxes or were not containerized in the plastic bags;
 24 i.e., those contaminants could move right now.

25 In order for this waste, because it's solid

1 in nature, in order for the waste to get to the
 2 groundwater, you have to have water moving through
 3 the Pad. We don't know how much water infiltrates
 4 this waste in any given year. By infiltration, I
 5 mean you're going to get some rain. Once it rains,
 6 some of the water is going to run off the surface,
 7 some is going to evaporate, some will be taken up
 8 from the root system of vegetation. Whatever's left
 9 over is the amount of water that could infiltrate or
 10 come in contact with the waste. We assumed that
 11 about two inches of water per year comes in contact
 12 with this waste. Based on studies conducted about
 13 two year ago just outside of the RWMC, infiltration
 14 rates in undisturbed areas are about a quarter of an
 15 inch per year, quarter of an inch of water per year.
 16 So we were conservative by a factor of about 4 or 5.

17 Using the results of the modeling, once we
 18 had the concentrations or potential concentrations of
 19 contaminants in the groundwater and the surface, we
 20 assessed the risk to people. We did that for a
 21 period of a thousand years into the future. We
 22 assumed for the first 100 years that DOE would
 23 continue to maintain control of the RWMC, basically
 24 prevent access, maintain the fences, and things like
 25 that. But after 100 years because of uncertainties

1 with future land use of the INEL, we assumed DOE no
 2 longer controlled the INEL in that families could
 3 live anywhere on the INEL. So we've placed future
 4 family at the edge of the Pad A boundary, at the edge
 5 of the Radioactive Waste Management Complex boundary
 6 as well as the INEL boundary.

7 Given these assumptions and the results of
 8 our modeling, our risk assessment indicates that
 9 there's no current risk to workers, to public, or the
 10 environment from the wastes on Pad A. The only
 11 potential future risks based on our modeling assumes
 12 -- or is based on some family living at the edge of
 13 the Pad A boundary, drinking groundwater that has
 14 peaked concentrations of nitrates, which occurs about
 15 250 years in the future. There was no unacceptable
 16 risk at the Radioactive Waste Management Complex
 17 boundary from the nitrates in the groundwater or
 18 beyond, because the concentrations, by the time the
 19 nitrates move from the Pad A boundary to the RWMC
 20 boundary are low enough to not pose a risk. I want
 21 to also indicate that there was no risk from the
 22 radionuclides in the groundwater or on the surface
 23 based upon the modeling.

24 Using this information, we basically went
 25 back and do a reality check, once again, on what we

1 know about the assessment as well as what we know
 2 about the site. And based on the conservative
 3 assumptions, the modeling tends to overestimate the
 4 potential concentrations of the contaminants; in this
 5 case, for example, the nitrates that end up directly
 6 beneath Pad A. Given that information, we believe
 7 the existing cover, the existing soil cover is
 8 protective barrier to both the groundwater and the
 9 surface pathways both now and in the future. Also,
 10 based on several years, about 15 years worth of
 11 monitoring and sampling data, we have no indication
 12 that contaminants are migrating from the Pad at this
 13 point in time.

14 Given this information, we focused our
 15 feasibility study on alternatives that ensure a cover
 16 system is maintained over the Pad A wastes. The
 17 first action alternative we evaluated, containment of
 18 the Pad A materials, basically involved placing an
 19 entirely new cap system over the existing soil cover
 20 system. That cap system would consist of a layer of
 21 rock, clay, soil, and sand, would be revegetated, and
 22 then maintained over time. One of the options that
 23 was also evaluated under this alternative would
 24 include synthetic or geomembrane liner in addition to
 25 the other earthen materials, the rocks and the clay.

1 With Alternative 1, we would continue to monitor
 2 groundwater, air, soils and surface water to get an
 3 early indication, the earliest indication, of any
 4 potential waste moving from Pad A.

5 The second alternative we evaluated which is
 6 identified as our Limited Action Alternative and also
 7 as the alternative we've identified as our Preferred
 8 Alternative, basically maintains the existing soil
 9 cover. Based on our Risk Assessment and the
 10 conservatism in the assessment, we believe the
 11 existing cover is a protective barrier both now and
 12 in the future if it's maintained. So, this
 13 alternative would focus on recontouring the existing
 14 soil cover and maintaining that cover system to
 15 minimize surface erosion from surface water and wind,
 16 as well as correcting subsidence events. As with
 17 Alternative 1, because wastes would be left on site,
 18 we would continue monitoring groundwater, soils,
 19 surface water and the air around Pad A and beneath
 20 Pad A and on top to provide early indications of
 21 releases of contaminants.

22 The monitoring data under this alternative
 23 would be independently evaluated by the state and EPA
 24 as the information becomes available to ensure that
 25 there's an independent check to make sure the cover

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1 continues to be effective in the future. With that
 2 alternative, DOE would also continue to maintain
 3 institutional controls for however long we need to in
 4 the future. With the last part of this alternative
 5 would include a reevaluation of the record of
 6 decision on Pad A in two years based on the new
 7 monitoring data, and then at least every five years
 8 thereafter.

9 Now we've given you an overview on Pad A,
 10 we've talked about the wastes and contaminants, the
 11 results of the Risk Assessment as well as the
 12 alternatives we evaluated for Pad A. What's next?
 13 We'll be accepting public comments, obviously
 14 tonight, verbal comments, as well as any written
 15 comments you might have and we will be accepting
 16 written comments through August 26, about another
 17 week. Once the comment period closes, we'll take
 18 those comments, develop responses. Those responses
 19 will become part of the Record of Decision which we
 20 anticipate signing in early 1994.

21 With that, I'd like to open it up to the
 22 floor for any questions.

23 CHUCK BROSCIOUS: If similar material that is
 24 in Pad A now were shipped to INEL, where would it
 25 go?

16

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1 GREG SULA: Is the pits. In the active
 2 low-level waste pits.

3 CHUCK BROSCIOUS: It wouldn't go in the
 4 Transuranic Storage Area?

5 GREG SULA: There's only -- if I remember
 6 right --

7 CHUCK BROSCIOUS: It contains transuranics.

8 GREG SULA: It contains transuranic
 9 radionuclides, but there's only two drums out of the
 10 18,000-plus on the Pad that are transuranic waste by
 11 definition. Any waste that's transuranic waste by
 12 definition, if came into Idaho, which I believe the
 13 Governor still has a ban on that, would end up in the
 14 Transuranic Storage Area. The low-level waste,
 15 low-level radioactive waste would go in the active
 16 low-level rad disposal pits. So transuranic waste
 17 would be stored over here; and the other, basically
 18 all the other wastes, low-level waste would go in
 19 here. You can have low-level waste that contains
 20 transuranic radionuclides. You can contain plutonium
 21 and americium and still be low-level waste. It's
 22 just once that quantity of plutonium and americium
 23 hits a certain activity, it becomes transuranic
 24 waste.

25 CHUCK BROSCIOUS: That's what now, 199?

17

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1 GREG HULA: That's 100 nanocuries per gram.
 2 Low-level waste can have plutonium in it. It can
 3 have plutonium in it, but it's not until it reaches a
 4 certain activity, that it, by definition, becomes
 5 transuranic waste, whereas called transuranic waste
 6 is handled differently.

7 CHUCK BROSCIOUS: That used to be 10
 8 nanocuries and they upped it to 100.

9 GREG HULA: That's correct.

10 TOM DECHERT: How do you propose to account
 11 for in your models for leaching, the fact that
 12 there's going to be other wastes in the RWMC that are
 13 going to be contributing to pollution of the
 14 subsurface waters? And you know, how do you intend
 15 to accumulate those risks not only from the RWMC but
 16 from the Central Facilities and Test Reactor areas
 17 and all those sorts of things?

18 GREG HULA: There's going to be a Remedial
 19 Investigation and Feasibility Study, a risk
 20 assessment, that looks at all of the pits and
 21 trenches, all of the waste in the SDA. That formally
 22 begins in about a year and a half. We've already
 23 started preparing information to do that assessment
 24 today. I mean, we've already started gathering
 25 information today to begin that risk assessment on

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1 the entire Subsurface Disposal Area in about a year
 2 and a half. Once we've assessed the risk from all of
 3 the waste area groups, the RWMC, Test Area North,
 4 Central Facilities Area, there will be a site-wide
 5 where an INEL Comprehensive Risk Assessment conducted
 6 that will look at the risk from a cumulative, big
 7 picture perspective. It basically will add up all
 8 the risks that each --

9 TOM DECHERT: My question is, how are you
 10 going to do that? I understand that's what you plan
 11 to do. My question is, how do you intend to do that
 12 to make that realistic?

13 GREG HULA: I'd like real quick to introduce
 14 Bob Mitschke, EG&G Risk Assessor supporting
 15 Department of Energy.

16 BOB MITSCHKE: Well, this past year, we
 17 developed a protocol to help us to decide exactly how
 18 best to do that. In a general sense, what will
 19 happen is we'll be calculating, for instance,
 20 groundwater pathway, plumes of contamination from
 21 each of the source; and where those plumes overlap,
 22 then we will add them together and calculate risk
 23 associated. Where the plumes don't overlap, we won't
 24 be -- it's a cumulative risk still, but it won't
 25 necessarily be additive. And we'll do the same thing

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1 from surface pathways to the extent that the range of
2 those kinds of contaminants could spread that far
3 away. But for a lot of purposes the TAN surface
4 pathway is isolated from the Radioactive Waste
5 Management Complex because they're 50 miles away.

6 TOM DECHERT: Do you feel like you have
7 enough information about the plumes given the
8 heterogeneity of the materials that you're looking
9 at?

10 BOB NITSCHKE: That's part of the effort over
11 the next few years to gather the data necessary to
12 make those determinations. Not today, but that's
13 where we're headed.

14 GREG NULA: Does that answer your question?

15 TOM DECHERT: Well, not really.

16 GREG NULA: The bottom line is, we don't know
17 exactly how we're going to do that yet. We're
18 developing methodology, looking at it right now so we
19 can start that in about three or four years, trying
20 to gather as much information as we can.

21 TOM DECHERT: I have some concerns that those
22 methods, for instance, for the Test Reactor Area.
23 Those methods, those models really haven't been made
24 public and apparently aren't made public; and how are
25 we going to assess that that's -- that you're looking

1 at that correctly?

2 BOB NITSCHKE: All the models that we have
3 used and plan to use are in the public domain. I'm
4 not sure what's in the Administrative Record but --

5 TOM DECHERT: I thought Dames & Moore had a
6 model for -- proprietary; and the last time I asked,
7 I was told that it wasn't available.

8 GREG NULA: Dean, do you want to answer.

9 DEAN WYGARD: I'm Dean Wygard and I'm the
10 State's Project Manager. I believe the model you're
11 referring to is probably on the Perched Water Model.
12 That is available. That was presented in the Perched
13 Water Remedial Study Report which was available
14 last --

15 TOM DECHERT: Well, I beg to differ with
16 you. Because I asked for it and I was told that it
17 wasn't available. I was told it was proprietary
18 information for Dames & Moore. I contacted EPA in
19 Seattle and asked them the very same question and I
20 was told, that at that time, that I couldn't see the
21 model, that it was proprietary.

22 GREG NULA: I think we were using Model 6 --

23 TOM DECHERT: Well if you're not, that's
24 fine. All I'm saying is I think at that time that
25 was an issue. I haven't seen the model you're using

1 here. I think that it is a major issue that --
 2 because of the heterogeneity, the source of materials
 3 we're dealing with out there. I think that there
 4 should be some record of availability of these things
 5 so people can take a look at them and see how they're
 6 used and see the information is in there correctly.
 7 Because it's a major concern, the fact that you guys
 8 are going at this piecemeal and going to try and add
 9 this all together in the end. And efforts -- other
 10 places have not been particularly successful in doing
 11 that sort of approach.

12 DEAN NYGARD: To the best of my knowledge,
 13 those models are available, and maybe we can talk
 14 after the meeting and see if we can access those for
 15 you, review those.

16 BOB WITSCHKE: I just might add, we're doing
 17 a model selection right now for the Comprehensive
 18 WAG 7, and one of the criteria we do have for and
 19 those that are publicly available so other people can
 20 re-create those calculations and feel good about
 21 themselves.

22 TOM DECHERT: How did you select your
 23 alternatives, or how did you define your alternatives
 24 from what you were going to consider for Pad A? I
 25 can easily conceive other alternatives that are

1 beyond the ones that you presented here as the one
 2 you selected. I'm curious to know how you arrived at
 3 those three alternatives to be the only ones you're
 4 going to consider.

5 GREG KULA: What we did, based on the results
 6 of the risk assessment, the risk assessment indicates
 7 the existing cover is protective of humans and the
 8 environment both now and in the future. Given the
 9 fact that there are uncertainties with the long-term
 10 integrity of that cover, i.e., how much it would
 11 erode over time if not maintained, we focused
 12 alternatives or we focused the study on alternatives
 13 that ensured a cover was maintained on the Pad to
 14 account for those uncertainties. The alternatives
 15 you see here tonight, basically meet the criteria of
 16 protection of human health and the environment and
 17 compliance with federal regulations. So we focused
 18 on -- using that information, we focused on
 19 containment alternatives or capping alternatives.

20 TOM DECHERT: And yet you would -- I just
 21 heard you say that -- and from what I can see from
 22 the designs here, that this material is set above the
 23 current ground level, exposed to both water and wind
 24 erosion; and we're talking about materials that we're
 25 interested in keeping somewhat under caps for several

1 hundred if not several thousand years. Do you have
 2 any idea of the erosion rate of this material? Is
 3 this the material that's placed on top of there? Is
 4 this the material from directly out of
 5 Spreading Area B and without a particular soil cover
 6 on? I mean, it seems to me like that if you're
 7 talking about maintaining the cover, that for a
 8 couple thousand years without really knowing erosion
 9 rate, there's some problems there.

10 GREG NULA: We don't know the erosion rate
 11 and that's why I mention there's uncertainties with
 12 the long-term integrity. The soil covers -- you
 13 asked a couple questions in there, and I want to make
 14 sure I answer them. The soil cover, the material
 15 that's put on the cover right now, does indeed come
 16 out of the spreading areas. As far as maintaining it
 17 for a thousand, two thousand years, what we're
 18 looking at right now is this would be -- cover system
 19 we'll put on and we would reevaluate this decision
 20 every five years -- well, in two years; then every
 21 five year thereafter to ensure that it continues to
 22 remain protective of the public. However long that
 23 takes us out to --

24 TOM DECHERT: My intuition -- if I was
 25 engineering this sort of a situation, it seems to me

1 like -- that there certainly should have been a more
 2 conservative alternative considered that would have
 3 more or less ensured -- because we know that's going
 4 to erode, sticking up like that and that sort of
 5 environment. There are all sorts of evidence down
 6 there. Every time you go down there to a rain storm,
 7 you know the stuff's moving off there. You've got
 8 the trenches dug around the outside that are filling
 9 up with sediment. There is an erosion rate there and
 10 it's a fairly rapid erosion rate. And it seems like
 11 that at least one alternative should have been
 12 considered where that erosion rate would have been
 13 ameliorated. And I don't seem to -- where that
 14 erosion rate would not -- would have been taken care
 15 of through time because we know it's going to
 16 happen.

17 GREG NULA: Appreciate that comment. We're
 18 here to get that tonight. But these alternatives do
 19 that for us. We're not talking --

20 TOM DECHERT: No, they don't. Those
 21 alternatives do not -- all of those alternatives as
 22 they sit right now, you have a cover that's exposed
 23 to erosion and it's going to erode.

24 GREG NULA: That's correct. That's why we
 25 maintain that.

1 TOM DECHERT: So it's not a long-term
 2 solution even if it turned out that your other
 3 evaluations of what's going on with the water
 4 movement down through the soil into the groundwater,
 5 this isn't going to contribute overall to a
 6 groundwater pollution. The surface action that's
 7 going to take place, the material's going to be
 8 exposed in a number of years given these
 9 alternatives. There's not an alternative here which
 10 puts the material at a level below the surface where
 11 it's not going to be eroded to the surface.

12 GREG HULA: I disagree with you. I guess
 13 because these are walking away from that path. These
 14 are maintaining --

15 TOM DECHERT: But you say, hundred years --
 16 your assumption was DOE was going to maintain their
 17 control for a hundred years. What happens for the
 18 next 10,000 years?

19 GREG HULA: If DOE leaves the site, we're
 20 into a whole new -- we need to relook at what we do
 21 with Pad A.

22 TOM DECHERT: But why engineer now for
 23 something -- why not engineer as long as you're going
 24 to the money of engineering it and doing something
 25 with it? Why not engineer it in the framework of

1 understanding -- you know, I know that you use the
 2 assessment for your assessments of using the past to
 3 predict the future. Why not look at what's going on
 4 in the past and predict what's going to go on in the
 5 future and engineer it so it will be stable into the
 6 future for the time frame that you're looking at?
 7 This alternative here, obviously is not stable over
 8 thousands of years.

9 BOB HITSCHKE: I might add in the modeling
 10 that was used, we did take into account wind and
 11 surface erosion rate for the period of evaluation and
 12 did use erosion rate for some fields south of I-15
 13 down there that the Department of Agriculture had
 14 published that we think are more conservative than
 15 the somewhat depositional area that we have out
 16 there. So the modeling that was done did take into
 17 account wind and surface erosion and did then
 18 indicate we're still protective of the concentration.

19 TOM DECHERT: But you have this site built up
 20 above the depositional level of the bottom of that
 21 basin. I don't know what the top of that is, but
 22 that if I'm seeing that correctly, you have that
 23 above the surface of the ground, and the bottom of
 24 that basin is, I agree, is depositional. That cover
 25 that's covering that Pad is above the level of what

1 deposition and you're looking at those -- a lot of
2 those bare basalts sitting around there are bare
3 because materials that have been deposited on there
4 are eroded right back off of them into those concave
5 positions. But that Pad there is not -- the way you
6 have it built up, is not a concave sort of a
7 situation.

8 BOB WITSCHKE: I understand. But we did take
9 into account erosion rates to account for that.

10 GREG RULA: All I can tell is, these
11 alternatives have one assumption, a rather important
12 assumption, the DOE continues to maintain that site
13 for --

14 TOM DECHERT: For 100 years is what you said.

15 GREG RULA: We assumed that -- how do I want
16 to say this -- for risk assessment purposes, that's
17 the assumption we made. The alternatives will have
18 DOE maintaining institutional controls for as long as
19 it takes to keep people out of that stuff.

20 PAT SCOTT: If that assumption changes, again
21 as he was saying, if that assumption changes, then as
22 we are continuously reevaluating the protectiveness
23 of the remedy if they were to walk away, the level of
24 protectiveness would change and you would need to
25 reevaluate what you can do with Pad A.

1 TOM DECHERT: That's exactly my point.
2 Because I think you are going to -- why -- I can see
3 lots of things knowing what I know about the RWMC
4 that says that this is not a stable situation. And
5 there's lots of reasons to assume that -- or not to
6 assume, but there's lots I can -- there's lots of
7 scenarios where DOE is going to lose their funding or
8 those sorts of things where they're going to walk
9 away from this and it's going to be left sitting
10 there. I'm asking why not have an alternative that
11 at least offers the public a chance to say, hey we
12 like this one better. It's an alternative where
13 you're going to be placing the material where if DOE
14 does lose its funding, that there's a chance that
15 that thing might remain stable and not endanger the
16 public. The way it's currently situated right there,
17 I would not agree that that's the case.

18 And I think it's a fallacious assumption to
19 assume given what we know is going on with federal
20 funding in this day and age and the way Superfund
21 sites are being treated, that if DOE loses its
22 funding, they're not just going to walk away and
23 leave it. I don't think that's a reasonable
24 assumption at all. When you're putting millions of
25 dollars in it already to try to do something to

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ASI FLA

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1 stabilize it.

2 GREG NULA: As we've said, the assumptions,
3 the alternatives -- are based on the assumption that
4 DOE is at the site, controls access to the site, if
5 that changes, we need to go back in and reevaluate
6 what we do with that.

7 TOM DECHERT: I think you should make a
8 different assumption to begin with.

9 GREG NULA: If there are other alternatives
10 that you would like to see evaluated, we're here
11 tonight to accept that. We've got the comment
12 forms. We'll have the verbal comment period in a few
13 minutes. All I can say is --

14 CHUCK BROSCIOUS: This pathway here
15 promptable to walk away and then thrust our
16 responsibility on the future generations which may
17 not even call themselves Americans or may not even be
18 something called United States of America in 20
19 years. Who knows. But to -- for the present
20 generations that created this mess, and the present
21 bureaucracies that created this mess, to walk away
22 from it and thrust that responsibility on future
23 generations and whoever ends up living in that area,
24 is just absolutely irresponsible.

25 GREG NULA: I disagree with that. Sounds

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ASI FLA

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1 like we're getting into a lot of comments. Are there
2 any other questions on what's been presented tonight
3 or questions?

4 TOM DECHERT: I have one more question. In
5 terms for Pad A, when that cover was put on there,
6 was there any effort made to imitate the existing
7 soil that exists in the areas so that -- or is it
8 just simply material from the spreading area that was
9 dumped in there without any particular horizons
10 recreated or anything like that? Does it have a
11 chance of being seen as a soil that's going to turn
12 permanent, support permanent vegetation, or is it
13 merely the stuff out of Spreading Area B?

14 GREG NULA: It's the stuff out of Spreading
15 Area B and it does support vegetation. I don't know
16 if we have a picture that shows the created
17 wheatgrass that grows on it. But it does support
18 vegetation. Am I answering your question?

19 TOM DECHERT: You answered my question.

20 CHUCK BROSCIOUS: In as much as subsurface
21 disposal has always been part of what was done at the
22 site since it opened at day 1, and at some point in
23 history, there was a realization that it wasn't a
24 good idea to continue doing that with transuranic
25 wastes.

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AS1 FLA

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1 GREG NULA: Correct.

2 CHUCK BROSCIOUS: And the decision was to not

3 put it in subsurface pits and trenches, but put it in

4 things like Pad A where it was above where it could

5 be treated.

6 GREG NULA: Transuranic Storage Area.

7 CHUCK BROSCIOUS: Right. But in that early

8 part of history, you know, they were using approaches

9 like Pad A; is that correct?

10 GREG NULA: Using -- are you asking were they

11 using approaches like Pad A before they made the

12 decision to begin storing transuranic waste on

13 asphalt beds? I'm not sure I understand your

14 question.

15 CHUCK BROSCIOUS: At some point, there was a

16 decision made that subsurface disposal of transuranic

17 waste or any other categories above low-level waste

18 was a bad idea.

19 GREG NULA: It was 1970.

20 CHUCK BROSCIOUS: Right. In that vicinity.

21 After that, transuranics, when they arrived at the

22 site were put into situations like Pad A.

23 GREG NULA: No.

24 CHUCK BROSCIOUS: Why would they put stuff in

25 Pad A when they could have put it in the ground along

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AS1 FLA

P.06

1 with all the other low-level waste?

2 GREG NULA: Real good question. Let me

3 find -- the reason Pad A was put down is because in

4 this area of the SDA, the Subsurface Disposal Area,

5 there wasn't enough soils to dig a trench. Basically

6 it was a basalt high. In order to not just put

7 anything out in this one acre area, they opted to put

8 an asphalt pad down and dispose of the wastes on the

9 asphalt pad because there's this high basalt area.

10 CHUCK BROSCIOUS: You've got to be kidding.

11 There has never been a shortage of land down there.

12 GREG NULA: In this area, you've only got --

13 CHUCK BROSCIOUS: You've got almost 900

14 square miles. Even at that time, there's never -- I

15 mean, you're still -- your subsurface disposal.

16 There wasn't a shortage of land at that time. You

17 can't be serious at that explanation.

18 GREG NULA: I'm dead serious. The reason

19 they put Pad A in the SDA is because in that area,

20 they had this high basalt.

21 CHUCK BROSCIOUS: I'm not talking about

22 downtown New York City with that kind of land

23 shortages.

24 GREG NULA: I think I answered your

25 question. If I didn't --

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AS1 F1A

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1 CHUCK BROSCIOUS: I think there was a reason
2 why that stuff was put up on a pad and not put in the
3 subsurface Disposal Areas as is even currently is.
4 GREG NULA: That's because they couldn't dig
5 a pit and trench here because the basalt was up
6 there, because the basalt flowed high at that area.
7 Other questions? I'm not trying to hide anything
8 from you, I'm telling you the facts. That's why they
9 put Pad A in the SDA. Are there questions?
10 TOM DECHERT: Are there other pits in the
11 Radioactive Waste Management Complex that were
12 blasted for basalt.
13 GREG NULA: I believe these active pits are
14 the only ones that were blasted.
15 VAUGHN HALFORD: That was just a level
16 before, there were small chunks. It wasn't like Pad
17 A where that entire area of the north central portion
18 of the SDA had less than two feet of soil. We have
19 subsurface maps that show the basalt flows in this
20 region over several years, that they were taken; and
21 Pad A, there is a high spot there where they couldn't
22 dig down. It would take an extensive amount of
23 blasting, so they opted to go with the Pad and place
24 those wastes on top of the Pad.
25 LOUISE REGELIN: As a follow-up to Chuck's

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1 question, why did they put it in that place? I mean,
2 I understand --
3 GREG NULA: You mean the Pad?
4 LOUISE REGELIN: No, no. Geographically, why
5 did they locate the disposal area there? Why didn't
6 they move it someplace else?
7 PAT SCOTT: Where there was more soil.
8 GREG NULA: I wish I knew all the history of
9 the decisions that were made back in 1949. But my
10 understanding is, the evaluations that were done
11 indicated this whole area over here had sufficient
12 surficial sediments. There was like 20 to 30 feet of
13 dirt where the basalt was pretty much down below
14 grade where they could bury the waste. But within
15 the area that -- why they picked this specific 88
16 acres and not out here, I don't know. But in this
17 specific 88 acres, there happened to be a couple of
18 areas where the basalt flows were higher than the
19 other areas where they had 20 to 30 feet of dirt
20 where they could dig down into and bury the waste. I
21 really don't know.
22 LOUISE REGELIN: Then that's the answer to
23 the question, I don't know. Because it seems silly
24 to me that with this entire area -- and I have a bit
25 of geomorphology in my background too, and I know the

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ASI FLA

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1 areas are not continuous, it doesn't come in like
 2 this. And I would agree with Chuck. I would really
 3 like to know the reason. When they could have moved
 4 a quarter of mile that way or a quarter of a mile
 5 that way or 10 miles, and have not had this problem.
 6 But that's neither here nor there.

7 TOM DECHERT: I would hazard to guess that
 8 it's because it's in a topographic location and
 9 largely out of sight.

10 LOUISE REGELIN: I understand that. I'm just
 11 saying I want to know what reasons in their record.

12 GREG NULA: Other questions? I wish I had
 13 the answer to your question. We can get it, yeah.
 14 But there were extensive studies done back in '49
 15 before the site was selected. Other questions? If
 16 there are no other questions, I'd like to recommend
 17 we take a 15-minute break, come back about 8:15, and
 18 we'll accept the formal verbal comments. Thank you.

19 (A short break was taken.)

20 GREG NULA: I ask that you come up in front
 21 so the court reporter can see you and hear real
 22 well. When you come up, please state your name and
 23 spell your name so we have an accurate record. And
 24 I'd also like to ask that we limit comments to about
 25 5 minutes if possible to ensure that everybody who

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M1-30819 (1)

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ASI FLA

P.16

1 wants to provide a comment has time to do so.
 2 With that, Chuck, I believe you signed up for
 3 comment if you're ready to make that, or anyone else,
 4 feel free to come on up.

5 CHUCK BROSCIOUS: This process basically --
 6 GREG NULA: Could you state your name,
 7 please.

8 CHUCK BROSCIOUS: Chuck Broschious,
 9 B-R-O-S-C-I-O-U-S, Executive Director of the
 10 Environmental Defense Institute; Troy, Idaho. This
 11 process -- we're here, you know, discussing
 12 remediation of Pad A. This is only obviously one of
 13 a long series of different CERCLA cleanup processes
 14 at the burial ground. What's absolutely ridiculous,
 15 it's worse than ridiculous, it's outrageous. We're
 16 talking about plans to remediate Pad A in an
 17 immediate vicinity in the burial grounds, there's
 18 waste going in holes in the ground that's even worse
 19 as we speak, that will be the object of future
 20 cleanup, superfund cleanup. I mean, it is absolutely
 21 ludicrous, this whole process that talking about
 22 cleaning up, and right around behind, they're burying
 23 more stuff that's going to have to be cleaned up.

24 This points to the need for having
 25 site-specific advisory boards to have a substantive

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#T10-01

#T10-02

M1-30819 (2)

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AS1 FLA

P.11

1 vehicle for public participation in this process.
 2 Department of Energy -- Secretary O'Leary has already
 3 given a mandate to Idaho to initiate this. The
 4 models have already been established by EPA Advisory
 5 Committee. That model has been published and out and
 6 generally recognized. Why don't we have that moving
 7 ahead in Idaho? You know, it's needed, it's got to
 8 be done. Again, if there was this substantive public
 9 participation vehicle, some priorities would probably
 10 not be what they are today. Instead of fussing
 11 around with Pad A, we'd be looking at the real
 12 problems in the pits and trenches, you know, where
 13 the real bad stuff is. That's not to say that this
 14 isn't bad stuff. But this isn't the worst place.

15 You know, when you set priorities, you go to
 16 the worst situation and you start trying to come up
 17 with plans with how you deal with that. You don't go
 18 to the most easy situation, you know, to start out
 19 with. Whatever's done here, needs to comply with the
 20 Nuclear Waste Policy Act and the NRC Regulatory --
 21 Nuclear Regulatory Commission disposal criteria for
 22 the stuff that's in Pad A. Walking away from it, is
 23 like I said before, irresponsible. It's putting on
 24 future generations, the financial burden and possible
 25 environmental problems that should be dealt with

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#T10-02

#T10-03

#T10-04

M1-30819 (3)

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AS1 FLA

P.12

1 right here by the generations that created it and the
 2 bureaucracy that did it.

3 The map on the back and the description
 4 defies what you said about why they put Pad A where
 5 it is and why it's on the surface and not -- and why
 6 it didn't go in subsurface, literally because it's
 7 retrievable. They wanted it to be retrievable
 8 because they knew that they couldn't get away with
 9 putting it in the ground anymore. And at some point,
 10 they are going to have to build a repository, like
 11 WIPP or Yucca Mountain, and that's where that stuff
 12 was supposed to go; at that time, a crude monitored
 13 retrievable storage pad. That was the whole idea.
 14 Your characterization of it, of the material in there
 15 probably is really grossly inaccurate. And once --
 16 if you were to really go in there and check every one
 17 of those barrels, you'd probably find out why it was
 18 left on the surface in monitored retrievable storage
 19 situations.

20 The cost estimates in the mailing, I think
 21 are absolutely fricking outrageous. You could build
 22 a subtitle B landfill with that kind of money. The
 23 whole thing, liners, monitoring wells, the whole
 24 dad-gum thing for what you're coming up with cost
 25 estimates. If that's what we end up being charged

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#T10-04

#T10-05

#T10-06

#T10-07

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AS1 PLA

P.13

1 for, American taxpayers really have been taken to the
2 ringer.

3 GREG BULA: Thanks. Do we have anybody else
4 who would like to come up and provide formal
5 comment? If not, I'd say we'll take about two
6 minutes. We'll let Alan Dudziak get set up for his
7 presentation on CPA Landfills, and I thank you for
8 coming out for the Pad A meetings.
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#T10-07

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AS1 PLA

P.41

CERTIFICATE

STATE OF IDAHO

COUNTY OF MER PERCE

**

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3
4
5 I, DARCIN OLSON, A Certified Shorthand
6 Reporter and Notary Public in and for the State of
7 Idaho residing at Lewiston, Idaho, do hereby certify:

8 THAT the annexed and foregoing public hearing
9 was taken before me and reduced to typewriting under
10 my direction, said hearing being taken at Moscow,
11 Idaho on August 18, 1993, and being completed on said
12 day;

13 I FURTHER CERTIFY that I am not a relative or
14 employee of any of the parties to said action and
15 that I am not financially interested in the said
16 action or the outcome thereof;

17 I FURTHER CERTIFY that the said hearing, upon
18 oral testimony as above transcribed, is a full, true,
19 and correct transcript of the testimony of said
20 speakers made and taken at the time of the foregoing
21 hearing;
22
23
24
25

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11-15-1993 14:29 505 823 8828

AS1 PEA

P.42

1 IN WITNESS WHEREOF, I have hereunto set my
 2 hand and affixed my official seal this 23rd day of
 3 September, 1993.
 4
 5
 6

7 DARCIE OLSON, CSR
 8 Notary Public in and for the
 9 State of Idaho, residing at
 10 Lewiston, Idaho
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42

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AS1 PEA

P.10

Fact A Proposed Plan

— Comment Form —

AUG 1 & 1993

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the BROWN project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Statement that addresses public comments received on Fact A.

Name DAVE ARSDENAddress 613 RobertsCity NampaState ID Zip 83401

All Alternatives are unacceptable. I was always under the impression that there was not a permanent repository of radioactive garbage. This sure sounds like a permanent radioactive land fill to me. As the life span of humankind goes this area will forever be useless.

A permanent home for this stuff needs to be found, it needs to be dug up and then disposed of properly.

I also do not think it does much good to look at the risk from this one unit - a total composite risk from all the units must be studied. By itself it may be "harmless" but in conjunction with everything else that is happening out there it might not be so harmless. -you know it all adds up.

(continued next page)

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#W01-01

#W01-02

12-01-1993 06:26 505 623 6826

AS1 P1A

P.04

Part A Proposed Plan**— Comment Form —**

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the Pad A project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Summary that addresses public comments received on Pad A.

Name: L. BINKAddress: RR1 BOX 22470 City: SALMON State: ID Zip: 83367

I APPRECIATE THE HONESTY IN THE WORDING OF YOUR FINDINGS; IE, "OUR REPORT SHOWS..." + NOT SAYING "IT IS..." AS IF THE ACTUAL TRUTH IS KNOWN.

I WOULD LIKE TO SEE THOSE MOST INVOLVED + SUPPORTIVE OF IN.G.L. LIVE IN HOMES WITH ALL THE AMENITIES YOU'D EVER WANT, ON THE IN.G.L. SITE TO ACT AS GUinea PIGS FOR DETERMINING SAFETY.

YOUR NEWSLETTER IS EXCELLENT, SOMEWHAT OVERLY TECHNICAL; A MODEL FOR CLEAN-UP PROGRAMS.

I'D LIKE TO SEE OTHER CITIZENS' COMMENTS; WOULD EVEN PAY FOR SUCH A COMPILATION OF PUBLIC IDEAS.

(continued next page)

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12-01-1993 06:26 505 623 6826

AS1 P1A

P.05

RECEIVED
FEB 02 1994**Part A Proposed Plan****— Comment Form —**

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Name: Donald Bess, 301 Environmental Services, Inc.Address: 791 North Road City: Cincinnati State: OH Zip: 45233

1. Table 1, p. 7 of states that nitrate concentration at the Pad A boundary will reach 112 mg/L. Review text indicates this will occur in about 2225. The values are qualified by picking the conservative estimates in modeling. What is the cumulative quantification effect of the modeling? Associated with this, what is the accuracy and precision of the model? Can it be quantitatively demonstrated that the presented results are reasonable? If so, why were they presented? If not, then these values should drive the risk assessment, resulting in a risk to infants from exposure to nitrate which is clearly unacceptable.

2. Table 1, p. 7, which data do you possess which allows a quantitative determination of risk to 2 parts in 10¹³? If you have this accuracy then the number of significant digits in the rest of the carcinogenic risk information is wrong. If you can't quantify risk below 10⁻⁶ at 10⁻⁷, present the results to reflect this. Also, a just-central period infant is not an individual receptor. It is a probabilistic scenario to only evaluate risk for a single unit. Risk from all the units maybe additive. If risk is addressed unit

(continued next page)

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WC-00403 (2)

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AS1 PEA

P.07

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(CONTINUE COMMENT)

by unit throughout the DUEL, an estimate may not be recognized.
 4. Does the time of potential remediation at the DUEL boundary and
 the RUMC boundary coincide with the peak under Pad 1? Also, what
 will ambient conditions in the Subchronic Area require be considered,
 the number of potential contaminant contributors
 in Page 9. Why is a range given for the estimate of cost for Subchronic
 16, with a relatively precise cost range given for 18 and 2. What
 is the provision of the estimate? The information in this notice appears
 skewed to influence readers to accept Alternative 2, rather than objectively
 presenting information and a logical conclusion.

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#W03-04

#W03-05

#W03-06

WC-00404 (1)

12-01-1993 06:32

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AS1 PEA

P.11

Pad A Proposed Plan

— Comment Form —

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the Pad A project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Summary that addresses public comments received on Pad A.

Name: Josephine CostaAddress: 550 N Harding City: Thousand OaksState: CA Zip: 91320COMMUNITY RELATIONS
DOE IDAHO

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AUG 18 1993

Without question, I find Alternative
 #1 with its synthetic casing
 is the only plan that should
 be considered. The cost difference
 between the plans is negligible
 and the benefits are great.
 Thirty years will be bringing
 new technology, but there is
 no need to wait with Alternative
 #2.

The cost should be as
 explained - it seems high for
 both plans.

(continue next page)

13

#W04-01

#W04-01.1

#W04-02

12-01-1993 14:40 505 823 8638 ASI PLA

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration and Waste Management
P.O. Box 1947 Idaho Falls ID 83403-2947

12-01-1993 08:27 505 823 8638 ASI PLA

August 24, 1993

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

Dear Mr. Lyle:

The following is my comment about the proposed plan for Pad A at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory.

Pad A represents a very small fraction of the wastes at the "Subsurface Disposal Area" as the Radioactive Waste Management Complex. Yet the public testimony at the public hearing in Idaho Falls stated that the wastes at Pad A would become mixed in the groundwater, these wastes would contaminate several tens of square miles to the aquifer, and there would be a high concentration of drinking water. This addressed only the radioactivity of a few contaminants, not all contaminants, and did not address chemical toxicity at all.

I feel that the proposed plan for Pad A wastes avoids the obligation under the National Environmental Policy Act to complete a formal Environmental Impact Statement for the toxicity of the risks posed by all the WMO-side Environmental Impact Statement be prepared before a single teaspoonful of wastes be declared to be "disposed of" at INEL.

I am amazed that you would consider the studies to date to be adequate to support disposal of the materials at Pad A. You did not address any time frame beyond 1988 year, but the materials there will be dangerous far, far longer than that. Your assessment is based on poorly understood data on the wastes, which were unchecked values from the shipment of the wastes. That your own characterization of the wastes is based on data that your studies failed to address the geologic and hydrogeologic threats at the INEL site.

Given these shortcomings, I feel that your "environmental assessment" which supports the plan to leave the wastes in place is a whitewash.

Sincerely,
Dennis Donnelly
Dennis Donnelly

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

12-01-1993 08:27 505 823 8638 ASI PLA

Page A Proposed Plan

Comment Form — RECEIVED

This page is to be returned with your comment form is provided for your convenience in submitting written comments to DOE, Idaho, EPA, and the Idaho Department of Health and Welfare concerning the PAD A972 project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Response Summary that addresses public comments received by the project.

Name: Donnelly, Dennis PMSCL13

Address: 1237 Wicklow St. on Idaho Falls, ID 83403

City: Idaho Falls, ID

State: Idaho

Zip: 83403

Telephone: 208-344-1111

My vote on the proposed plan is: oppose it

I am submitting this comment because: My background concern is to ensure that the wastes are properly managed, including WRT, at the INEL, and not to be disposed of at the INEL site.

Other comments: My background concern is to ensure that the wastes are properly managed, including WRT, at the INEL, and not to be disposed of at the INEL site.

Signature: [Signature]

Date: 12/01/93

12-01-1993 06:23 SCS 623 8626 ASI PLA P.81

Charles A. Lentner, DVM
3023 C E 3400 N
TWIN FALLS, ID 83301
208-734-6333



July 24, 1993

Mr. Jerry Lyle, Dep. Dir. Mngt.

ER+WM

DOE/DOO/ABC, Idaho

Dear Sir:

The following are my written comments re. the "proposed cleanup" of INEL, specifically in this case the limited radioactive waste on "P&H". I say please proceed to clean up not only "P&H" but the rest of the whole INEL nuclear waste dump area. I am around "above" our capital in that geologically unstable area. Any letter you can demonstrate would be handled and a pleasant contrast to your usual division and delay.

"Now religiously, planning with, really when and how do you (P&H) plan to shut down anything constructive about the facility situation when you have granted and handled? I don't recall any public hearings or Council panels before P&H was proposed for what obviously was planned as very short term storage. I can tell you that and a cleanup above was engineered for a long term "addition". What nuclear debris have a 10 yr. life, sitting not planning? Your P&H handle failed to have a 20 yr. life engineering and like many other of your nuclear dump since I suspect they are well past their "safe" expected usefulness. When was P&H first thought and effort covering up their trouble then INEL has in handling the maintenance of treatment generated by the "atomic industry". Another contribution in favor of the site is that they, but then feel compelled to live about what they have done.

12-01-1993 06:24 SCS 623 8626 ASI PLA P.82

On about 50 years of generating nuclear waste in great "abundance" what real effective provisions has DOE made for an acceptable safe solution for the nuclear? It would appear that opening a 1985 Outdoor office in place where folks are eating or to you is almost as good as you get. You certainly don't have a safe effective solution for handling the waste from the civilian nuclear you have encouraged. I do know you are weakening the field TNE nuclear wastes. Basic, whether you live today or 100 years from now other major problems are running out of important financing separate committee willing to take your waste. What kind of "engineering" is it that can develop a flow chart in 50 years to adequately handle/dispose of the very harmful residue of its product? And that filing, then why continue to generate product? What would the lowest bottom line cost of the energy produced by your method be if all aspects including development, generation, storage/disposal and reliquid/cleanup are considered? One thing is sure, what isn't is that you do you do it at minimum cost and minimum liability.

Of course you would opt for a preferred alternative to "minimize waste" the existing site now. You don't know anything else to do, why you would just dump that on such a massive dump area. What did you plan to do with all that up there? I know... You didn't think anyone would ever figure out what you had done. I am sure DOE and Washington have been able to "come out" on their contracts which must have included a clause on waste management.

Sincerely,
Charlie Lentner

#W07-01

#W07-02

#W07-03

#W07-04

#W07-05

#W07-06

12-01-1993 00:30 505 823 8828

AS1 FLA

P.00

Part A Proposed Plan**— Comment Form —**

This postage-paid return mail comment form is provided for your convenience in commenting on the proposed DOE Idaho, EPA, and the Idaho Department of Health and Welfare (DOH) project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Summary that addresses public comments received.

Name: BOB LUGAR
 Address: 499 N. 4154 E City: REGAT State: IDAHO

I CONCUR WITH THE PROPOSED ALTERNATIVE. THE PROCESS AND JUSTIFICATIONS HAVE BEEN PRESENTED WELL AND MAKE GOOD SENSE. I'M GLAD TO SEE THE STATE OF IDAHO IS WILLING TO LEAVE LOW-LEVEL WASTE IN THE GROUND AT REGAT (DESPITE THE GROUND'S RADIATION "DIPPING IT ALL AWAY").

THE COST ESTIMATE OF \$45K/YEAR FOR MONITORING SEEMS A BIT INFLATED, GIVEN THE ONLY POTENTIAL RISK IS FROM A SINGLE CONTAMINANT, NITRATE. NITRATES ARE RELATIVELY INEXPENSIVE TO MONITOR IN GROUNDWATER, AND WITH EVER-IMPROVING MONITORING TECHNIQUES AND INSTANTANEOUS MONITORING COSTS WILL ACTUALLY DECREASE. MUCH WILL DEPEND ON THE SAMPLING STRATEGY/DESIGN.

FOR FUTURE PUBLIC PRESENTATIONS/DOCUMENTS SHOWING THE PHOTOGRAPH OF PAD A, I SUGGEST A BRIEF EXPLANATION

13

12-01-1993 00:30

505 823 8828

AS1 FLA

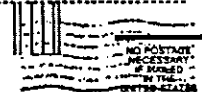
P.00

Please Use Only Clear Tape to Seal

OK THE WHITE "TAP" USED AS RETRIEVAL STRAP (PICK)
 BE PROVIDED. THE PUBLIC MAY MISINTERPRET WHAT
 THE WHITE STRAP ACTUALLY IS AND ITS PURPOSE

THIS PROPOSED PLAN IS MUCH BETTER THAN THE
 INITIAL PIR 9 PLAN. I'VE MADE SOME GREAT
 IMPROVEMENTS! KEEP UP THE GOOD WORK!

Fold Here

**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 48 IDAHO FALLS, IDAHO

POSTAGE WILL BE PAID BY ADDRESSEE

JERRY LYLE
 ENVIRONMENTAL RESTORATION & WASTE MANAGEMENT
 DOE IDAHO OPERATIONS OFFICE
 PO BOX 2047
 IDAHO FALLS ID 83403-9901



WC-00411 (1)

12-09-1993 14:41 SPS 823 8826

ASI FLA

P.02

August 24, 1993

Rosel Smith
INEL Env. Restoration Program
PO Box 2047
Idaho Falls, ID 83403-2047

Dear Mr. Smith:

Having attended the recent Pad A meeting in Idaho Falls, I must insist that in the future you limit verbal comments to the specified five minutes. If an individual can't make their point in that period of time they probably don't have one.

Thank you for your attention.

Sincerely

Alan E. Merritt
Alan E. Merritt

recycled paper

padding and reinforcement

WC-00408 (1)

12-01-1993 08:25

SOS 823 8828

ASI FLA

P.03

Part A Proposed Plan

— Comment Form —

RECEIVED

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the Pad A project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Summary that add, rates public comments received on Pad A.

Name: LESLIE NELSON

Address:

Address: PO Box 3616 City: KETCHUM State: ID Zip: 83340

In response to the Plan for Pad A, I have a few questions.

1. How long are the 55 gal drums containing waste supposed to last? Do they leak?
2. Does polyethylene keep the wastes from leaking? Does the polyethylene hold up over time?
3. What is on the bottom, or under Pad A? What will keep the wastes from leaking or seeping into the ground?
4. What would happen if an animal burrowed into PAD A? Would waste be able to seep out?

Also please send me a copy of the Record of Decision & Responsiveness Summary
Thank you.
Leslie Nelson

(overturn with page)

13

#W09-01

#W10-01

#W10-02

#W10-03

#W10-04

12-01-1993 06:134 505 623 6626 A51 PLA P.13

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 49 IDAHO FALLS, IDAHO
POSTAGE WILL BE PAID BY ADDRESSEE

JERRY LYLE
ENVIRONMENTAL RESTORATION & WASTE MANAGEMENT
DOE IDAHO OPERATIONS OFFICE
PO BOX 2047
IDAHO FALLS ID 83403-9901

Fold Here

Please Use Only Clear Tape to Seal

5.1 Do not waste money to continue to pay for a long time. It is better to pay a little more now than to pay a lot more later. I am not sure if this is the best way to do it, but I think it is worth a try. I will be sure to pay it on time.

13

WC-00409 (2)

12-01-1993 06:133 505 623 6626 A51 PLA P.12

Fact & Proposed Plan

— Comment Form —

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the project. Please provide your name and mailing address if you would like to receive a copy of the project. Please provide your name and mailing address if you would like to receive a copy of the project.

NAME: PETER F. TOFT
ADDRESS: 614 Emeraldia Ave. Teton, ID

1. Have you been involved in the project? Yes
2. If so, in what way? I have been involved in the project since 1991. I have been involved in the project since 1991. I have been involved in the project since 1991.
3. How do you feel about the project? I am not sure if this is the best way to do it, but I think it is worth a try. I will be sure to pay it on time.
4. Do you have any suggestions for improving the project? I am not sure if this is the best way to do it, but I think it is worth a try. I will be sure to pay it on time.

13

WC-00409 (1)

Wed Feb 2 09:29:28 1994

12-08-1983 14141

SOS 823 6026

AS1 PEA

P.03

Pad A Proposed Plan**— Comment Form —**

This postage-paid return mail comment form is provided for your convenience in submitting written comments to DOE Idaho, EPA, and the Idaho Department of Health and Welfare concerning the Pad A project. Please provide your name and mailing address if you would like to receive a copy of the Record of Decision and Responsiveness Summary that addresses public comments received on Pad A.

Name: George WehmannAddress: 3212 Chaparral City: Idaho Falls State: ID Zip: 83404

I am 100% in favor of the selected technique to provide for the long-term management of Pad A. This technique provides the least risk to the workers and public and is the most cost efficient alternative for the established objectives.

It is gratifying to learn that the Pad A conceptual design objectives developed ten decades ago have been vindicated by selection of the preferred alternative.

George Wehmann

(continued next page)

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T01-03	20 21 21 21 22 22 22 23 23 25 25 29 29	2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis
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T01-09	24 24 27 27	1 Donnelly, Dennis 2 Donnelly, Dennis 1 Donnelly, Dennis 2 Donnelly, Dennis
T01-10	24 25	2 Donnelly, Dennis 1 Donnelly, Dennis
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T01-12	25	2 Donnelly, Dennis

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T02-02	31	2 Horan, John
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T02-05	32	1 Horan, John
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CODE	PAGE	POSITION NAME
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	33	1 Horan, John
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T04-05	30	1 Wehmann, George
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	54	1 Ushman, Michael J.
	54	2 Ushman, Michael J.
	55	1 Ushman, Michael J.
T08-02	54	1 Ushman, Michael J.
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T08-03	54	1 Ushman, Michael J.
T08-04	54	1 Ushman, Michael J.
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T08-06	54	2 Ushman, Michael J.
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W03-01	80	2 Brice, Donald
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	54	1 T08-03
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21	2	T01-03	Donnelly, Dennis
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25	2	T01-11	Donnelly, Dennis
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26	1	T01-12	Donnelly, Dennis
26	2	T01-12	Donnelly, Dennis
26	1	T01-13	Donnelly, Dennis
26	2	T01-14	Donnelly, Dennis
26	2	T01-15	Donnelly, Dennis
27	1	T01-09	Donnelly, Dennis
27	2	T01-09	Donnelly, Dennis
27	1	T01-15	Donnelly, Dennis
27	1	T01-16	Donnelly, Dennis
27	1	T01-17	Donnelly, Dennis
27	2	T02-01	Horan, John
28	2	T01-18	Donnelly, Dennis
28	1	T03-01	Tanner, John E.
28	1	T04-01	Wehmann, George
29	1	T01-03	Donnelly, Dennis
29	2	T01-03	Donnelly, Dennis
29	1	T01-13	Donnelly, Dennis
29	1	T01-18	Donnelly, Dennis
29	1	T01-19	Donnelly, Dennis
29	2	T01-20	Donnelly, Dennis
29	2	T04-02	Wehmann, George
30	2	T02-01	Horan, John
30	1	T04-03	Wehmann, George
30	1	T04-04	Wehmann, George
30	1	T04-05	Wehmann, George
30	1	T04-06	Wehmann, George

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30	2 T04-06	Wehmann, George
31	2 T02-02	Horan, John
31	1 T02-03	Horan, John
31	2 T02-03	Horan, John
31	2 T02-04	Horan, John
32	1 T02-02	Horan, John
32	1 T02-05	Horan, John
32	2 T02-05	Horan, John
32	2 T02-06	Horan, John
32	2 T02-07	Horan, John
33	2 T02-01	Horan, John
33	1 T02-07	Horan, John
33	1 T02-08	Horan, John
33	1 T02-09	Horan, John
33	1 T02-10	Horan, John
33	1 T02-11	Horan, John
33	2 T02-11	Horan, John
52	2 T05-01	Bjornsen, Fritz
53	1 T05-01	Bjornsen, Fritz
53	1 T05-02	Bjornsen, Fritz
53	2 T08-01	Ushman, Michael J.
54	1 T08-01	Ushman, Michael J.
54	2 T08-01	Ushman, Michael J.
54	1 T08-02	Ushman, Michael J.
54	2 T08-02	Ushman, Michael J.
54	1 T08-03	Ushman, Michael J.
54	1 T08-04	Ushman, Michael J.
54	2 T08-05	Ushman, Michael J.
54	2 T08-06	Ushman, Michael J.
55	1 T08-01	Ushman, Michael J.
55	1 T08-02	Ushman, Michael J.
55	1 T08-05	Ushman, Michael J.
55	1 T08-06	Ushman, Michael J.
55	1 T08-07	Ushman, Michael J.
55	2 T08-07	Ushman, Michael J.
55	2 T08-08	Ushman, Michael J.
55	2 T08-09	Ushman, Michael J.
55	2 T08-10	Ushman, Michael J.
56	1 T06-01	Brissenden, Marj
56	2 T07-01	Smith, Don
56	1 T08-09	Ushman, Michael J.
56	1 T08-10	Ushman, Michael J.
57	1 T06-02	Brissenden, Marj
57	2 T06-02	Brissenden, Marj
57	1 T07-01	Smith, Don
57	1 T09-01	Ushman, Roberta
76	2 T10-01	Broscious, Chuck
76	2 T10-02	Broscious, Chuck
77	1 T10-02	Broscious, Chuck
77	1 T10-03	Broscious, Chuck
77	1 T10-04	Broscious, Chuck
77	2 T10-04	Broscious, Chuck

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77	2 T10-05	Broscious, Chuck
77	2 T10-06	Broscious, Chuck
77	2 T10-07	Broscious, Chuck
78	1 T10-07	Broscious, Chuck
79	2 W01-01	Amsden, Dave
79	2 W01-02	Amsden, Dave
80	1 W02-01	Bink, L
80	1 W02-02	Bink, L
80	1 W02-03	Bink, L
80	1 W02-04	Bink, L
80	2 W03-01	Brice, Donald
80	2 W03-02	Brice, Donald
80	2 W03-03	Brice, Donald
80	2 W03-04	Brice, Donald
81	1 W03-04	Brice, Donald
81	1 W03-05	Brice, Donald
81	1 W03-06	Brice, Donald
81	2 W04-01	Coan, Jacqueline
81	2 W04-01.1	Coan, Jacqueline
81	2 W04-02	Coan, Jacqueline
82	1 W05-01	Donnelly, Dennis
82	1 W05-02	Donnelly, Dennis
82	1 W05-03	Donnelly, Dennis
82	1 W05-04	Donnelly, Dennis
82	1 W05-05	Donnelly, Dennis
82	2 W06-01	Fee, Russell
83	1 W07-01	Lenkner, Charles A.
83	1 W07-02	Lenkner, Charles A.
83	1 W07-03	Lenkner, Charles A.
83	1 W07-04	Lenkner, Charles A.
83	1 W07-05	Lenkner, Charles A.
83	1 W07-06	Lenkner, Charles A.
83	2 W07-07	Lenkner, Charles A.
83	2 W07-08	Lenkner, Charles A.
83	2 W07-09	Lenkner, Charles A.
84	1 W08-01	Lugar, Robert M.
84	1 W08-02	Lugar, Robert M.
84	1 W08-03	Lugar, Robert M.
84	2 W08-03	Lugar, Robert M.
84	2 W08-04	Lugar, Robert M.
85	1 W09-01	Merritt, Alan E.
85	2 W10-01	Nelson, Leslie
85	2 W10-02	Nelson, Leslie
85	2 W10-03	Nelson, Leslie
85	2 W10-04	Nelson, Leslie
86	1 W11-01	Toft, Peter F.
86	1 W11-02	Toft, Peter F.
86	2 W11-02	Toft, Peter F.
86	1 W11-03	Toft, Peter F.
86	1 W11-04	Toft, Peter F.
86	2 W11-04	Toft, Peter F.
87	1 W12-01	Wehmann, George

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