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In the Matter of)
)
Department of Energy)
PUBLIC WORKSHOP)
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SILO 3 PATH FORWARD)
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REPORTER'S TRANSCRIPT OF PROCEEDINGS

TIME: 5:30 o'clock p.m.

DATE: Tuesday, June 3, 1997

PLACE: Room 1422
Community College of Southern Nevada
3200 E. Cheyenne
North Las Vegas, Nevada 89030

APPEARANCES:

NINA AKGUNDUZ
TERRY HAGEN
DON PAINE

Reporter: STELLA BUTTERFIELD, Nevada CCR #7

1 On Tuesday, June 3, 1997, at 5:30 o'clock
2 p.m., hearing was had in the foregoing entitled matter,
3 NINA AKGUNDUZ, TERRY HAGEN, and DON PAINE presiding, and
4 the following proceedings were had:

5 * * * * *

6 **MS. AKGUNDUZ:** Welcome everyone. Thank
7 you inviting us to the DOE Public Workshop to stand in
8 front of you and go through this workshop here. We were
9 invited by the CAB employees and took the opportunity to
10 come out and interact with you tonight. And thank you
11 very much for the opportunity here.

12 Tonight's agenda is focused
13 on Silo 3. And the main purpose of tonight's workshop
14 gathering is to get you started on the CERCLA -- the
15 involvement process in our evaluation of the ultimate
16 treatment now of the Silo material.

17 A couple of administrative
18 things I have here before we go on. There is a sign-in
19 sheet in back. I would like everyone to sign in so if you
20 do have any comments throughout the presentation you can
21 provide us with your comments either written or interrupt
22 in this workshop.

23 And secondly, there is a
24 court reporter here and if you want to speak up, I would
25 like you to clearly state your name so she can record your

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1 name for the record and, if your last name is like mine,
2 you probably will have to spell it out for her.

3 And third, at the end of the
4 presentation tonight there is an evaluation form I would
5 ask you to fill out so we have some feedback to take home,
6 so we can improve and better tend to your needs for the
7 future.

8 On that note, what I am
9 going to do is -- a few of the CAB employees are quite
10 familiar with this CERCLA project and also the good work
11 overall, but I don't know the rest of the crowd here. So
12 I thought it would be maybe helpful to give you people
13 here what we are and what operable units, also known as
14 silo project, is, and how Silo 3 entered the whole
15 picture.

16 And then what we'll do is
17 we'll go into the meat of the presentation tonight. It
18 will be done by Terry Hagen and Don Paine. And Terry
19 Hagen will go through the regulatory process of how we
20 will implement Silo 3, and also explain to you the public
21 involvement process that is going to take place.

22 And Don Paine is going to go
23 through a list of all potential available treatment
24 technology that we're evaluating as part of this project
25 and walk it through with you tonight.

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1 includes lime sledge ponds undergoing disposal from the
2 water treatment activities.

3 And operable unit 3,
4 operable unit 3 contains most of the former production
5 area that was in the processing area. And operable unit 5
6 is disposal of ground water, surface water and some
7 vegetation.

8 What is operable unit 4, the
9 Silos project? This consists of mainly four Silos, as you
10 saw, Silos 1, 2, 3, and 4. And 1 is a decant sump tank
11 which is off of each silo which contains water and sludge
12 and the material treatment system to treat both 1 and 2
13 and the earthen berm, around both 1 and 2. Silos 1 and 2
14 contain gases, besides residue. Silo 3 contains cold
15 metal oxides and Silo 4 is empty and has never been used.

16 This is a picture of
17 operable unit 4, is right here. This is Silos 1 and 2.
18 That has K-65 residues. Silo 3 contains the cold metal
19 oxides and Silo 4 is empty. The structure you see here is
20 the superstructure we have designed and built on top of
21 the silos, which demonstrates their waste treatment
22 purpose.

23 We are intending to use that
24 in the future so we can demonstrate how we will go in the
25 silo and treat the material, basically and successfully.

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1 And pertinent here is the vitrification silo program that
2 we had constructed and operated about seven months before
3 the melter leaked incident in April and in December.

4 The main characteristics of
5 Silos 1 and 2 materials is wet gray-silty solids. And
6 it's got elevated concentrations of the solids and because
7 of the radium there is a considerable amount of radon
8 emanation from the head base.

9 What we have done in 1991-
10 1992, as part of the removal operation to reduce this, we
11 have also treated the top of the material in 1 and 2 with
12 bentonite. I forget the exact amount. But it was a very
13 efficient way of reducing radon emanation from the head
14 space and very effective.

15 There was also heavy
16 material in Silos 1 and 2 of barium and radium and those
17 are the material we have to treat to meet the limits.

18 Silo 3 material
19 characteristics, as you can see -- quite different. It's
20 dry powder. And it's a great mixture of metal oxide and
21 uranium and it has much greater concentration of hazardous
22 materials and heavy metals, like arsenic, radium, and
23 plutonium.

24 The Silo 3 was already
25 calcine before it was put into Silo 3. So it almost has

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1 gone through the pretreatment process.

2 The total volume of Silo 2
3 material is about 5,000 cubic yards. And Silo 1 and 2
4 volume will give us about 8,000 cubic yards or 8,400 cubic
5 yards. So the total of all silo material and waste is
6 about 14,000 cubic yards.

7 Now, as mentioned earlier,
8 we have the balanced approach. Just to give you an idea
9 of what that balanced approach is, that currently we have
10 about 2.5 million cubic yards of waste will remain on-
11 site. That will be disposed of in the on-site disposal
12 facilities or lodged safely there. And about 600,000
13 cubic yards are going out to the permanent commercial
14 disposal and 125,000 cubic yards is what is coming to the
15 NTS.

16 What does that all mean in
17 respect to our Silos Project? Out of 125,000 cubic yards,
18 we have 14,000 cubic yards coming to NTS. So that's about
19 -- figure it out -- --

20 **UNIDENTIFIED:** How much has already been
21 shipped here previously?

22 **MS. AKGUNDUZ:** Of the silos?

23 **UNIDENTIFIED:** No, of any of this
24 material.

25 **MS. AKGUNDUZ:** That figure, I'm not sure.

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1 MR. GINANI: That's the remainder.

2 MR. SCHUTTE: If you do speak up, state
3 your name.

4 MS. AKGUNDUZ: Now I will hand over the
5 baton to Terry here. I want you to remember one thing
6 here. The main thing we are here tonight is to get you
7 involved in the public involvement process in our
8 involvement of the Silos Project.

9 We want to get you involved.
10 Why? Because throughout the process of implementing the
11 vitrification process of the Record of Decision -- our
12 agreement with the regulators, we will vitrify all silo
13 material.

14 When we were trying to
15 implement that we ran into a lot of problems vitrifying
16 Silo 3 with Silo 22, mainly because Silo 3 has a high
17 level of sulfate content. So then we have to look at Silo
18 3 as a separate entity, just to treat. Or if we look in
19 that light we realize Silo 3 is quite dissimilar than
20 Silos 1 and 2. Concentration is different. The organic
21 is different. It is wholly calcined material, physically
22 different than metal.

23 Then we realized it will
24 offer a much less complex treatment process than
25 vitrification to come up with to achieve the same waste

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1 form that is acceptable. So that is when we began looking
2 at the different alternative methods for treatments of
3 Silo 3.

4 But as the presentation goes
5 along tonight, we would like you to be as much involved as
6 possible. Our main objective tonight is to get your input
7 in this process.

8 So on that note I will turn
9 this over to Terry and Terry will talk about this
10 regulatory process and the public involvement process
11 thrust in Silo 3.

12 **MR. HAGEN:** Like Nina was advising right
13 now, we've got a legally enforceable requirement under
14 CERCLA, the Record of Decision that Nina offered, to
15 vitrify the material from Silos 1, 2, and 3. And she also
16 said that since December, 1994, when that requirement was
17 put in place we have been working to implement that
18 requirement.

19 Part of that was
20 constructing a pilot plant on-site to start the test.
21 Implementation and vitrification and, as Nina referenced
22 that, Don is going to get in to the meat and potatoes more
23 of this presentation.

24 Well, what she started to
25 say was concerns about our ability to successfully vitrify

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1 the material along with Silos 1 and 2. So what we did was
2 we asked a variety of outside groups to work with us where
3 we are at and what we should do. And that is basically
4 what these first four booklets talk about.

5 The one thing that is common
6 to all of these outside groups that came in and looked at
7 the four, as a practical matter, was that there were some
8 characteristics similar to Silo 3 that maybe we hadn't
9 been aware of when the original Decision was made. And in
10 light of those it is probably appropriate to evaluate the
11 decision to vitrify.

12 Now all these groups haven't
13 gotten to the point of what technology they think is
14 appropriate. For instance, the Fernald task force about
15 reorganization in Ohio has already recommended we separate
16 the treatment on 1 and 2 taken from Silo 3 and we rethink
17 what we do. The independent review team which was a group
18 of industry experts on vitrification -- waste type
19 management -- and went as far as to say that Silo 3 should
20 be separated out and we should use the C-Tower.

21 The Army Engineering Corps
22 was asked to come in and do a task force evaluation and
23 they went out and went so far as to say cement
24 stabilization was the best demonstrated technology. While
25 the one thing that is common among all these groups, that

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1 the Silo 3 is different, and there are some technical
2 issues with vitrification, they say you need to rethink
3 that. So that is kind of where we're at right now.

4 The CERCLA process, and I'm
5 going to put an overhead up here and I don't want to
6 belabor it, and if you all are familiar with that process
7 I don't want to waste your time, but I want to go through
8 that process. And one of the things it involves is public
9 involvement in that process.

10 There was public involvement
11 when the Record of Decision was put in place, and what we
12 are saying is the need to rethink that whole decision.

13 So what that really requires
14 is, is possibly you go back and gain public involvement on
15 the rethinking of that decision.

16 So Don is going to get into,
17 like I said, really public -- what you will be most
18 interested in on Silo 3, some of the problems with
19 vitrification and what some of the reactions to treatment
20 are.

21 What I'm going to focus on
22 is the process we would like to propose to you so we can
23 collect your input on what is the right technology and
24 then changing -- and then I guess this is a follow-up on
25 that, if it is appropriate to change that decision, and

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1 how would we do that with your involvement.

2 I mentioned we work under
3 the CERCLA process under the jurisdiction of the US EPA.
4 And we are all familiar with this. Let me go through the
5 basics and I will run through this quickly.

6 We go out and figure out
7 what contamination is there, how much of it, where might
8 it be going. And then evaluate the independent risk on
9 human health and the environment, which is what we did
10 with unit 4 -- does the silo pose a potential risk to
11 human health and the environment?

12 The next stage is, if you
13 know what the problem is what are you going to do about
14 it. In a nutshell, identify the potential areas of clean-
15 up, do an evaluation, try and set some basis as to which
16 one is a preferred option, and then use what is referred
17 to as the nine criteria that are the criteria that the EPA
18 has set forth for doing a comparative evaluation.

19 This does not in and of
20 itself select a remedy. We did this for 4. Basically, we
21 looked at this alternative, vitrification, stabilization-
22 type technology. It didn't establish a preference for one
23 or the other. Where they occur is in the proposed plan.
24 In our case, these were DOE summary positions to the
25 public specific remedial alternative for cleaning up the

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1 back to here (indicating), which is where I would like to
2 go through in the next overhead.

3 We are coming to a consensus
4 of what technology we're going to accept in the
5 feasibility study.

6 One of the first things you
7 do is you establish what are you trying to achieve with
8 remediation, what your performance requirements are. In
9 other words, you are trying to clean something up.
10 Specifically what you do is, you say "here is what
11 treatment of these wastes has to accomplish." You can't
12 evaluate or identify any potential or remedial
13 alternatives until you do that.

14 A little bit later in the
15 show Don is going to establish what are the performance
16 requirements for remediation or treatment of Silo 3
17 material. Once you have done that you can take a look at
18 a pretty wide range of potential alternatives that could
19 apply.

20 What you will find there is
21 a variety of organizations, a big universe of potentially
22 applicable technologies really boiled down to two or three
23 that are signification or really work.

24 So the first stage of the
25 operation is to screen out this big bunch of potential

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1 alternatives using three criteria. And EPA in the
2 feasibility study process specifies it is for this
3 effectiveness and later in Don's presentation he will
4 bring out what makes up that screening criteria.

5 What we want to do tonight
6 is basically get to this point in the process with you
7 all. Don is going to lay out what Silo 3 is, what
8 chemical and physical characteristics and silo materials
9 are there. And then he is going to identify at least what
10 US EPA says are the universal or potential technologies
11 which can apply.

12 And then we will give you
13 our thoughts on how these things might screen all these
14 criteria. And then what I would like from you is what you
15 all think. Does it make sense? Doesn't it make sense, et
16 cetera. And Don will get to that in a little bit. Those
17 are our perceptions.

18 If we don't get there
19 tonight it's all right. Whatever we can accomplish that
20 is fine. It is our perception most of you won't agree
21 that most of these universal technologies don't make sense
22 for Silo 4 for one reason or another. And we will get Don
23 to three or four that might be potentially viable.

24 The next stage is to look at
25 these in greater detail. And while ago I talked about the

1 nine criteria. We are looking to get into those in a
2 little more detail tonight. If we agree to come back for
3 the next round of workshops, if we will lay out what those
4 criteria are and how they are evaluated, that will be the
5 next stage of the game.

6 As far as preposing the
7 workshop process specifications on this, how are we going
8 to come to a consensus together, is what makes sense on
9 technology for Silo 3. What we are going to do, we talked
10 about with the stakeholders in Ohio and they want to
11 utilize this criteria. And this is the first of a series
12 where we basically go through this process. And where are
13 we going to get to? I will take only a meeting a at time.

14 What I would like to do
15 tonight is what Silo 3 is. What we want to achieve with
16 treatment remedying and put on the table what might work
17 and then apply the screening criteria and then hopefully
18 get down to three or four, hopefully, we might be able to
19 work with rather than 14 or 16.

20 And again, we are looking to
21 you all for what might make sense and focus on what you
22 think makes sense that we can spend time on. That is what
23 we would like to focus on tonight.

24 We will have another
25 workshop in Ohio June 16th. Here we go to the next stage

1 of the process where we are working with more select
2 individuals of technology and we will look at those in a
3 lot more detail. Whatever we conclude; you might think
4 what we want to look at don't make sense. Vice versa --
5 we might think what you want to look at don't make sense.
6 You might want to put some back on the table. What we
7 want to do at the next workshop is this, but to set this
8 up -- we always refer to it as cement 101.

9 In other words, one of the
10 technologies you will hear Don say makes sense to look at
11 is cement stabilization. There will be a couple of others
12 we are going to suggest we think make sense.

13 The first thing we want to
14 do is basically bring in an independent industry expert,
15 find out what those technologies are, where they have been
16 successfully applied, where they have not been
17 successfully applied, and get us on the same level.

18 And where that might be --
19 keep it on Silo 3 and then consider the nine criteria and
20 again under the CERCLA project on the US EPA process, we
21 need to justify the Decision to go with a particular
22 technology utilizing these nine criteria. And again, if
23 you think it is appropriate to hear that we will go back
24 and see what those are.

25 Probably too, our perception

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000017

1 based on what folks in Ohio are saying to us is, we will
2 have to go to a third workshop to pick up loose ends from
3 the technical workshop.

4 And what we are trying to
5 achieve is what particular treatment technology appears to
6 make the most sense on what are going to be the
7 performance requirements at a minimum that any particular
8 technology we select will be achieved. That is what we
9 are trying to achieve with you all for us coming in

10 **MR. SCHUTTE:** I have a question. If the
11 NTS authority accepted the vitrification process for Silos
12 1 and 2 for their waste acceptance criteria to be shipped
13 here, is that part already done?

14 **MR. HAGEN:** Can I answer that in a couple
15 of different ways? The first way to directly answer your
16 question and then we will go to the second part.

17 Back (sic), I mentioned that
18 the original Record of Decision was in December '94. I'm
19 not going to throw that over. But one of the things we
20 specifically did was promise that proposed plan to Nevada
21 and brought it before the stakeholders here -- in fact,
22 there were a couple of decisions so they would have an
23 opportunity to look at that some more.

24 The original proposed remedy
25 for Silos 1, 2, and 3 was presented to the Nevada

1 stakeholders for their comments, again there were a couple
2 of extensions to that public comment period and all those
3 comments were considered in the response and the summary.
4 So that's one element of my answer.

5 So that is the original
6 answer from the input in Nevada.

7 The second input, do you
8 mind if I defer to you in the second part of the -- not
9 NTS-specific -- --

10 **MR. RAST:** The things in the 1994 Decision
11 to go forward was the performance -- performed at the
12 Nevada Test Site that was being prepared. And that draft
13 was completed in draft form at or about the time we were
14 in the middle of trying to decide if we could really make
15 glass or not. So that is as far as the process has gone.

16 On our original schedule
17 this summer, we would have been starting to ship some
18 material to the Nevada Test Site in the process. We are
19 obviously behind that schedule.

20 **MR. SCHUTTE:** It is obviously low-level
21 waste outside the state.

22 **MR. WALKER:** I have a follow-up question on
23 that. That was a special PA -- --

24 **MR. HAGEN:** It was.

25 **MR. WALKER:** -- -- prepared specifically

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000019

1 for the glass?

2 MR. HAGEN: It was.

3 MR. WALKER: And how did that relate to
4 the composite analysis process that's been done at the
5 Test Site? It is a requirement to do composite -- --

6 MR. GINANI: Composite analysis you are
7 referring to?

8 MR. WALKER: Yes.

9 MR. GINANI: The performance assessment of
10 what we did is took the composite and run it through the
11 calculations. It was not exactly right from the waste we
12 have taken in the past. So with a higher concentration
13 and waste form being different than anything we had taken
14 before, we had to do the analysis, based upon a draft that
15 Fernald got indications what it probably would have been.

16 But we have not completed
17 that performance assessment. The composite analysis is a
18 follow-up on the performance assessment and they took the
19 dose analysis from that and took all surrounding
20 contributors to that and put it in one package so we don't
21 look only to this little bit of land but anything that can
22 contribute to that. So they are not the same thing but
23 they are an additive, if you will.

24 Does that pretty well answer
25 the composite analysis?

1 **MR. WALKER:** Yes.

2 **MR. GINANI:** If I can add to what you
3 said, and answer the question -- have we accepted waste --
4 even if the performance assessment had been completed, and
5 from that perspective only, it was successful, they still
6 have to go to the application process.

7 I am sorry we are using a
8 waste profile, a different name for a similar type of
9 process that would have to be evaluated, and collecting
10 would have to be evaluated in addition to a performance
11 assessment before the waste would or would not be
12 accepted.

13 It is not a one-shot deal.
14 Performance assessments itself do not guarantee
15 acceptance.

16 **MR. SCHUTTE:** It sounds like these waste
17 people can plan on bringing it here.

18 **MR. GINANI:** We are looking at the
19 possibility -- --

20 **MR. BECHTEL:** When you say "composite
21 analysis" are you looking at planning -- --

22 **MR. PAINE:** No.

23 **MR. SCHUTTE:** You have different material
24 side-by-side.

25 **MR. PAINE:** Being disposed of in the same

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1 -- -- --
2 **MR. SCHUTTE:** They have read from this one
3 and read from this one. How much is the total?

4 **MR. WALKER:** And I guess the question is,
5 if you come up with new treatment cement stabilization are
6 we going to go through this treatment process?

7 **MS. AKGUNDUZ:** Correct.

8 **MR. WALKER:** For this waste stream.

9 **MR. GINANI:** Absolutely correct because
10 the physical make-up affects the chemistry.

11 Let's set up a hypothetical
12 situation. We go through the side-by-side, absolutely
13 successful. But they make the decision, "well, we decided
14 not to do that. We will cement it all." Basically that's
15 fine. Can't we just set aside that vitrification and we
16 have to run it again because we changed the waste and the
17 chemistry changes??

18 **MR. WALKER:** Just as a point from our
19 perspective, Nevada's perspective, the technology, your
20 silos, from our perspective for long term waste isolation,
21 how it fits into this performance assessment, that is
22 Nevada's assessment, I would suspect.

23 **MR. HAGEN:** I will try to wrap it up.
24 This is really the heart of the process we want to propose
25 and bring to you, as to what that treatment technology is.

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1 Let's suppose at the end of this process we got a
2 consensus on something other than vitrification. It will
3 require us to modify that CERCLA Record of the Decision.

4 Real quickly I will try to
5 get to the point of this. We are proposing what we will
6 call a modified. Explanation of Significant Difference
7 process. What we will do is produce an Explanation of
8 Significant Difference document that basically documents
9 this public process.

10 It says what we are trying
11 to achieve with that treatment, what were the
12 alternatives, how did we screen them down to size, and how
13 did the detail play out, and what was the justification
14 for what ultimately was selected.

15 This is kind of a modified
16 Feasibility Study proposed plan specified. And what the
17 ESD becomes is kind of a proposed document, what the
18 evaluation of the alternative was -- what's the proposed
19 justification for one. And we will put that out for a
20 public comment period.

21 What they will do is all
22 stakeholders would see other than just a presentation
23 workshop format, a quantified justification for what we
24 want to do, and allow you to comment on that. DOE is
25 committed to responding to all comments received from any

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1 stakeholders before they finalize that document.

2 So really what that does is
3 to prepare this process I just put in on the other sheet
4 and it quantifies details of where we think whatever the
5 consensus is for silo technology and why we go with that.

6 **MR. CHAPPEL:** Terry, what is the deadline
7 for this document?

8 **MR. HAGEN:** Let me give you our goal.
9 Okay? And the reason I am saying goal is, if it takes
10 longer than this to get a consensus it will take longer.
11 But there is a deadline to this goal and that is that we
12 would like to be in a position to let a contract during
13 fiscal year 1998.

14 The reason is right now we
15 have got some funds earmarked out of a separate
16 headquarters pool for doing this work. And we need to
17 move forward with the process of coming to an agreement or
18 what technology will be there doing that regulatory change
19 to be in a position to let that contract in '98.

20 So that's why we have got
21 the goal of basically coming to a consensus with
22 stakeholders by early summer. And I want to be this
23 loose. I want to say early summer, as opposed to July
24 "X." Early summer on what technology we're going to use
25 and that allows us to go into the process of modifying the

1 Decision and getting that done by, let's say, early fall.
2 Putting that out for public comment and then responding to
3 that by late fall, early winter at the latest.

4 When I say early winter, I
5 am saying October, November, that time frame to have this
6 wrapped up.

7 That allows us to get
8 actually on board by fiscal '98 and get the dollars
9 committed, just so long as we are not getting in front of
10 our headlights (sic) with the stakeholders.

11 This is high remedial back
12 in Ohio and we want to get on with it. We think we are in
13 a position to get this thing started pretty quickly. We
14 want to get some progress done on the higher remedial, so
15 this is a remedial's priority we are doing.

16 **MR. DIXON:** What do you mean consensus?

17 **MR. HAGEN:** I'm not sure I can give you a
18 structured definition. But I would like to do is put our
19 thoughts on the table in a logical process as to what,
20 number one, do we think are a viable group of alternatives
21 to consider.

22 We would like to get
23 feedback as to what people agree to make a lay group or
24 whether others should come on, and kind of equate this to
25 what happened with the workshop back in Ohio with the

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1 group of people that attended that workshop. And no one
2 expressed reservations with the alternatives we think make
3 sense.

4 So I would say we had a
5 consensus in Ohio, for instance, as an example.

6 Again, that's not what you
7 asked.

8 **MR. DIXON:** You didn't answer my question
9 at all.

10 **MR. HAGEN:** The next step in the process
11 is to look at these things in detail and we're going to
12 express at the end of that probably why we think one
13 particular alternative makes sense of that.

14 And what we want to do is
15 just like we did at this last stage, in Ohio, to ask
16 people whether they agree with that or don't and gauge
17 what appears to be a majority of opinion.

18 **MR. DIXON:** Now, you are getting closer.
19 A majority. You have your mailing list of 400+ people.
20 Does the 400+ have to give you the go-ahead on your
21 proposed idea to get a consensus or have you had 60 or 40
22 to go with the best idea.

23 **MR. HAGEN:** I would like to say, closer to
24 the latter. And there is no specific duration identified
25 or -- as to what constitutes public acceptance. Public

1 acceptance is one of the nine criteria I referenced. But
2 there's nothing that says, "here's what you have achieved
3 with public acceptance." There is more utility than that,
4 not just to give an assessment on the operable unit 1
5 decision, which is the waste pits.

6 I can't give you a total
7 number of public comments, but 75-80 did support that.
8 But, it was not a unanimous agreement with either city
9 going in, but it did appear to be something that
10 represented what the majority agreed.

11 I would say a consensus is
12 something closer than that. Although I don't think I can
13 give you a better definition.

14 **MR. SCHUTTE:** You don't mean consensus of
15 the Las Vegas stakeholders?

16 **MR. DIXON:** It's tricky -- major
17 acceptance.

18 **MR. HAGEN:** I don't want to distinguish
19 between Nevada stakeholders and Ohio stakeholders.
20 Stakeholders in the CERCLA process is stakeholders --
21 because the material at least right now under the Record
22 of Decision designated to come here, in effect, gives all
23 stakeholders pretty much equal footing.

24 **MR. WALKER:** Another question on the
25 treatment of the disposal -- this is merely treatment.

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000027

1 Disposal is really long-term and how it would be contained
2 in the biosphere for thousands of years is not part of
3 this treatment decision?

4 MR. HAGEN: It is.

5 MR. WALKER: It is?

6 MR. HAGEN: It is.

7 MR. WALKER: But it doesn't presently
8 enter the performance assessment process that the rule has
9 gone through.

10 MR. GINANI: Let's say they have a law
11 that says it is going to come to the Nevada Test Site for
12 disposal. But we run our performance assessment that
13 finds it is not acceptable.

14 MR. WALKER: Transfers?

15 MR. GINANI: Transfers. We don't take it.
16 I realize this is the worst case scenario.

17 MR. WALKER: I understand that.

18 MR. GINANI: But it is a probability.

19 MR. WALKER: So this is a treatment
20 decision?

21 MR. HAGEN: One of the things -- and I
22 don't want to confuse this too much. One of the criteria
23 is administrative, administrative and technical ability.
24 One of the things we had to do was make a preliminary
25 assessment under the preliminary implementability, whether

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1 it was likely we could pass through that process. We have
2 to do that here too.

3 Again, if we can conclude on
4 a preliminary basis we can make it. And that's the basis
5 of selection. And we don't that does not mean we consent
6 to it. But, we do address the issue. And this is the
7 CERCLA process in a preliminary fashion.

8 In other words, through the
9 administrative ability we have to consider it.

10 **MR. WALKER:** And that the ROD, there is a
11 selection made, there is no legal selection can be made.
12 I think we proved that one.

13 **MR. GINANI:** I think we proved that.

14 **MR. HAGEN:** I think I can say the Record
15 of Decision has to make the selection, if it comes to
16 Nevada Test Site.

17 **MR. WALKER:** Right, which is a CERCLA
18 regulation, DOE function.

19 **MR. SCHUTTE:** Waste management makes their
20 own waste acceptance daily.

21 **MR. HECHANOVA:** Which area?

22 **MS. AKGUNDUZ:** Area 5.

23 **MR. HECHANOVA:** And so with this
24 department composite analysis -- --

25 **MR. GINANI:** No. Performance assessments

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1 are performance assessments. They are done only for
2 disposal. Composite analyses are done for areas around
3 disposal sites, but include anything that might be given
4 off by the disposal sites themselves.

5 The performance assessment -
6 - any dose that might be given off to make any other thing
7 that might contribute -- and we are going to take it a
8 step forward than might be required, because right now it
9 says -- --

10 Well, we will go to the next
11 step. They don't go into it. So we will do the true
12 composite analysis of dose and all -- that stuff -- compare
13 with a performance analysis. And the data we pick up from
14 all around the disposal site with one think.

15 MR. HECHANOVA: So it will include the
16 indication -- --

17 MR. GINANI: And that is absolutely
18 correct. It is the purpose of a composite analysis,
19 because the rest of it is preregulatory, 1988
20 preregulatory. So that the decision is made that is just
21 more acceptable, and that is why a composite analysis was
22 done to pick up previously disposed waste, and quite
23 honestly the other thing that becomes a part of this
24 composite analysis.

25 MR. WALKER: Does that raise a

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1 **MR. HAGEN:** I was trying to tie up
2 specifically along this vein where you gentlemen do
3 continue to be involved as we go down with rethinking what
4 we are doing on Silo 3 and getting your input on where we
5 are going and also direct involvement during the actual
6 change of the Record of Decision, if that's what's needed.

7 Any questions or concerns
8 before I sit down?

9 **MR. NIELSEN:** I have a question regarding
10 the modification.

11 **MR. HAGEN:** It is the end point.

12 **MR. NIELSEN:** It is the end point?

13 **MR. HAGEN:** Yes. And there are two -- I
14 don't want to get us -- I know we have to get -- there are
15 two ways you can go to change a record of decision; actual
16 amendment, or Explanation of Significant Differences. EPA
17 determined for Silo 2, the Explanation of Significant
18 Differences is the right process. And it is just as
19 legally significantly binding.

20 I don't want to use the word
21 "amend" -- the other word is amend the Record of Decision.
22 But it amends, or requires the Record of Decision for what
23 you will do for Silo 3 and it would override the original
24 decision for Silo 3 only. It does not effect Silos 1 and
25 2.

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1 **MR. RAST:** One other point was the
2 involvement also during the process that was requested in
3 Ohio. Did you want to mention that?

4 **MR. HAGEN:** I was going to try to get
5 moving.

6 **UNIDENTIFIED:** After we went through this
7 we circled it and what we are going to do is go procure
8 the services of a vendor to do that for us. And we will
9 develop a statement of work and request for a proposal.

10 We will make that statement
11 of work available for public comment, just as we did this
12 ESD. And we will respond in writing to any and all
13 comments before we put that out, in a nutshell.

14 **MR. SCHUTTE:** Sort of a clarification
15 question, because I'm not familiar with this stuff that
16 went on before. We are getting stuff -- we may be getting
17 stuff for sure from Silos 1, 2, and they are probably not
18 acceptable for Envirocare.

19 **MR. HAGEN:** No

20 **MR. SCHUTTE:** Silo 3, we would have gotten
21 it, as you said, to review it, but you probably can't
22 vitrify it so you will try another procedure and the
23 outcome of that is we may or may not get Silo 3 here?

24 **MR. HAGEN:** Correct.

25 **MR. SCHUTTE:** But we will get Silo 1 and

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1 Silo 2?

2 MR. PAINE: You will get Silos 1 and 2.

3 MR. BECHTEL: Is it conceivable we may not
4 get Silos 1 and 2?

5 MR. PAINE: It is really a challenge. The
6 vitrification processes has been a lot of fun. I have
7 enjoyed it and I will now. But it is very difficult. It
8 is primarily with our waste proposals. It is not for
9 making glass. We get the real expense of the equipment
10 and personnel and everything else. That is our real
11 difficulty. It's very difficult, the way you are getting
12 it.

13 MS. AKGUNDUZ: Everybody wants a break.

14 *(Off the record colloquy.)*

15 *(Brief recess at 6:30 o'clock p.m.)*

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1 (The hearing herein having recessed at the hour of
2 6:30 o'clock p.m., on Tuesday, June 3, 1997, thereupon
3 resumed at the hour of 6:40 o'clock p.m., on Tuesday, June
4 3, 1997.)

5 MR. PAINE: Again, we are going to talk a
6 little bit about Silo 3 and some of the options of
7 vitrification. Just to do that we will reiterate what is
8 in Silo 3.

9 There is nothing relatively
10 unique about it. It is a pretty nice little waste form,
11 and not much different than the waste we have already
12 shipped to Nevada Test Site, either stabilized or not
13 stabilized, so there is nothing unique about it.

14 Because comparison at 600°C,
15 we were vitrifying ceramic material at around 1250°C. So
16 around December the temperature of this material was fired
17 at was 800°C. And then it was transferred into silos for
18 interim storage until either recovery or something or
19 other, or final disposition of the material.

20 It is relatively homogenous,
21 which makes it nice. It is not heterogenous, so that is
22 nice. It is high in phosphates, and that is a problem we
23 have in vitrification. It adds up to 17% phosphate by
24 weight.

25 Glass dust only gives not

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000035

1 of additives to mobilize those particular conduits as
2 well.

3 We are not going to get
4 large volumes regardless of which technology we go forward
5 with. The real hazard is the 230 thorium and maybe 16 per
6 gram. That is the real hazard is internal
7 -- ~~Atahayy~~ --. We don't have a lot of external
8 exposure outside. But we want to be certain we don't get
9 it inside anybody in the -- working area --.

10 It is relatively simple to
11 stabilize. So that is what makes it necessary. The
12 problem -- --

13 MS. GURKA: So you say you are going to be
14 putting bentonite on there?

15 MR. PAINE: No. We already put bentonite.
16 Silos 1 and 2 you saw with radon around the -- we get
17 radon around them with ridiculous concentration. Well, we
18 actually went in about five, six years ago now, and put
19 bentonite over the material to knock down the
20 concentration. All you are doing at the present; putting
21 it in barrels so they get off-site.

22 The radon concentrations are
23 very low

24 MR. SCHUTTE: You get some?

25 MR. PAINE: You get some. You get some

1 found it was very difficult. We tried to do something --
2 we had a unique mantle for our waste form. It worked
3 relatively well, but not very long.

4 And with the gross volume we
5 have to vitrify here is very different for categorical
6 waste. They cement it to stabilize it and they vitrify a
7 very small portion of it. We were trying to get a small
8 part and stabilize it together. So -- no small challenge.

9 Anyway, we decided -- Silo 3
10 -- let's get in out of the equation, it will help us with
11 Silos 1 and 2, which we thought was more amenable to the
12 vitrification process -- just not possibly every
13 vitrification facility had schedules you could use -- all
14 kinds of trash, all kinds of people. We weren't unique.
15 We also had them.

16 We went and talked to the
17 public and the public said, "what options do you have with
18 the waste form?" We went to the literature. We talked to
19 the vendors, the Brits and the French and said, "what is
20 right out there they might have available for this
21 particular need."

22 So we went and starting
23 looking at what are the general families in stabilization
24 things, which is applicable for this type of need.

25 And again, what we had

1 proceeded with originally was the vitrification process.
2 And what we're now moving toward is the solidification
3 stabilization process, the high temperature thermal
4 desorption, and which we have already done that. We just
5 weren't expecting what might have been.

6 We can't excavate and ship
7 it off the site for disposal. It is out of date, of
8 course. We can't do that one.

9 Chemical oxidation
10 reduction, things by themselves, are necessary treatment
11 things which would not be totally allowed. And the
12 solidification stabilization process we are talking about
13 but it would not be a process.

14 It would probably be an
15 amenable thing. And solvent extraction we don't want to
16 consider. It is more a three-treatment kind of thing to
17 go ahead and extract.

18 So we are going to talk a
19 little bit about what are the options for vitrification we
20 have been looking at in this structure. It might be
21 amenable. We have been through the specific problems.
22 They went and listed a lot of problems we are going to
23 talk about tonight that are out there and examine them.

24 We also, as Terry mentioned,
25 had an independent review team come in and start looking

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1 at the vitrification process and see if we could go
2 forward with that, and what other option we could consider
3 for this particular waste material. And these are the
4 options that came out of the literature and the direct
5 items. And we will talk about some of the persons, and
6 many of these things associated with Silo 3 items.

7 Again, as Terry said, we do
8 this for our future. And that is how they screen out
9 alternatives. We screened them out before with them.
10 Primarily with these categories for effectiveness,
11 implementability, and in other words, some of them
12 reported to you their waste volumes, and that sort of
13 thing, and the interpersonal issue, and also the disposal.

14 You mentioned long-term
15 effectiveness that the waste form is going to last long
16 term. You don't have to be concerned with them. When we
17 go and acknowledge whatever vendor bid on this stuff, and
18 this is on the criteria that we will be having on
19 selecting the remedial plan to go forward with.

20 So, what is out there? I
21 can remember back in the mid-70s working on the Department
22 of Energy impact statement for low-level management. A
23 lot of the technology is up here, the same one in the 70s.
24 In a lot of cases they really haven't been developed much
25 more in that stage. Asphalt is one out of a lot more in

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1 the 70s, especially in Europe. They would use it on the
2 RECRA and so forth.

3 The problem is when land
4 disposal systems came in we had to have more long-term
5 permanence. It kind of fell out of dispute. The primary
6 reason is because it is considered a plastic -- thermal
7 plastic. To maintain integrity, your continual
8 maintenance it is on integrity.

9 The problem is it also likes
10 to absorb water and swell. It also catches fire. They
11 had a fire with the waste form. So, it is kind of not a
12 very good waste form, we don't think, for Silo 3. It is
13 out there and used for a lot of different things, but not
14 one we would carry forward because of the things I have
15 discussed for Silo 3.

16 Another one in the
17 development stage for the last 15 years is a polyurethane,
18 so you get rid of a lot of problems relative to asphalt.
19 It makes a very nice waste form. It is in an
20 encapsulation form, very nonpermeable kind of plastic.

21 There is some primary
22 decrease over a period of time you have to be concerned
23 with. The reason we talked to the Brits, they have been
24 looking at it for 10 years. We have not carried it
25 forward, 55-gallon drums -- that kind of thing. It has

1 taken them a considerably long period of time for the
2 5,000 project (sic) in Silo 3 to do it. But it is a
3 possibility.

4 **MR. HECHANOVA:** Why do the British not
5 pursue it?

6 **MR. PAINE:** The reason they came up with
7 it is they have a wide variety of waste forms. You want a
8 treatment process very robust and very nonsensitive and
9 cost-effective. The material you put into it are easy to
10 get and cheap. Anyone for plastic?

11 **MR. HECHANOVA:** So the application is not
12 ---

13 **MR. PAINE:** It also generates secondary
14 waste. Any time you use plastic you get pretty nasty --
15 but everybody refers back to the sanitation-type things.
16 They are considered some cheaper, easier to operate and
17 use. And I think -- those kinds of things.

18 In fact, the Brits have four
19 facilities, very large facilities, a sanitation-type
20 process. But this is a nice waste form. And it has been
21 taken to the commercial development stage, but it does
22 make a nice waste form.

23 We are going to look at the
24 cement stabilization. This is the most widely used
25 process out there for waste we are talking about here, and

1 hazard market development. You will get some volume
2 increase.

3 The nice thing about 3, in
4 relation to 1 and 2, you won't get that much volume
5 increase with 3. The only way you get volume decrease --
6 well, you get some with 3, but not a whole lot. The only
7 way you can do it is with high temperature driving off
8 something that may be 3, and it doesn't have the high
9 concentration of toxic aspect. You don't have to use an
10 additive. It is already cement-like, so you don't have to
11 add a lot of glue. So anything in this category will
12 result in 10 to 20% volume.

13 I might add in our earlier
14 aspects when we were going with vitrification we actually
15 carried two alternatives forward, one was vitrification
16 and the other was cement stabilization. Both were
17 acceptable. Vitrification was the superior waste form.

18 **MR. CHAPPEL:** I recall a comment made at
19 the May 7th meeting that the cement was kind of fractured
20 and broken up everywhere. Was what I was hearing right --
21 that the cement you are getting shatters?

22 **MR. PAINE:** It can hold and can't. It
23 depends on what ground you would have. We are talking
24 about a cement process. We don't care about cement --
25 glue that carries your physical binding. What I would

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1 like is a physical alternative of the chemicals itself.
2 That is where you get the most range ability. Not with
3 the cement part. You get into debates about glass lasts
4 longer. Then you get the cement question, goes to
5 appliances or whatever, and look at the studies. There
6 are no long term tests. They're all short term tests.
7 They're what we did.

8 Finally, you go to the
9 environment, low water, groundwater is a long way away.
10 Your ideal situation -- unfortunately you have a very nice
11 environment for this kind of thing.

12 **MR. CHAPPEL:** Of course we don't know
13 about the future.

14 **MR. PAINE:** Well -- and we even talk about
15 16,000 years from now it's gone. So, we like this
16 process. Most people do. The only thing is, it is the
17 one most developed. Our people have some concerns about
18 it. Most people have heard about it. The problem that
19 locally exists in Nevada, all of them have those kinds of
20 problems. Those were not relative to the technology or
21 how to implement the technology.

22 Some people think concrete
23 doesn't like solvent. Some types of concrete don't. Some
24 types like it very well. This has been disseminated
25 through the concrete industry. They were using a lot of

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1 acids that really etches away the concrete. This is a
2 concrete developed that is highly acid resistant. And it
3 has also a sealant that has a permeable aspect to it. The
4 only problem is you have to deal with molten sulphate,
5 which is not necessary to deal with.

6 This is a remedial process.
7 This process is subsequently abandoned because they found
8 a more cost-effective thing to use, but it has been
9 compromised. And we think it would make a good waste
10 form. It is a very nice arrangement.

11 Ceramics -- they have been
12 around for a long time. In fact, walking around here,
13 this is the world's most fascinating area. Ceramics and
14 plastics -- the whole classical way to do ceramics, you
15 fire it, put it in the kiln, and away you go.

16 But what they have done,
17 where you can actually make up the ceramic at ambient
18 temperature and it provides a very nice waste form.
19 Patents are still being worked out for things like that,
20 but it does make a very nice waste form.

21 It would be more than
22 applicable for the material we have here. Again, the
23 problem we have is getting it formalized and up to scale.

24 Another is a metal matrix.
25 And this is with aluminum. And this is where the waste is

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1 mixed with ceramic pieces and aluminum and fired up and
2 poured into a container. We don't see that as very
3 applicable to what we have here. It would be a
4 significant volume increase and we wouldn't be looking at
5 that process.

6 The Phoenix ash technology
7 is a new one. The thing unique about this, it has one
8 vendor who has a patent on mechanical compression kind of
9 aggregate and associated with flyash technology -- nothing
10 unique about it. It creates all kinds of volume
11 reduction. Usually somebody gets rid of water or items
12 from saturates or gets rid of water and creates some ash
13 volume decrease. That is how you get volume decreased.
14 We don't see anything unique about this. It has only one
15 vendor. When we go out on RIFT we like competitive
16 bidding.

17 Thermal setting resins are
18 like your plastic. The only difference is they don't
19 require heat. It is pretty much ambient temperature.
20 They are really commercially developed.

21 Ceramic silicon foam -- is
22 the one that popped up that was used at Chernobyl -- very
23 expensive. Primarily used when you are filling void
24 space, or saving for homogenous needs you want to mix with
25 something homogenous and having waste specified silicon on

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1 here and master silicon material as well. So it is pretty
2 difficult to deal with. But Chernobyl had other things to
3 worry about at the time.

4 Macroencapsulation is
5 expensive. You see it more for the odd objects. That is
6 usually what it is. Usually when you are done with the
7 material it will encapsulate. But it doesn't lend itself
8 for homogenous. It wouldn't be useable for solid waste.
9 We can make a better waste form than that.

10 In-situ vitrification -- we
11 wrote it up there because it is out and about. We have
12 been describing others that are available and we have more
13 or less abandoned that. They have experimented -- you
14 vitrify where the stuff is in place.

15 And now they build these
16 laid back and get the waste to it, break it up -- and I
17 really shouldn't get facetious about these things, but the
18 people are out there trying to sell these kinds of things
19 and make a buck. Notwithstanding these also, it is a
20 waste form, but nothing we want to use.

21 Molten metal technology is
22 another one out there. That is where you, instead of
23 injecting it in glass you do it in molten metal. There is
24 some waste volume increase, the same problem you have --
25 you get three phases out of this, and it is difficult to

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1 handle. So we don't think we'd go with that.

2 So, kind of in a nutshell,
3 we have looked at what we think are options.

4 Chemical extraction, we have
5 only got a little of this. It is definitely not what we
6 are going to do. We have come up with the only three out
7 there.

8 Finally cement
9 stabilization, not one but a whole family. Everybody has
10 got their own frou-frou costs, and what they are going to
11 do to do this technology.

12 We sent out CVD
13 announcements last December for interest in doing Silo 3
14 and got 17 vendors back. Twelve of them qualified. All
15 12 had some sort of stabilization process. One had a
16 polymer encapsulation. One had a sulfur polymer
17 encapsulation besides that. One had vitrification as
18 well. But all of them had a cementation kind of process.

19 The polymer encapsulation I
20 consider is a nice waste form, as you have seen it. It is
21 still kind of in the early development. But as I say, it
22 is getting commercialized for environment and some other
23 people are looking at it. But right now to do 5,000 cubic
24 yards is required.

25 Sulfur polymer

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1 encapsulation, it is kind of the best of both worlds you
2 see up above. But still a small scale case of
3 development. But it is commercialized. It is out there.

4 So, we think those are
5 probably the three kinds of general categories of things
6 we can do with Silo 3. Again, I don't think it is going
7 to be difficult to stabilize. That is for sure. That is
8 kind of where we're at.

9 Like they said before, what
10 we are going to be doing, they have really been going
11 along with vitrification and are excited about it.

12 So we are trying to get
13 people in who have more technology and do some marketing;
14 and show how the chemistry works and the desirability of
15 the material; and we will be doing that next month; and
16 progress everywhere so we can get a little better
17 knowledge basis of what we are talking about.

18 **MR. BECHTEL:** Are you leaning towards one?

19 **MR. PAINE:** Which one would I lean
20 towards? The one I was leaning towards last summer was
21 one of the cement stabilizations, only because of the
22 nature of the waste. And we had a lot of people with the
23 original ~some idea~. There was a lot of literature
24 which showed we could go ahead and make the assessment and
25 actually how it performed in glass, which is what we were

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1 concerned about in solid. It looked like the way to go.

2 You will not get a large
3 volume increase -- it would not be much different if we
4 vitrified 1 and 2. If we vitrified your material -- I
5 couldn't understand why we were taking a relative bitumen
6 waste stream and making it more hazardous to deal with.
7 But by mixing 3 with 1 and 2 you have all this to come out
8 of it.

9 So then I have to stick it
10 in a concrete box, properly developed, so all the volume
11 decrease you have got with the waste itself you have lost
12 with the package you have to put it into.

13 So, you weren't getting
14 anything from a transportation point of view. You were
15 getting glass out of there and sticking it in a concrete
16 box. You are making a lot more hazardous waste by leaving
17 it by itself.

18 **MR. BECHTEL:** How did they portion up the
19 material?

20 **MR. PAINE:** The storage into Rocky Flats,
21 because they had certain things they were looking at. One
22 was the criteria -- something else -- of course, they got
23 into a situation which was a very lousy process. That is
24 the thing we have to be very careful about.

25 Whenever you form something

1 you don't want a reject. You don't want to rework it or
2 reject. So when they went through their process control
3 in order to recover material and do a lot of things, they
4 got kind of innovative with their recipe.

5 In some cases, they didn't
6 add any material at all. And then they stick it out in a
7 cardboard box and take it out in the environment. And
8 then they wonder why the cardboard box went away. They
9 didn't add any additive. It was just pretty sloppy.

10 **MR. BECHTEL:** What sort of material did
11 you observe in this kind of stuff?

12 **MR. PAINE:** What sort of material? You
13 will get all kinds of things. Phosphates -- they are
14 nice to stick, you will find chemical additives, additives
15 of cement, because of it you're going to have a wide
16 variety of stuff, any of which is probably more than
17 acceptable for this particular waste form.

18 **MR. HECHANOVA:** Well, you had three
19 criteria, implementability, effectiveness, and cost?

20 **MR. PAINE:** Right.

21 **MR. HECHANOVA:** For Nevada, which is what
22 we are mostly concerned about, effectiveness.

23 **MR. PAINE:** Right.

24 **MR. HECHANOVA:** You already mentioned
25 cement might even perform better.

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000052

1 **MR. PAINE:** And does perform relative to
2 glass. The nice thing about glass, it was really nice for
3 1 and 2 because of the radon. We are not worried about
4 this because this stuff is well below what we have to have
5 for 3 anyway. We don't worry about 3, but are still
6 concerned for 1 and 2.

7 As far as the TCLP for
8 metal, it knocked the heck out of them. The main things
9 you want on vitrification were primarily volume decrease
10 and reduce water by using one process. That's what drove
11 them to vitrification. It was necessarily the waste from
12 itself. It had that necessary unique aspect.

13 **MR. HECHANOVA:** So the effectiveness of it
14 --- --

15 **MR. PAINE:** -- -- for 3, they are all
16 going to be effective. This one definitely is going to be
17 the cheapest because these things all require a little
18 more warranty kinds of stuff. Fernald, you have to
19 maintain the temperature at a certain level. Even their
20 shop has to be treated. So it requires a computerized
21 control system to monitor it. It will be more expensive.

22 Polymer encapsulization will
23 be more equipment. And because of the secondary process,
24 none of which you have to do with, the cementation, you
25 want water for the chemical etch for whatever chemical you

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000053

1 put in there. There is nothing exotic about cementation

2 MR. SCHUTTE: It's more porous than
3 vitrification?

4 MR. PAINE: It's more porous. And the
5 cement aspect is more porous than either one of those
6 waste forms are. They rely on encapsulization not
7 chemical binds. So you want more, not just porous.

8 Cement relies on chemical in
9 conduits, although cement will, in some cases, work into a
10 high pit (sic). It will give you chemical help. It tends
11 to rely on analysis, so it can't be porous.

12 I am only stabilizing it
13 because of the reactor issue. I would haven't any
14 requirement from the ecological standpoint. The only
15 reason I am stabilizing, because to be perfectly honest
16 with you, is because of the thermal. I have read up the
17 KAZAR (sic).

18 Theoretically RCRA says I
19 wouldn't have to stabilize it. There are other ways I
20 could get around on the other steps. But stabilizing it
21 you get that added benefit and you knock down some of the
22 mobility, which is always less.

23 That would depend on the
24 performance assessment and whether I had to do anything
25 additional.

1 **MR. CHAPPEL:** When Barbara was
2 ~~ _____ ~~ she made regular trips to New York and
3 come back with glowing press releases on how great the
4 French were on how they were stabilizing their waste. You
5 never mentioned the French once.

6 **MR. PAINE:** The French are doing wonderful
7 things in vitrification and stabilization. I had a
8 Frenchman on my team. We never leave the French out when
9 talking about radon. Nobody does it better than the
10 French. Just ask a Frenchman.

11 The French have some very
12 nice facilities. They do very small volumes of material.
13 They have beautiful facilities. They have a huge
14 cementation process. The French have an excellent
15 process.

16 **MR. CHAPPEL:** So we can still trust
17 Barbara?

18 **MR. PAINE:** The French are not sloppy.
19 The British are doing much better. They worked on the
20 Third World nations and the nuclear business. You go to
21 see West Germany, the Japanese, and England, you go over
22 there and see brand new facilities. You don't see this
23 horse crap we have been doing at DOE for 30 years. We are
24 just a garbage machine

25 **MR. SCHUTTE:** If their process is so good

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000055

1 why aren't you just duplicating it?

2 **MR. PAINE:** Most of the processes we
3 thought of have developed over here. They just
4 implemented them over there. You have a different thing.
5 They run off revenue and it is run like a business and
6 they make a success. They provide some social redeeming
7 values to society so they can spend that kind of money.

8 Here we are spending
9 taxpayers' dollars. They spend it on value added. We
10 spend it on TIGE (sic).

11 **MR. STEEDMAN:** Which country or countries
12 decided that the problem of nuclear waste resided with the
13 company's that were producing nuclear waste so the utility
14 companies who are operating the nuclear generators, et
15 cetera, it is their responsibility to store the waste,
16 prepare the waste. Is that in France? Is that Germany?
17 I can't remember which?

18 **MR. PAINE:** It is probably Germany. It is
19 not France. France is like the Brits.

20 **MR. SCHUTTE:** What's the value added for
21 Nevada to accept this stuff?

22 **MR. PAINE:** What is the value added

23 **MR. SCHUTTE:** In Nevada for accepting this
24 stuff?

25 **MR. PAINE:** Can someone answer that?

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000056

1 **MR. WALKER:** Not technically.

2 **MR. PAINE:** I am waiting for someone to
3 make a decision and do something with this. We have been
4 looking at it for 13 years. It would be nice. We have
5 spent a considerable amount of money to do something for
6 it.

7 The beautiful aspect of
8 Nevada is it's the site that's ideal for disposing of the
9 wide variety of materials we have developed in the last 40
10 years for all the reasons discussed. And in some cases
11 you are sitting on considerable aquifers -- we think there
12 is a certain friction (sic) that is just not acceptable.
13 And there are not many locations that it is acceptable.

14 But you have an ideal
15 environment and ideal location due to past operations and
16 things that are there that a lot of this stuff, on the
17 face of it, is innocuous. It is reality and a sad
18 situation

19 **MR. SCHUTTE:** But this is stuff we have to
20 monitor, provide exclusion control and security for
21 probably 100,000 years, if we are talking about thorium
22 and we have no money and no funding set up to carry this
23 on for any length of time.

24 **MR. PAINE:** So you have to consider -- -

25 **MR. SCHUTTE:** That Congress will do the

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000057

1 right thing?

2 **MR. WALKER:** That is strange even for me.
3 Let's consider that it's all coming out of the same pocket
4 whether Fernald does it or we do it

5 **MR. SCHUTTE:** I agree, if it is either/or
6 Fernald. But when it comes to the concern you have over a
7 life cycle and the monitoring it has to be done somewhere
8 no matter what. We, as taxpayers, are going to pay for it
9 someplace no matter what. So, if it is not coming to
10 Nevada that doesn't mean you do not have to pay taxes for
11 that. Let's not lose sight of that.

12 **MR. WALKER:** It is trust, confidence in
13 what we do. Because of the history of DOE we don't want
14 to walk away. And where will the funding be and who will
15 be in charge?

16 **MR. GINANI:** I agree

17 **MR. SCHUTTE:** A commercial site has to
18 have some kind of fund built up to maintain it in
19 perpetuity. We don't have that situation in Nevada.

20 **MR. GINANI:** Do you know what the fall
21 back position for Biocare is

22 **MR. SCHUTTE:** It is good.

23 **MR. GINANI:** DOE cleans it up

24 **MR. SCHUTTE:** Right.

25 **MR. GINANI:** We own Envirocare only, even

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000058

1 though somebody else is getting the money out of it.
2 Let's look at it very realistic. We already own that, the
3 department and the taxpayers. We are not getting the
4 benefit in some respects that we are not getting the
5 income from it. So we need to take a look from a little
6 broader aspect

7 **MR. SCHUTTE:** They are getting the money --
8 South Carolina?

9 **MR. WALKER:** North Carolina

10 **MR. SCHUTTE:** So they are getting money.
11 Nevada gets zero. We are reducing their net collection
12 and increasing ours. In a one-to-one, it is a smaller
13 proportion because we are a smaller location to put it.
14 But we get zero and a small increase in risk and get small
15 increase in modification. And not just this program. You
16 are just one of several.

17 I find that to be somewhat
18 unfair. We are being asked to take low-level waste and
19 high-level waste to solve most of the nation's problems.

20 **MR. CHAPPEL:** Your comments with regard to
21 Envirocare, DOE being deep-pockets -- DOE needs it.

22 **MR. GINANI:** Yes, it comes from what they
23 call the responsible party to actually direct the thing.
24 And it just kind of binds it over to -- it is whoever --
25 has the deep pockets.

1 **MR. RAST:** The site actually -- the state
2 does have control over it. The operation basically has a
3 contractor for the state. So, it is a little bit
4 different in that regard

5 **MR. SCHUTTE:** That is a federal facility.

6 **MR. WALKER:** And they have been disposing
7 of the waste ever since the beginning, so there has to be
8 some kind of facility present. At least with
9 -- this approach -- they know what is happening.

10 **MR. WALKER:** Of course, the Nevada
11 Department of the Interior has the deep pockets.

12 **MR. RAST:** Whatever the department is that
13 owns it, it is still the federal government and still the
14 federal treasury that has to pay it.

15 The point that Joe made is,
16 there is a point that DOE -- --

17 **MR. CHAPPEL:** DOE does own that

18 **MR. SCHUTTE:** The 112E Waste, or whatever
19 it is called?

20 **MR. GINANI:** 11-E2

21 **MR. SCHUTTE:** I guess we can start
22 discussing how the waste is going -- --

23 **MS. AKGUNDUZ:** First, I would like to ask
24 you for some of your feedback. How did tonight's workshop
25 go? Was it helpful to you? And if it was helpful, how

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000060

1 can we do this again?

2 I forgot to mention we did
3 have almost the same workshop in Ohio in May and they were
4 mirroring that workshop tonight here, except many portions
5 of the presentation was additive things because I was not
6 sure.

7 Our states are quite
8 familiar with the project. And I was not sure how
9 familiar you were, but Terry Hagen and Don Paine's
10 workshops were very similar.

11 **MR. BECHTEL:** I thought it was very
12 useful. I am probably -- I have probably been involved
13 with this effort for some time and I learned quite a bit
14 tonight. I have been involved. I hope it was useful and
15 understand what is involved.

16 **MR. TELFER:** The question I have, and I
17 feel this has been real interesting and beneficial. But
18 did you -- maybe you won't know until you get through and
19 so forth, but do you feel that people in Ohio might have a
20 different view of the whole thing than we in Nevada who
21 might receive it?

22 **MS. AKGUNDUZ:** Sure they do. One of the
23 things that the Ohio people have, they are concerned about
24 this -- they're concerned about the Nevada citizens. They
25 understand what we are doing. We have a very good working

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000061

1 relationship with them.

2 But one question they always
3 bring up is, what does Nevada think about this. So they
4 would like to -- it is also requested by the CAB members,
5 also repeatedly it was requested by our state congress to
6 have interaction with the Nevada citizens. So this was a
7 two-fold purpose. So they are concerned about your
8 concerns. They would like to hear.

9 When we go back we will
10 present your concerns that were brought up tonight and
11 that's how we would interact.

12 **MR. TELFER:** I think it's beneficial. I
13 am not being critical. But I think we need to look at the
14 balance and I am not anti that something might come here.
15 That is not the issue we present. We have different views
16 because of our environments or sociological conditions,
17 whatever it might be.

18 **MR. HECHANOVA:** I think the people in
19 Nevada are mainly concerned about the quality of life, not
20 the equity issue. There is a concern that these forms are
21 coming here. It may not be a problem. I think the Nevada
22 Operations Office of the DOE is very poorly funded to
23 perform these composite analyses.

24 To my knowledge, our
25 composite analyses are being continually delayed, probably

1 because of the funding problem for our understanding
2 capabilities. We need to develop, we really do not feel
3 Nevada is being funded appropriately for the amount of
4 waste.

5 **MS. AKGUNDUZ:** Surely Fernald will be able
6 to help. I mean, I can't commit to how much but if there
7 was going to be a performance assessment on our waste
8 material, naturally we would have to discuss Nevada's
9 share, considering the performance assessment -- to the
10 technical input will come from our site, but the actual
11 development will come from Nevada and the cost will be
12 absorbed by us.

13 **MR. HECHANOVA:** I guess I am comparing the
14 Nevada budget.

15 **MR. WALKER:** Just to follow on that point,
16 and it is a very good point. We have had to initiate
17 legal action -- our Attorney General to get the DOE to do
18 a performance assessment, to ring the bell of the DOE and
19 see if there is a problem, because funding has been a long
20 term problem. There is a reason for that.

21 Testing continued until
22 1992. And Nevada never really came on board and there
23 were a lot of problems with that. But still that funding
24 is pretty much closed and Nevada has been left on the
25 stick and the DOE is asking us to take a lot of waste, not

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000063

1 only low-level.

2 **MS. AKGUNDUZ:** I think Dale was addressing

3 **MR. SCHUTTE:** Yes.

4 **MS. AKGUNDUZ:** Well, do we benefit by
5 this? Coming here is fine, but actually the monitoring
6 will go on -- -

7 **MR. SCHUTTE:** We need oversight
8 capability. We should have it.

9 **MR. TELFER:** One of the other things that
10 should have been brought up, but it related more to the
11 time -- so many of these are social rather than
12 scientific. People are saying, "I don't want it," but
13 they don't know we necessarily -- and even transportation,
14 and this is the big thing I was going to ask, and I wrote
15 it down. And this is a question to the lab folks on
16 getting stuff here.

17 I think, thus far -- because
18 I know there are good containers and so forth. But the
19 people don't go to any of the meetings. What if the truck
20 smashes up, and how many people are going to get killed
21 from the nuclear waste. It is not the nuclear waste that
22 will kill them. It is the damage from the car. We have
23 to explain the scientific (sic). They are not basing
24 their concerns on the scientific.

25 **MR. BECHTEL:** They should disconnect that

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000064

1 transportation from the issues. And I think part of the
2 concern is management. It is one piece of a whole pie.
3 And what is our concern too, this being at least prepared
4 weekly.

5 And the social issue is
6 traditionally a lot of the stuff has come into the Las
7 Vegas Valley. So if we are looking at a large amount of
8 material in a very small time period (sic), the area is
9 growing rapidly. A lot of construction.

10 We think it is a bad idea
11 and we can't stop here, and this not even considering
12 waste forms into the Las Vegas Valley. I mean, there are
13 a lot of different options. I think it's really true.

14 And I think that at some
15 point in time it is a political consideration. And I know
16 we can all try to work together to solve the real problem.

17 **MS. AKGUNDUZ:** I guess one of the concerns
18 I would like to get is the final. Don had the best of the
19 three treatments -- technology, he would like to carry
20 forward.

21 I don't know if you had any
22 comments on these technologies. But do you generally
23 agree with our selection evaluation? And the final, if
24 there is no major objection, was it a great idea or is
25 there something else you would like to offer up?

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000065

1 **MR. TELFER:** The other issue is, are we
2 determining on the cost effectiveness? In other words,
3 what is the most cost effective for the project? Or are
4 we saying what is the best because it is the safest?

5 In some way we will hear
6 something on the dollars, but not the safety?

7 **MR. BECHTEL:** That is the question I had
8 too. Of the three criteria, how do you weight them. Are
9 you selling dollars against effectiveness?

10 **MS. AKGUNDUZ:** I don't know.

11 **MR. HAGEN:** There is not really -- I don't
12 want to state that there is not an assigned weight. It is
13 really not our quantitative screening of the common sense
14 nor is there going to be a threshold. If you apply these
15 three criteria with common sense you are going to see that
16 the vast majority would seem to apply their focus in on
17 the facts.

18 And again, there really
19 isn't a quantitative application of the three, like the
20 screening facility, and the process, and the idea that
21 there will be three or four that probably make sense to
22 spending time on. And then you go to more detail.

23 A group of criteria and
24 evaluation and maybe -- if actually -- what did we ask the
25 people in Ohio at this point in the game? It wasn't,

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000066

1 "what do you think we ought to select?" I don't think
2 that is honestly what we are trying to work to. Because
3 they gave what we said we wanted to accomplish with the
4 three disposal silos. Here are the three technologies we
5 can now focus on.

6 "Do you agree these three
7 make sense? Are there some you think that could come off
8 or do you think it should come off?" That is what we were
9 trying to get with the folks in Ohio. And that is what we
10 are trying to focus on tonight.

11 And then, if you are
12 interested in us coming back, and we will go through much
13 more detailed process.

14 What are the technologies?
15 How do they work chemically? Where have they worked
16 successfully? Where have they not worked successfully?

17 But that would be based on
18 one of our future technologies we need to spend time on.

19 **MR. WALKER:** It may be helpful if you can
20 work the disposal site into that. What is long term?
21 What is the benefit? How does it relate to the process?

22 **MR. BECHTEL:** I think personally I need to
23 understand what the performance assessment is, I guess.

24 **MS. AKGUNDUZ:** The performance assessment
25 we talked about tonight is the disposal. And there is

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000067

1 also waste acceptance criteria that is less than the
2 performance of the process once it's treated.

3 So there are two aspects of
4 performance we are talking about.

5 **MR. WALKER:** They are related obviously.

6 **MS. AKGUNDUZ:** They are related. And what
7 this gentleman was talking about is, we have talked about
8 the performance assessment and then worked backwards to
9 make the criteria work.

10 **MR. BECHTEL:** Have you done any
11 performance assessments on transported waste? And private
12 shippers, how they operate -- training -- --

13 **MR. WALKER:** Can we effect any kind of
14 transportation decision in this operation?

15 **MR. RAST:** Also what would help, look at
16 what we do with private carriers and how there needs to be
17 some more attention. Because I just don't go to Joe's
18 Trucking -- --

19 **MR. WALKER:** Well, we agree I want to take
20 some facts. We have a fairly arduous and intensive review
21 of shipping companies and look at their ability to
22 respond, and their training, and their safety records and
23 give them a score on a scale of one to 100. Forget below
24 100, you don't drive for me.

25 **MR. BECHTEL:** That is good for me to

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000068

1 understand.

2 **MS. STEEDMAN:** I was just wondering how
3 many other groups you are going to meet with in town or if
4 you are going to?

5 **MS. AKGUNDUZ:** At this time this is all we
6 plan on meeting. This was open to the public and this was
7 the series of workshops.

8 And my next question was
9 obviously, do we need another set of workshops which would
10 be an encapsulization one on one type of thing, and how
11 would you like us to work that with you? Was this the
12 right form or is a little bit of a less detailed phase
13 better for you?

14 One of the concerns we got,
15 we got some feedback was, that you have the nightly
16 meetings one night after another and for some states we
17 have to really have a longer time to travel back and
18 forth. And it would not have been convenient. So we can
19 have this type of workshop on another day you schedule
20 your meeting.

21 **MR. TELFER:** Something else I think could
22 be helpful. The little green card was informative. But
23 if you need response from the people that receive the card
24 and say they're coming and sometimes you get the card, you
25 give them material ahead of time, but I learned a lot.

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000069

1 But I think of how much reviewing it ahead of time, and I
2 think I could have absorbed it a little better.

3 **MS. STEEDMAN:** If you could have had it
4 downtown, people could be more active in attending.

5 **MS. AKGUNDUZ:** If that's how you want to
6 do it.

7 **MR. DIXON:** You could get a bunch more.

8 **MS. STEEDMAN:** I think it's an interesting
9 choice because the county government was very upset. And
10 it might be necessary to see where we can get downtown.

11 **MS. GURKA:** Do we have the relevant
12 documents that the group are implementing?

13 **MS. AKGUNDUZ:** It was in draft form and it
14 was the internal review. And it will be submitted for
15 comment. So they are going to look at a final review and
16 it will be available June 23rd. So when we come back --

17 --

18 **MS. GURKA:** And the different processes?

19 **MS. AKGUNDUZ:** One of the things we
20 mentioned, the RCRA regional report, which I think you
21 have.

22 **MR. PAINE:** We have some of them
23 summarized pretty much.

24 **MS. GURKA:** If we can get some of the
25 waste forms and pictures of the process.

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000070

1 Northern Nevada, Carson, Sparks -- would love to see the
2 same thing Don told us with regard to the encapsulation
3 and this material, and the fact it is going to be coming
4 from Cincinnati to Reno. The City of Sparks, as much as
5 three weeks ago, just declared their city, the persons
6 that read that is a person who served on the NROY (sic)
7 (phonetic) -- that's absurd. But it is a fact. There is
8 not a newspaper representative here.

9 **MR. WALKER:** It is not much of a record.
10 But to me it isn't a transportation issue. Probably this
11 waste stream is not appropriate.

12 **MR. CHAPPEL:** You don't think it would
13 turn them on?

14 **MR. WALKER:** No I don't.

15 **MR. CHAPPEL:** But we had as many as show
16 up right here.

17 **MR. WALKER:** This is a pretty informed
18 group on the issue. I don't think you will find that kind
19 of an informed group anywhere.

20 **MS. STEEDMAN:** There is a lot to say on
21 this subject. But I think it's only fair when you report
22 back to the people in Cincinnati you record back how many
23 board employees are here.

24 **MR. CHAPPEL:** Four.

25 **MS. STEEDMAN:** And I think as you are

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000072

1 going to see, we are through the dialogue process. I
2 think there has got to be information and decisions. And
3 don't put it off. There is a lot of input and I think it
4 would be nice if it would be more responsive.

5 **MS. AKGUNDUZ:** I guess I should ask you
6 again. What can Nevada do that we can live with?

7 **MR. BECHTEL:** The only thing we have tried
8 at other times, this isn't a solution, but I don't know if
9 that is the right thing -- --

10 **MR. WALKER:** If you bring the groups that
11 want to get together on this issue, you have an informed
12 group of stakeholders, per se, in an organized situation.
13 But to have a problem in structure is not good. If you
14 have an educated, informed group -- --

15 **MS. AKGUNDUZ:** If I may, I would like to
16 clarify your comments. Is this comment that four board
17 members here tonight are not necessarily the
18 representative of the Nevada citizens?

19 **MS. STEEDMAN:** That isn't what I meant at
20 all. I felt this is an extremely interesting measure and
21 since the board by-laws, et cetera, require public
22 dialogue, I think it would be nice if there was more
23 energy in this direction.

24 **MS. AKGUNDUZ:** I think we would have to
25 look at the CAB to help us with that. Since we are not

1 going to see, we are through the dialogue process. I
2 think there has got to be information and decisions. And
3 don't put it off. There is a lot of input and I think it
4 would be nice if it would be more responsive.

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17 members here tonight are not necessarily the
18 representative of the Nevada citizens?

19 **MS. STEEDMAN:** That isn't what I meant at
20 all. I felt this is an extremely interesting measure and
21 since the board by-laws, et cetera, require public
22 dialogue, I think it would be nice if there was more
23 energy in this direction.

24 **MS. AKGUNDUZ:** I think we would have to
25 look at the CAB to help us with that. Since we are not

1 able to reach out to large populations one way to do it
2 was to send out postcards. We got the mail list from Las
3 Vegas.

4 **MS. GURKA:** It might be helpful if you
5 told us how many postcards you mailed out.

6 **MS. GOIDELL:** The CAB mailing list was 400
7 people.

8 **MR. CHAPPEL:** How many of our -- --

9 **MS. AKGUNDUZ:** Kevin O'Rourke has a list.
10 I would like to type this up. How would you like us to
11 come back the next time?

12 **MR. BECHTEL:** I think we will definitely
13 take you up on your offer for the next step, I guess.
14 Would it be helpful to have an agenda the next time and
15 maybe interact? If this is a public hearing, can you do
16 that for a while?

17 Any material which you might
18 have you could give them before the meeting.

19 **MR. TELFER:** This is correct. But it
20 would have been helpful to have had it ahead of time.

21 **MS. AKGUNDUZ:** It may be available maybe a
22 week before we come here.

23 **MR. RAST:** We have sign-up sheets so we
24 have names.

25 **MR. CHAPPEL:** Can you send them to those?

1 **MS. AKGUNDUZ:** I forgot to mention that a
2 transcript of tonight's meeting will be available to you.

3 **MR. RAST:** Maybe we can look for a morning
4 session and an evening session.

5 **MS. AKGUNDUZ:** Is it okay to hold it on
6 the same day as the CAB meeting

7 **MR. SCHUTTE:** Tomorrow we have a meeting
8 before the CAB.

9 **MR. CHAPPEL:** Plan on holding a workshop
10 in Nevada before or after the CAB.

11 **MR. RAST:** With our next announcement we
12 send out a mailing we can either give them an information
13 package -- --

14 **MS. AKGUNDUZ:** When is the next CAB
15 meeting scheduled?

16 **MR. SCHUTTE:** The first Wednesday in July,
17 which I think is July 2nd.

18 **MR. GOIDELL:** We are running into the July
19 4th weekend. July 2nd would be fine. July 3rd would be
20 problematic.

21 **MS. AKGUNDUZ:** Is that basically what we
22 agree on, the next meeting will be July 1st?

23 **MR. GOIDELL:** And if I understood
24 correctly, Monday our afternoons session before the CAB?

25 **MR. CHAPPEL:** That would bring people that

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1 work in the evening to come out -- --

2 **MS. AKGUNDUZ:** Well, we would have one in
3 the evening and one in the morning.

4 **MR. CHAPPEL:** Just as a maybe, if we get
5 the turnout I think discussion on CERCLA would be very
6 good. They might not be familiar with the process and it
7 would be a good idea to have that

8 **MR. SCHUTTE:** I just wanted to thank you
9 on behalf of CAB, thank you for coming out and making this
10 effort to do this outreach. There has been a horrible
11 lack of communication between the different groups in the
12 past. And I am sure you want to see that change.

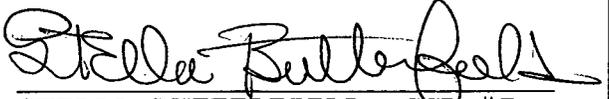
13 **UNIDENTIFIED:** The CERCLA documents that
14 came out and have been coming out are very difficult to
15 wade through for the average person.

16 **MR. CHAPPEL:** I would compliment you for
17 several things, the relaxed atmosphere and the honesty I
18 see here today. I appreciate that.

19 (Whereupon the hearing recess at the hour
20 of 8:00 o'clock p.m., on Tuesday, June 3, 1997.)

21 * * * * *

22 **A TRUE AND ACCURATE transcript to the best of my**
23 **knowledge, ability, and belief.**

24 
25 **STELLA BUTTERFIELD, CSR #7**

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