

SUB-1435
090-08838



DEPARTMENT OF THE ARMY
U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5424

REPLY TO
ATTENTION OF

June 21, 2000

BRAC Environmental Coordinator

Member
Jefferson Proving Ground
Restoration Advisory Board

Dear Member:

Enclosed for your information is a copy of the Jefferson Proving Ground (JPG) Restoration Advisory Board (RAB) meeting minutes for the meeting held on Wednesday, May 31, 2000 at the Madison/Jefferson County Public Library. Due to schedule conflicts, the next meeting of the JPG RAB has been re-scheduled for Wednesday, October 11, 2000, for 7:00 PM at the Jennings County Public Library in North Vernon.

Should you have any questions regarding the enclosed JPG RAB meeting minutes or the next scheduled meeting, please contact me at 1-800-392-2015, extension 5-2381.

Sincerely,

Paul D. Cloud
JPG BRAC Environmental Coordinator

NMSSoIPublic

JEFFERSON PROVING GROUND
RESTORATION ADVISORY BOARD

COPY

DATE: May 31, 2000

TIME: 7:00 P.M.

PLACE: Madison-Jefferson County Library
420 West Main Street
Madison, IN 47250

PRESENT: Paul Cloud, Co-Chair
Richard Hill, Co-Chair

Sharon Shields, Reporter

Audience Members

Sharon Shields
S.A.S. Reporting Service
3650 N.Old SR 62, Madison, IN 47250

1 A public hearing of the Jefferson Proving Ground
2 Restoration Advisory Board meeting was held at the Madison
3 Jefferson County Public Library, 420 West Main Street,
4 Madison, IN at 7:00 P.M. on May 31, 2000.

5
6 **OPENING STATEMENTS BY MR. PAUL CLOUD:**

7 Okay. Good evening. I would like to get
8 started. This is a meeting of the Jefferson Proving Ground
9 Restoration Advisory Board. I think most of you may know me
10 but to refresh your memories my name is Paul Cloud. I work
11 for the United States Army and I represent the Army on the
12 environmental restoration for the Proving Ground. I am the
13 Army's co-chair for the Restoration Advisory Board. I'll
14 introduce Richard Hill in a moment. He's the community co-
15 chair. I would hope that everyone takes a copy of the
16 handouts we have on the back table also. If necessary take
17 one (1) of my business cards. It has all the phone numbers,
18 E-mail addresses, mailing addresses to get in touch with me.
19 We even have a toll free number that you can utilize. Also
20 if you're not on our mailing list make sure that you do sign
21 in and give me your mailing address and we will make sure
22 that you get copies of future notices for future meetings.
23 With that I'd like to introduce Richard Hill. Richard the
24 floor is yours.

1 **MR. RICHARD HILL:**

2 Well, well, thank you Paul. Good evening.
3 Glad you all could make it tonight. I did want to mention
4 one (1) thing that - that's not on the agenda and so I don't
5 forget I will go ahead and mention it right now. We had -
6 the RAB, the community RAB, had gone through Diane Henshel
7 and her associates and help and all that to do some of the
8 evaluations of documents, Remedial Investigation documents,
9 for the Army on areas south of the firing line and they have
10 completed that examination and I have copies of that but I
11 don't have copies tonight. But I will be sending out that
12 to the RAB. It's another section. And we weren't able to
13 have it on the agenda tonight at any rate so probably next
14 week I will get that out to the other RAB members.

15
16 **MR. PAUL CLOUD:**

17 And if anyone else who is not a "formal RAB
18 member" would like a copy all they have to do is contact Ken
19 Knouf, the Army's site manager at the Proving Ground, and we
20 will insure that you get a copy of that document for your
21 information, review, whatever interest you might have.
22 Richard do you have any other comments?

1 **MR. RICHARD HILL:**

2 No I don't think so. Let's go ahead and get
3 started.

4
5 **MR. PAUL CLOUD:**

6 Okay. We've done the first part. The next
7 thing we'll get into and I'll just identify all the agenda
8 items right now. We'll talk a little bit about the UXO
9 clearance that's proposed by the Army on the western parcel
10 of Jefferson Proving Ground which is the last area in the
11 cantonment parcel that needs to be addressed for UXO. I'll
12 talk a little bit about the Findings of Suitability to
13 Transfer for various parcels within the cantonment area.
14 Then we have a discussion not only by myself but also the
15 Nuclear Regulatory Commission staff is here and they will
16 talk along with the Army staff about the Army's proposal for
17 the termination of their depleted uranium license for the DU
18 and the impact area. And then we'll have an open discussion
19 period and closing remarks and we will be done. So without
20 further ado we will start with the Unexploded Ordnance
21 Engineering Evaluation/Cost Analysis. For those of you that
22 were at the November RAB meeting here in town you were
23 present when that public meeting was held and a comment
24 period for that document commenced. We in the Army have

1 received a number of comments from not only the State and
2 the EPA but also the RAB membership. We are still resolving
3 and refining our responses to that and revising the
4 document. I expect that that will be complete within about
5 a week and we will staff it as necessary up through my chain
6 of command and as necessary up to and including if necessary
7 the Department of Defense Explosive Safety Board who is the
8 regulator for unexploded ordnance. So based on that I
9 expect this summer to have a revised document with the
10 responses to comments out for public review. The Army's
11 goal is by the end of summer to have awarded the contract to
12 commence the work in that area. This gives a brief review
13 of the significant steps that we've gone through so far. It
14 goes up through the meeting we had last November, the
15 comment period and when it ended. We have received those
16 comments and again we're looking at June-July time frame for
17 the revised document and response to comments. And by the
18 end of summer to have a contract awarded for actual field
19 work to commence. Again for anyone's edification if they're
20 not familiar with the parcel that we're referring to, we're
21 referring to this parcel right in here (indicating) outlined
22 by this area approximately three hundred (300) acres. It's
23 on the western side of the airfield and there is no
24 industrial development of any kind in there. There's no

1 environmental contamination that we're aware of in that
2 site. It was identified as having a potential for UXO so
3 the Army in its commitment will address that issue for that
4 parcel. Findings of Suitability to Transfer. The Central
5 Area FOST as a number of you may know is a document that was
6 signed about this time last year by the Army as a suitable
7 parcel for transfer from federal ownership to Mr. Ford of
8 the Ford Lumber and Building Supply Company. This gives
9 some of the chronological history of the document, how large
10 the parcel is, how many buildings, the review period, the
11 responses. Down at the bottom of this particular page
12 identifies the one (1) outstanding issue that remains to be
13 resolved between the Army and Mr. Ford before the parcel
14 will be transferred and that's the inspection of the - those
15 buildings that are or will be utilized for residential
16 habitation. I need to have a lead base paint inspection and
17 risk assessment. And if that assessment determines that a
18 cleanup of some order is required then that needs to also be
19 done and there are specific regulations in the Code of
20 Federal Regulations that talk about that under HUD. And
21 there are also Army and Department of Defense policies that
22 we have coordinated with the Environmental Protection Agency
23 on that specific issue also. I expect that this summer the
24 inspection and assessment will be done and then all we will

1 need in the Army is a land survey identifying the geographic
2 boundaries in an official formal legal manner by Mr. Ford
3 and then we will in the Army create and present to him the
4 Deed Title Transfer documentation for this parcel. And it
5 is fully expected that by the end of this year or hopefully
6 before that title will transfer from the Army to Ford Lumber
7 and Building Supply for that approximate twelve hundred
8 (1200) acre parcel. Now you can see the cross - the one (1)
9 large cross hatched area in the center. That is the central
10 cantonment area parcel. With one (1) exception there are no
11 holes in it. And that one (1) hole is what we refer to as
12 the abandoned landfill/burn area. It was not possible to go
13 around that in a expeditious and easy manner so we just
14 carved it out with a buffer area and that will not be
15 transferred. But everything else that's cross hatched is
16 identified as the central cantonment area parcel is
17 approximately the twelve hundred (1200) acres we're
18 referring to. There are a couple of others in there. The
19 Krueger Lake area has already been transferred to the county
20 and that's the park parcel that now belongs to Jefferson
21 County. The PaperMill Road-Woodfill area up in the upper
22 left is a parcel that was transferred to Mr. Ford about two
23 (2) years ago. He subsequently sold it to the Indiana
24 Department of Transportation. The small little area just to

1 the south of that, referred to as the DRMO area, that FOST
2 has been put out. I have a couple of slides to discuss
3 about that in a moment. And then the last one (1) is
4 Building 216 on Woodfill Road. As most of you know that
5 building was sold to the Madison Port Authority along with
6 the seventeen (17) to eighteen (18) miles of trackage on the
7 Proving Ground. Getting to the DRMO area it's about five
8 and a half (5½) acres. There is one (1) building in that
9 area. We are aware that INDOT is still interested in it
10 once the Army has transferred it to Mr. Ford. We have gone
11 through a review process and a couple of comment iterations
12 on that particular document. Was determined that there was
13 some additional soil samples that needed to be taken to
14 resolve some comments. And it was basically as a
15 confirmation that we had reduced the level of contamination
16 in that area to an acceptable level for the intended reuse.
17 This is an industrial/commercial reuse so we need that
18 criteria vice, a residential scenario. And that's how the
19 property will be transferred as the thirty-six (36) acres
20 above it. The thirty-six (36) acres cannot be used for
21 residential usage. It's a commercial/industrial transfer.
22 Right now where we stand on this particular FOST is that the
23 revised document was provided to the State and the EPA with
24 a response to their comments and a copy of the additional

1 sample results and we have requested either a concurrence or
2 an identification of outstanding issues by the end of this
3 week on that document. Once we have received one (1) of
4 those two (2) things then the Army would proceed on with
5 staffing it up to either getting it signed as acceptable or
6 to resolve any comments that they felt needed to still be
7 resolved. And we would go on from there. There is no lead
8 base paint sampling that needs to be taken there because
9 there's no residential - residences or building structures
10 and it won't be transferred as a residential parcel. So
11 there wouldn't be that issue to contend with on this
12 particular parcel. Again that's the small little area
13 (indicating) in that one (1) corner just below the
14 PaperMill Road area just to the northeast of the airfield.
15 On the airfield parcel that document went out last summer
16 also. That was for the transfer of approximately six
17 hundred and fifty (650) - we've done a little closer look at
18 it it's probably closer to eight hundred (800) acres. We
19 did have a public comment period. We did receive some
20 comments from the State and the EPA. In the meantime we in
21 the Army, the Department of Defense, have been looking at
22 what affects or impacts the transfer of property that is not
23 available for "unrestricted use", unrestricted meaning you
24 could have residential out there; you could have day care

1 centers; you could have commercial/industrial; you could
2 have agricultural or recreational. There would be no
3 restrictions on its use. The way that the document for the
4 airfield was written it was written for commercial/
5 industrial use only. There was not an option for
6 residential. So if the parcel had been transferred under
7 the conditions of the original document then anyone living
8 out there would have had to move or Mr. Ford would have had
9 to come back to us after having done a lead base paint
10 inspection and risk assessment and any cleanup that was
11 required to ask the Army to remove that restriction. And we
12 would only remove it after we had coordinated that issue
13 with the State and the EPA. And that's how any deed
14 restriction will be lifted regardless of what it is. It's
15 not just a simply request. It has to meet certain technical
16 and administrative and legal criteria. Because of the fact
17 that there were three (3) small soil contaminated sites in
18 this airfield parcel and the level of contamination was not
19 significant or massive, the money was already available to
20 address those parcels to reduce those levels to the
21 residential standard. And the Army made a site specific
22 decision on this parcel that they would improve the
23 condition of those sites to allow this parcel to be
24 transferred as a residential parcel. That will - may be

1 applied at other areas of Jefferson. It may not be. But
2 it's a - it's a site specific issue and it will be dealt
3 with on the - on the merits of the case for a particular
4 parcel. And it has a lot to do with the types and the
5 severity of any institutional controls or deed restrictions
6 that would be required to be implemented and monitored and
7 administered and reported and enforced. It also has to do
8 with the amount of money it might take to improve the
9 condition of the property. There are a number of things
10 that the Department of the Army and Department of Defense
11 look at when they analyze these things. So as a result of
12 the fact that the Army has made this decision, this
13 particular FOST is being held in abeyance right now, will
14 not be responded to in the comments. When the Army has in
15 fact removed the additional soil and has the analytical
16 sample results that confirm that we have reduced the level
17 of contamination in these particular sites to an acceptable
18 residential criteria, then we will come out with a revised
19 document, a new thirty (30) day review period and we will
20 present the document again, but it will be for an increased
21 or an enhanced use for residential usage. We expect that
22 the work will probably occur late this summer or early fall
23 and the document for that particular area would probably be
24 out by the end of the year or the very first part of 2001.

1 That's what our goal is right now. The airfield parcel for
2 lack of a better description basically follows this up here
3 (indicating) across Woodfill Road, down Tokyo and then
4 across Engineer's Road. And that comes to about eight
5 hundred (800) acres. There is one (1) dog leg in there that
6 goes around a couple of our eye sites that would not be
7 transferred that are not inside the airfield that we have
8 not decided to enhance to a residential standard. But
9 that's a different situation. Regarding the Army's license
10 with the Nuclear Regulatory Commission we do in fact hold an
11 active license for what can be loosely described, and if I
12 say something technically wrong I'm sure our friends from
13 the Nuclear Regulatory Commission will correct me, basically
14 for storage in the ground right now. There is approximately
15 we estimate seventy (70,000) to eighty thousand (80,000)
16 kilograms of depleted uranium projectiles out in an
17 approximate two thousand (2,000) acre rectangle north of the
18 firing line. None of those projectiles were ever tested
19 against what we define or classify as hard targets. They
20 were all shot through cloth targets that were suspended
21 between large, tall telephone poles basically checking the
22 accuracy of the weapons and the projectiles themselves.
23 There was no impact against armor plating, any aerialization
24 of the DU that has occurred at other proving grounds so

1 we're fortunate in that particular case. As some of the
2 bullets here indicate we have proposed to the Nuclear
3 Regulatory Commission to have a restricted reuse termination
4 of the license. That means that the area would not be
5 accessible for unrestricted access for hunting, bird
6 observation, recreational usage or for anything of that
7 nature. It would be a restricted reuse termination. This
8 second bullet indicates we've submitted a revised document
9 to the NRC August of last year. The NRC reviewed that.
10 They asked a number of questions. We are in the process now
11 of rec - I think actually we have in fact responded to their
12 questions in a conceptual format of how we intend to provide
13 them a detailed technical response. And basically that
14 detailed technical response will be incorporated in a
15 revised license termination or decommissioning plan,
16 whichever phrase you feel more comfortable with. The last
17 bullet there does indicate that we did provide the
18 conceptual responses to the NRC on the 22nd of this month.
19 Now it's our goal to have the revised document and - and an
20 accompanying institutional control plan that would discuss
21 how we're going to restrict access to that parcel by the end
22 of September of this year. The NRC has a NEPA process that
23 they're going to need to go through before the license is
24 terminated. There has also been a request to the NRC from

1 Save the Valley for an administrative hearing based on what
2 was perceived as - with the current plan, not the revised
3 plan in September, but the current plan as a number of
4 questions and inadequacies as to specifics and details as to
5 how the license would be terminated. The Army believes that
6 none of those questions are of a nature that are
7 insurmountable. They are realistic, reasonable, well
8 thought out questions and we believe that they will all be
9 answered in a revised document. We are coordinating very
10 closely with Save The Valley organization and the NRC and
11 the Administrative Hearing Judge on that particular issue
12 and I think everything will ultimately work out fairly well.
13 The rest of the bullets on this particular page shows you
14 the chronological sequence from the time that the hearing
15 file was established to a pre-hearing conference call we had
16 earlier this month. And the fact that the Army will in fact
17 provide draft documents to Save The Valley and that we will
18 provide regular updates and statuses to Save The Valley and
19 the NRC. Are there any questions regarding anything that I
20 may have discussed whether it's the UXO, the Findings of
21 Suitability to Transfer, the lead base paint or the depleted
22 uranium? Yes sir?

1 **MR. ROBERT ROSENTHAL:**

2 You explained what restricted reuse doesn't
3 - doesn't allow. What would it allow?
4

5 **MR. PAUL CLOUD:**

6 Very little. Right now the Army does not
7 allow anyone into that area unless one (1) they're escorted
8 by the Army. And two (2) they stay on the roads. Or if
9 they're escorted by Explosive Ordnance Disposal personnel to
10 access the monitoring wells which is a requirement of the
11 license that we take semi-annual sampling of the ground
12 water to see if there has been any contamination of the
13 ground water. Other than that no one accesses that area.
14 And that's basically how it would stay. Does that answer
15 your question?
16

17 **MR. ROBERT ROSENTHAL:**

18 Yes. Thank you.
19

20 **MR. PAUL CLOUD:**

21 Yes sir?
22

23 **MR. DON BARNES:**

24 You mentioned the monitoring wells. Has

1 anything showed up yet?

2
3 **MR. PAUL CLOUD:**

4 No sir.

5
6 **MR. DON BARNES:**

7 Nothing?

8
9 **MR. PAUL CLOUD:**

10 No.

11
12 **MS. VICKI JENKINS:**

13 Are there legal implications for the
14 liability for termination of the license? For future
15 liability? For example this is metal and metal corrodes
16 over time. And are there - how - the solvents there I think
17 are like fifteen (15) to thirty (30) year monitoring.

18
19 **MR. PAUL CLOUD:**

20 Un-huh (yes).

21
22 **MS. VICKI JENKINS:**

23 That we discussed. What is your future
24 monitoring plans for this?

1 **MR. PAUL CLOUD:**

2 That specific detail we have not come to an
3 agreement with the NRC or the Save The Valley organization
4 as to how long we will continue to monitor. I suspect it
5 will be a long time. Don't have a specific number but I
6 would suspect that we would continue to monitor. We may
7 decrease the frequency with the condition that as soon as
8 there is a detection of something moving, because we have
9 several miles for it to move before it would ever leave the
10 Proving Ground, then we would increase the frequency and
11 possibly look at taking other actions. But that would be
12 dependent upon if and when it ever starts to migrate. It
13 has been out in the field for up to sixteen (16) years now.
14 We have very little data that shows movement more than a few
15 inches to a foot or so. One (1) of the advantages to
16 depleted uranium is when it is exposed to the atmosphere and
17 sits in the ground at Jefferson it develops an oxide coat
18 and then its deterioration basically stops. That is
19 something to our benefit for the material that we are not
20 going to be able to recover or don't recover intentionally.
21 Does that answer your question?

22
23 **MS. VICKI JENKINS:**

24 For the most part.

1 **MR. PAUL CLOUD:**

2 Okay. Yes ma'am?

3
4 **MS. MARY CLASHMAN:**

5 How many acres did you say that was
6 restricted access is - is?

7
8 **MR. PAUL CLOUD:**

9 The depleted uranium impact area is within
10 the fifty-one thousand (51,000) acres of the firing range of
11 Jefferson. It makes up approximately two thousand (2,000)
12 acres.

13
14 **MS. MARY CLASHMAN:**

15 So two thousand (2,000) acres will be
16 restricted?

17
18 **MR. PAUL CLOUD:**

19 Yes ma'am. But there are other areas inside
20 that fifty-one thousand (51,000) that we don't allow people
21 to go into now for other reasons, specifically UXO. So this
22 - you can't just take two thousand (2,000) from fifty-one
23 thousand (51,000) and say now there's forty-nine thousand
24 (49,000) that's going to be available for access.

1 level plane field. And there's a lot of vegetation and a
2 lot of trees in that area. So to put the fence in in that
3 area you might have to go all the way out to the road and
4 that would make the fence even larger and you would still
5 have the UXO issue to contend with.

6
7 **MS. MARY CLASHMAN:**

8 Well so then how will it be restricted?
9

10 **MR. PAUL CLOUD:**

11 There are access roads into the area that
12 already have locked barricades that you have to have a key
13 to get through those on to. You have to have a key or to
14 get access through the fence at one (1) of the gates to get
15 access north of the firing line anyway period. The only
16 other way is to fly over by helicopter or cut a hole in the
17 fence which is trespassing. And that's a federal offense on
18 federal property. But we have signs, we have barricades, we
19 have locked gates. Those are all part of our plan to keep
20 the access restricted. We have had no documented cases of
21 unauthorized access in this area since the DU has been
22 placed there and since the Proving Ground has been closed.
23 But that is an issue that will continue to be monitored.
24 And the Army will continue to have some presence here. As

1 to how many and how long we have not determined that. But
2 that will be continued - continually monitored though to
3 make sure that the access and the maintenance of the roads
4 for us to get in and to monitor the - the ground water
5 through the monitoring wells, the roads are being maintained
6 in a suitable condition for us to access the area. And if
7 there is at some future time a silver bullet design where we
8 can go in and remove the UXO at a very safe cost effective
9 manner then we may be able to in fifty (50) or a hundred
10 (100) years address the UXO and the DU. That method and
11 process doesn't exist right now. Yes ma'am?
12

13 **MS. VICKI JENKINS:**

14 Was DU used in any of the other missiles
15 that were shot across the firing line, north of the firing
16 line?
17

18 **MR. PAUL CLOUD:**

19 The only ones that it was used in were fired
20 into the DU impact area.
21

22 **MS. VICKI JENKINS:**

23 So it's --
24

1 **MR. PAUL CLOUD:**

2 They're tank rounds. Either 105 or 120
3 millimeter.

4
5 **MS. VICKI JENKINS:**

6 Okay so this is a hundred (100) percent the
7 only place those are?

8
9 **MR. PAUL CLOUD:**

10 Yes ma'am.

11
12 **MS. VICKI JENKINS:**

13 Okay.

14
15 **MR. PAUL CLOUD:**

16 There was DU in some of the buildings south
17 of the firing line at one (1) time. We in the Army restored
18 those buildings, documented that to the NRC. They came in
19 and did an independent verification/confirmation of that and
20 the license was amended three (3) years or four (4) years
21 ago and it now only applies to north of the firing line. The
22 area south of the firing line has been released for
23 unrestricted use from a radiological prospective for DU.
24 Yes sir?

1 **MR. TIM MALONEY:**

2 Paul you mentioned some numbers on how many
3 projectiles you thought were out there. What do those
4 numbers mean?

5
6 **MR. PAUL CLOUD:**

7 I don't know the number of projectiles. We
8 estimate somewhere in the neighborhood of seventy (70,000)
9 to eighty thousand (80,000) kilograms. I believe the
10 license allowed us to have at any one (1) time somewhere
11 around two hundred (200,000) to two hundred and fifty
12 thousand (250,000) kilograms. Is that about right Richard?

13
14 **MR. RICHARD HERRING:**

15 Yeah.

16
17 **MR. PAUL CLOUD:**

18 Does that answer your question?

19
20 **MR. TIM MALONEY:**

21 Yes.

22
23 **MR. PAUL CLOUD:**

24 Any other questions? Yes ma'am.

1 **MS. BETSY VONDERHIDE:**

2 I heard you mention earlier a few minutes
3 ago that if it's an eventuality that the technology is
4 discovered in the next fifty (50) to a hundred (100) years
5 that - that we can get rid of the UXO and DU. What is - is
6 there anything in place to encourage this that anybody is
7 going to pursue that technology?

8
9 **MR. PAUL CLOUD:**

10 Actually there are two (2) things. One (1)
11 has been a UXO technology demonstration that has been going
12 on at Jefferson and other sites for a number of years and
13 that there will be another round of that investigation to
14 look at the state of the art for UXO detection this summer
15 at Jefferson. I believe four (4) or five (5) contractors
16 will be in here late this summer to look at the "state of
17 the art". Also when the Range Rule that the Department of
18 Defense is working on is final and is implemented there is a
19 requirement as it is currently written that for those areas
20 that you do not cleanup and that you fall under a
21 classification of what's called Technical Infeasibility to
22 go cleanup, which Jefferson would probably qualify for, then
23 that kicks you into a recurring review three (3), five (5),
24 ten (10), fifteen (15) years, an infinite item, until you .

1 come up with this silver bullet. Yes ma'am?

2

3 **MS. BETSY VONDERHIDE:**

4

5

6

7

8

9

Well I'm just - I'm pleased to hear you say that because I represent the City of Madison and it is - it is the position of the City of Madison that that land not be abandoned by the Army. We understand that the technology is - was too expensive now.

10

MR. PAUL CLOUD:

11

Un-huh (yes).

12

13

MS. BETSY VONDERHIDE:

14

15

16

17

18

But we certainly would expect the government to honor its pledge of the 1940s that that land would be eventually turned back to the citizens of Jefferson, Ripley and Jennings Counties.

19

MR. PAUL CLOUD:

20

21

22

23

24

You should understand one (1) thing. That should and if the magic silver bullet ever be invented that allows a significant removal of the UXO from this area, under the laws as they are currently written for BRAC properties the buck has stopped at the Department of

1 Interior and the U.S. Fish and Wildlife Service. They have
2 laid claim to that property. I would suspect that should
3 the Department of Defense and the Department of Army clear a
4 significant portion of that fifty-one thousand (51,000)
5 acres of UXO they will exercise their option for titled
6 ownership. It will still be federal property but it would
7 then reside with the Department of Interior. And the
8 citizens in the community would not "have title or usage"
9 thereof. Now that can change but it can only change by a
10 Congressional action as I understand it and the way the laws
11 are currently written.

12
13 **MS. BETSY VONDERHIDE:**

14 But probably the limited and the restricted
15 access will be maintained?

16
17 **MR. PAUL CLOUD:**

18 That's possible. That is possible. Another
19 question over here? Yes sir?

20
21 **MR. ROBERT ROSENTHAL:**

22 Well just an observation but isn't there a
23 problem here with finding alternatives to cleanup, to
24 undercut a motivation to develop the technologies that would

1 - that would lead to your silver bullet with some - at least
2 some decent strategy?
3

4 **MR. PAUL CLOUD:**

5 The removal - the removal of UXO or the UXO
6 issue is a very sensitive political, social, economic issue.
7 And some of what you say is true. But there is a very large
8 commitment by the Department of Defense and the Department
9 of the Army and the current administration and any future
10 administrations that I'm aware of would probably follow on
11 to continue that effort. This is not a - a JPG or an
12 Indiana or United States specific issue. This is a world
13 wide issue. Ah so it - it garners a lot of attention from
14 the world community. So there will always be pressure to
15 continue to find that silver bullet, to remove UXO, to
16 neutralize it in a cost effective and safe manner. Don't
17 know when that's going to happen. Does that answer your
18 question I hope?
19

20 **MR. ROBERT ROSENTHAL:**

21 Yes.
22

23 **MR. PAUL CLOUD:**

24 Bill?

1 **MR. BILL CORNING:**

2 Paul wouldn't you say it's really unlikely
3 that the Interior would give up the fifty-one thousand
4 (51,000) acres regardless of whether it's clear or not?
5

6 **MR. PAUL CLOUD:**

7 We have Dr. Joseph Robb from the U.S. Fish
8 and Wildlife Service. I don't know if he wants to respond
9 to that or not. I would not want to speak for the U.S. Fish
10 and Wildlife Service or the Department of Interior.
11

12 **MR. BILL CORNING:**

13 I don't blame you.
14

15 **MR. JOSEPH ROBB:**

16 Once a natural wildlife refuge has been
17 established it's never been taken away.
18

19 **MR. PAUL CLOUD:**

20 For those of you that may not know recently
21 the Army, the Air Force and the U.S. Fish and Wildlife
22 Service did sign an agreement, Memorandum of Understanding,
23 to create a national wildlife refuge north of the firing
24 line at Jefferson. And it will also continue the usage by

1 the Air Guard in a reduced foot print with - within that
2 fifty-one thousand (51,000) acres so they can continue their
3 air to ground training. But there will be a national
4 wildlife refuge at Jefferson Proving Ground. That has been
5 approved by all three (3) agencies. Yes ma'am?
6

7 **MS. VICKI JENKINS:**

8 I know you say there's a place where many of
9 the DU were tested but they are basically intact shells, but
10 then you're saying that this is in a designated area that's
11 filled with those kinds of UXO. And so I'm wondering is
12 there any - I don't know enough about it - but dangers
13 posed by the other UXOs due to erosion or fire or something
14 like that? Would that cause penetration of the depleted
15 uranium and termination that's certainly related to that?
16 You mentioned monitoring of ground water. Are you doing any
17 kind of surface water monitoring or air monitoring? Again
18 especially some kind of --
19

20 **MR. PAUL CLOUD:**

21 We have done all of those things in the
22 past. We've also taken bio-assays of some of the species,
23 the muscles, some of the deer kidneys, livers, those types
24 of things. We never found anything that would indicate a

1 take up by the environment, the plants, the surface water,
2 the animals of DU in that area. It's not clear at this
3 point in time what additional - well that's not part of the
4 criteria under the existing license right now. It's not
5 clear what and if the specifics will be when the license "is
6 terminated" for restricted use.

7
8 **MS. VICKI JENKINS:**

9 As I - I don't know about the other things
10 but going back to the surface water I have a personal
11 concern. We live two (2) miles outside the Proving Ground
12 on Bee Creek which is the stream runs through the DU area.

13
14 **MR. PAUL CLOUD:**

15 Yes ma'am.

16
17 **MS. VICKI JENKINS:**

18 And although at this time of year it's sort
19 of inconceivable when you look at this stream and it's
20 appearing low for summer, it has massive - is subject to
21 massive flooding and it will rise eighteen (18) vertical
22 feet. And it - we've seen it move tremendously heavy, you
23 know boulders and of course things that migrate off of it.
24 So again I - I see surface water as a serious issue that

1 needs to be monitored since it's running right through a
2 part of the DU area. And one (1) last question pertaining
3 to that. Even with the - if there's some agreement that
4 there will be a long term monitoring I'm kind of wondering
5 whether there's going to also associate with that some kind
6 of liability or responsibility so that if the monitoring
7 determines that there is some migration that the Army will
8 actually have to do anything about it or whether it will
9 just say well this is how --

10
11 **MR. PAUL CLOUD:**

12 Well the Army has never made any statements
13 that would indicate they are not liable and responsible, not
14 only for the DU but for the UXO or for any of the
15 environmental contamination that we know of or that may be
16 present on the Proving Ground. The Army has no intention of
17 denying that liability or responsibility. As we remain the
18 title holder of the property we will be responsible for
19 that. Does that answer your question?

20
21 **MS. VICKI JENKINS:**

22 Not personally.
23
24

1 **MR. PAUL CLOUD:**

2 At my level I can make that commitment. I
3 can be overruled, but at my level I can make that
4 commitment.

5
6 **MS. VICKI JENKINS:**

7 Go back to the - yeah. That's what I'm
8 saying. What about the surrounding UXO and should any of
9 that explode would that have impact on the DU projectiles
10 that are out there?

11
12 **MR. PAUL CLOUD:**

13 The only thing that I can conceive of that
14 it might impact would be to physically move it from one (1)
15 location to another. There are not that many detonations
16 that occur from UXO that is out there. It is theoretically
17 possible and that is one (1) of the unknowns and
18 uncertainties about UXO. You can have one (1) sitting there
19 for weeks, months, years and it never goes off. And then
20 for who knows what reason it decides to go off.

21
22 **MS. VICKI JENKINS:**

23 Yeah.

24

1 **MR. PAUL CLOUD:**

2 Or you have a prescribed or controlled burn
3 or whatever and that sets it off. Or lightning or whatever.
4

5 **MS. VICKI JENKINS:**

6 Right.
7

8 **MR. PAUL CLOUD:**

9 The only thing I'm aware that it would
10 probably do is physically move a DU fragment or penetrator
11 from one (1) physical location to another. I don't think it
12 would be of sufficient magnitude or force to cause something
13 of any significant concern that would be defined or
14 classified as an immediate threat to human health in the
15 environment. You would be looking at very small discreet
16 pieces of DU. One (1) penetrator is only about this long
17 (indicating). There are very few that are full intact in
18 the impact area. They usually when they hit the ground
19 break up. They're brittle. They're very hard and dense.
20 And when they hit something hard they tend to break up.
21 That's what they're designed to do as a weapon of war. When
22 they get inside of a tank they fragment and that's how they
23 do their job. So when they hit something hard on the ground
24 they will fragment. So you won't see a lot of real long

1 intact penetrators. I mean there's probably some out there
2 somewhere. They can bar - they can burrow into the ground.
3 But I don't think you'll see - you know if a round went off
4 I don't believe you would see a significant increase and
5 exposure or risk or threat to either the environment or to
6 any human health concern. But there is a possibility. It's
7 remote.

8
9 **MS. VICKI JENKINS:**

10 Yes. Actually it unnerved me with these
11 little pieces because I went back to the stream and I'm
12 thinking that little pieces are going to flush out that
13 stream much more easily than that.

14
15 **MR. PAUL CLOUD:**

16 Well one (1) of the things that is in DU's
17 favor is it's very heavy and dense. And particularly when
18 it gets into small pieces it's very hard to move something
19 like that once it's down like in the bottom of a stream or -
20 or something like that because there's not a lot of surface
21 area that moving water can impact against to move it some
22 place. I mean it's still possible and it could move. And
23 if we get an indication that there is something moving off
24 of the Proving Ground the Army will have to address that.

1 We have not received any of that indication.

2
3 **MS. VICKI JENKINS:**

4 Right. How - I'm sorry. I want to be
5 clear. How - but how would you get that indication that it
6 could not do some through a large rain, that kind of thing?

7
8 **MR. PAUL CLOUD:**

9 Well again that's - that's not part of what
10 is required currently in the license. We may have to
11 explore and resolve that issue based on negotiations with
12 the Nuclear Regulatory Commission and any input from
13 concerned citizenry.

14
15 **MS. VICKI JENKINS:**

16 Thank you.

17
18 **MR. PAUL CLOUD:**

19 Diane?

20
21 **MS. DIANE HENSHEL:**

22 Should flooding of such magnitude occur that
23 some pieces of the DU armature, whatever form it's in, does
24 get loose and wash down the stream a bit, have you done a

1 testing, not you personally, but has the Army done a testing
2 to see that if it's maintained in the stream at different
3 types of age, levels of age, how much uranium might actually
4 come out of it over given periods of time?

5
6 **MR. PAUL CLOUD:**

7 I'm not aware of any. There may have been
8 but I personally am not aware of any. Richard are you
9 aware?

10
11 **MR. RICHARD HERRING:**

12 Well I'm sure that's been tested
13 considerably. DU is not very soluble. Generally it's not
14 very soluble. And I think too what you're talking about is
15 something exploding. I - I think you can say that there
16 probably isn't any worse than what was happening when we
17 were active.

18
19 **MS. DIANE HENSHEL:**

20 Sure.

21
22 **MR. RICHARD HERRING:**

23 Except for them blowing up. And then it
24 wasn't a problem that I don't think we couldn't handle.

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MS. DIANE HENSHEL:

All right. So what you're saying is your interpretation is that should that even come up we need to seize it, pull it up and that's the end of it?

MR. RICHARD HERRING:

Well it's - what you're going to end up with is such a low specific activity in the water that you'll never find it probably. I mean you know that's a guess but just from my familiarity with what's going on.

MR. PAUL CLOUD:

Joyce?

MR. RICHARD HERRING:

It's so slow in dissolving that you're not going to get any concentration in the water. The - the --- through the air. The firing line is just a small line that goes through there.

MS. DIANE HENSHEL:

I understand that.

1 **MR. PAUL CLOUD:**

2 Richard was the former radiological
3 protection officer at the Proving Ground. Joyce Kuykendall
4 from our Headquarters is the current one (1). Joyce would
5 you like to comment on that?

6
7 **MS. JOYCE KUYKENDALL:**

8 Some of the Army activity's labs in
9 different areas who've done research on the depleted uranium
10 have done some studies with leaching and with exposure in
11 the water and so forth. And they haven't found any
12 migrations. So I don't believe right now that is an issue
13 that needs to be addressed.

14
15 **MR. PAUL CLOUD:**

16 Does that answer your question Diane, at
17 least partially?

18
19 **MS. DIANE HENSHEL:**

20 Yes. Thank you.

21
22 **MR. PAUL CLOUD:**

23 Are there any other questions? Okay I would
24 like -- Richard?

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MR. RICHARD HILL:

On the - in the Memorandum of Agreement, let's go back to that for a moment, there's some language in there about twenty-five (25) year something? Did I hear that?

MR. PAUL CLOUD:

Yes.

MR. RICHARD HILL:

What - what is that? What's the twenty-five (25) year stuff?

MR. PAUL CLOUD:

Twenty-five (25) years is the Army has agreed to issue to the Air National, the Air Force actually and the U.S. Fish and Wildlife Service a real estate permit which is the mechanism by which they establish their legitimacy for being there and getting funding for their activities. Specifically if it needs to be addressed for the Fish and Wildlife Service and for consistency the Army did the same thing with the Air Force. We had one (1) with them but because this MOU addresses a number of other things that weren't addressed in the previous agreement with the

1 Air National Guard we rolled everything into one (1)
2 document and we made them, for that specific issue,
3 identical. It's a twenty-five (25) year initial license,
4 real estate license for their activities with ten (10) year
5 renewables subsequent. And as Dr. Robb clearly indicated
6 once a parcel has become a national wildlife refuge there
7 aren't any examples of that ceasing to be what it is. There
8 are mechanisms for that in the MOU should there be a
9 significant reason. But there's nothing in my current
10 understanding that will drive us to that point now.

11
12 **MR. RICHARD HILL:**

13 Okay. I see. So after this twenty-five
14 (25) years then there's say ten (10) year --

15
16 **MR. PAUL CLOUD:**

17 Ten (10) year increments thereafter. It's
18 just an automatic you know renewal process. I don't believe
19 there would be, other than a re-issue of the real estate
20 permit, there would not be a need to resign the MOU. That
21 would just be a - a re-issued real estate permit. Now it's
22 effective from 2000 and whatever until 2000 and whatever
23 plus ten (10) years.

24

1 **MR. RICHARD HILL:**

2 I see. Okay. I was asking that not only
3 because of my interest in when the RAB meets but also my
4 interest in who's going to be there down the line as far as
5 these things like the DU?

6
7 **MR. PAUL CLOUD:**

8 Well the Army is - the Army is remaining
9 with title of the property.

10
11 **MR. RICHARD HILL:**

12 Un-huh (yes).

13
14 **MR. PAUL CLOUD:**

15 There is no change or no anticipated
16 termination of the Army's ownership of that property at the
17 present time.

18
19 **MS. DIANE HENSHEL:**

20 My concern Paul was should - should anyone
21 detect uranium in the vicinity here would the Army just
22 automatically assume it came from their activities and that
23 there - there would not be an assumption that this might be
24 back ground?

1 **MR. PAUL CLOUD:**

2 It would have to depend on the very detailed
3 specifics. And we would have to look at that. Because as
4 you well know there are a lot of radiological nuclides out
5 there. Some of them may be specific and unique to DU, some
6 of them may not. We would have to look. But we would be
7 more than happy to investigate and to check it. But it
8 would - it would depend on the specifics. Kevin?

9
10 **MR. KEVIN HERRON:**

11 Kevin Herron with IDEM. Paul what are the
12 upcoming mechanisms that are going to be available to the
13 people to voice their opinions about the negotiations that
14 are going to go for the - among the licensing issues on the
15 - on the DU area so that they know what's coming up so they
16 can voice those opinions more than just here?

17
18 **MR. PAUL CLOUD:**

19 Okay there is - you know Save The Valley
20 organization has applied for a formal hearing on the - on
21 the license because of the state of where the
22 decommissioning plan was in. Because of that request and
23 our negotiations through the NRC and the Administrative
24 Hearing Judge, we in the Army are coordinating very closely

1 with Save The Valley on a revised plan. I would suggest
2 that you would - anyone who is interested in that issue that
3 is not part of the Save The Valley organization might want
4 to contact Richard Herring to be part of or provide input to
5 and voice concerns on that issue through them. That would
6 probably be one (1) mechanism. You can also come to the
7 site staff, Mr. Knouf, out at the Proving Ground and provide
8 us whatever input you might have on that. We will be
9 providing as I said before draft revised documents to Save
10 The Valley before they go to the NRC formally and
11 officially. And I'm sure Save The Valley can make those
12 available to the public. If they can't then we can make
13 that available through our office. Ken?

14
15 **MR. KEN KNOUF:**

16 Paul did you mean to say Richard Herring or
17 Richard Hill?

18
19 **MR. PAUL CLOUD:**

20 I meant Richard Hill. I'm sorry. Did I say
21 Richard Herring? Richard you're - you're not retired any
22 more.

1 **MR. BOB NELSON:**

2 Paul can I - can I amplify on that?

3
4 **MR. PAUL CLOUD:**

5 Sure, go ahead.

6
7 **MR. BOB NELSON:**

8 Good evening. My name is Bob Nelson. I'm
9 with the Nuclear Regulatory Commission. I'm chief of the
10 Facilities Decommissioning Section that would review the
11 decommissioning plan for this - this site. And to just
12 amplify on what Paul said our regulations require that the
13 licensee, in this case the Army, seek public opinion on the
14 - what we call institutional controls that would be proposed
15 for the site and to present - to consider those comments in
16 preparing their decommissioning plan that they - that they
17 submit to us. So as Paul mentioned that - that avenue was
18 being pursued by the Army. In addition we will develop an
19 Environmental Impact Statement to address all the
20 environmental impacts associated with this action. We do
21 that in two (2) stages, actually three (3) stages. We do a
22 scoping ah - ah investigation at the front end. We actually
23 started that about four (4) or five (5) years ago. We did
24 initial scoping for the EIS and then put it on hold until .

1 the decommissioning plan was revised and resubmitted. I'm
2 not sure whether we'd go through that scoping process again
3 but we might. Then we - after we developed a Draft
4 Environmental Impact Statement it is released for public
5 comment. And we would - after it's been released for a
6 while we would held - we would hold a meeting in the
7 vicinity here to receive your oral comments as well as take
8 any public comment, written comments throughout the comment
9 period. And then we would use that input in preparing the
10 Final Environmental Impact Statement and making - using that
11 - that document to make a decision on whether to approve the
12 decommissioning plan as submitted. So that in brief is our
13 public involvement process in addition to the hearing
14 process that's already under way.

15
16 **MR. PAUL CLOUD:**

17 Thank you. Any other questions on any
18 material that I have discussed or presented? Yes sir?

19
20 **MR. DON BARNES:**

21 I have a question for the NRC.
22

23 **MR. PAUL CLOUD:**

24 Go ahead.

1 **MR. DON BARNES:**

2 You're talking depleted uranium. Is this
3 the uranium that scared everybody to death? Just how
4 dangerous is this as radiation hazard?

5
6 **MR. BOB NELSON:**

7 Ah not very unless you pick it up and eat
8 it, ingest it. It is - it's not a real - it's not a direct
9 radiation hazard. Because of the form of the uranium as
10 explained earlier it's not very soluble and therefor not
11 very mobile in the environment. In other words it doesn't
12 move through the ground in the ground water system because
13 of its insolubility. So the real problem is if you pick it
14 up for a long period of time or somehow get fragments and
15 ingest them into your body where then the - the uranium
16 comes into direct contact with sensitive organs and that's a
17 problem. But - and that - that's the reason for you know -
18 one (1) of the reasons anyway for restricting access to the
19 - to the site when you have this type of contamination
20 coupled obviously with the unexploded ordnance problem. But
21 if you're not in contact with it there's really no hazard.

22
23 **MR. DON BARNES:**

24 Thank you.

1 **MR. PAUL CLOUD:**

2 Any other questions? Okay while we swap
3 projectors here we'll have about a two (2) minute break.
4 And then the NRC will discuss the decommissioning of the
5 license or the termination of the license. There are -
6 there is just one (1) other slide that I want to show before
7 they get up. And this will document when our next meeting
8 is going to be and where. It's scheduled for the 4th of
9 October. That's a Wednesday up in Jennings County in their
10 library at North Vernon. There will be letters sent out
11 with the agenda for that meeting about two (2) to three (3)
12 weeks before the meeting. But this is you know a heads up
13 advance notice. So if you're interested we can let you know
14 now that that's when our next meeting is. So we will have
15 about a two (2) or three (3) minute break here while I give
16 John Contardi from the NRC the mic and we move the
17 projectors around.

18
19 **(SHORT BREAK)**

20
21 **MR. JOHN CONTARDI:**

22 Well good evening. My name is John
23 Contardi. I work for the U. S. Nuclear Regulatory
24 Commission. I'm the new project manager for the JPG site.

1 I've been working on the site approximately a month now so
2 some of this I'm still learning for myself. Prior to that
3 I've been providing technical assistance for other sites at
4 the Nuclear Regulatory Commission. You've already met my
5 section chief Robert Nelson and there's also Linda Suttora
6 who works on our environmental review team and we will be
7 working on the NEPA process or EIS documentation for the JPG
8 site. So with that - you will have to pardon me with these
9 slides. I'm just going to start with a brief overview. I'm
10 not sure how familiar with you are with the NRC, what we do,
11 what our mission is. So I'll talk about that as well as a
12 brief history about the depleted uranium impact area or the
13 DU impact area followed by the decommissioning plan or the
14 decommissioning process that will be used at JPG. And then
15 the NEPA process, the Environmental Impact Statement process
16 that Nelson had talked about before. Following that would
17 be the site decommissioning that JPG will do. As we know
18 they are pushing for proposing a restricted release scenario
19 so there may not be any decommissioning taking place within
20 the DU impact area. And then the hearing process. A
21 hearing has been requested and granted thus far. And
22 following up the final steps towards license termination.
23 This right here (indicating) is just the - I took this off
24 the NRC web - web page. It's our mission statement.

1 Basically what it says is our - our mission is to protect
2 the health and safety and the environment from nuclear
3 materials. We do that through several different - or we
4 regulate several different industries or types of processes
5 that's commercial nuclear power reactors, nonpower test
6 reactors, training reactors, test reactors, fuel cycle
7 facilities. A fuel cycle facility would be something that
8 produces the nuclear fuel that goes into the nuclear
9 reactor. Also medical for treating cancer. They use a
10 cobalt 60, the gamma knives, things like that. We will
11 regulate those sources. Academic, anything that a
12 university uses that's a radio nuclide as well as industrial
13 uses of nuclear material such as gauges to - to measure
14 wells or in some places they can even use radioactive
15 materials to measure the - the level of fluids in tanks and
16 things of that nature. We also regulate the transport,
17 storage and disposal of nuclear materials and their waste.
18 I wasn't sure how - how much everyone would know about JPG
19 so this is just a very brief overview. It's a former
20 Department of Defense site, a proving ground where they did
21 testing and evaluation of Department of Defense weaponry,
22 particularly depleted uranium, tank rounds basically fired
23 anti-tank rounds. There's also - the site contains
24 unexploded ordnance. I'm sure most people are familiar now

1 with the discussions that have been going on prior to this.
2 The - the decommissioning plan, basically JPG has submitted
3 a decommissioning plan in August or '99. The NRC has
4 reviewed it. We prepared a Request for Additional
5 Information in areas that we thought maybe were inadeq -
6 inadequate, confusing, maybe they didn't address some areas,
7 things of that nature. It is not unusual for us to put out
8 RAIs or Requests for Additional Information. Usually we do
9 that so you shouldn't look upon it as if it was a bad
10 decommissioning plan or anything of that nature. It's -
11 it's typically done almost always. So following the RAI
12 they provided their responses which just came in I guess
13 maybe about two (2) weeks ago. And as we were discussing
14 earlier they're going to go ahead and provide a new or
15 revised decommissioning plan. Following that the NRC will
16 develop a safety evaluation report as well as the NEPA
17 documentation which will be the Environmental Impact
18 Statement. And the decommissioning plan will then be
19 accepted or has been accepted actually at this point.

20
21 **MR. KEN KNOUF:**

22 John is it appropriate to ask questions now
23 or do you want to wait to the end?
24

1 **MR. JOHN CONTARDI:**

2 It's - it's a pretty brief presentation. If
3 you can hold it that would be - is that okay?
4

5 **MR. KEN KNOUF:**

6 Yes.
7

8 **MR. JOHN CONTARDI:**

9 The Environmental Impact Statement process
10 is part of NEPA and I'm not sure how much people out there
11 are familiar with the NEPA process. It basically provides
12 the legal frame work for any major action at federal
13 facilities. The philosophy behind it is to make sure that
14 the proper choices is chosen so you don't end up on Date
15 Line with two hundred and eighty million (280,000,000)
16 Americans saying how could this happen? The EIS is supposed
17 to prevent that. And as Nelson said before we're going to -
18 well first we will have possibly a scoping process. Scoping
19 has been done before. It may or may not occur again.
20 Regardless, when the draft supplement is developed it will
21 actually be a tiered EIS that will be attached to the 1995
22 Army Final EIS. We're not going to redo an entire EIS,
23 although this will be complete in regards to the DU impact
24 area. I'm sorry if I'm in your way. With that a notice of

1 availability for the draft supplement EIS will be published.
2 And what this does is it allows the public, you, to be able
3 to find it, to know it's out there, have access towards it,
4 and following that we will have a public comment period as
5 well as meetings where you will be able to comment or ask
6 questions about what's being proposed, what's in this EIS,
7 if you like it, if you don't like it, and those will be
8 official comments and they will be addressed. Following
9 that there will be a Final EIS. We will go ahead and
10 finalize it and that will be like I said added on to the
11 1995 Army Final EIS. With that it will be published and the
12 Record of Decision or a ROD will also be made publicly
13 available. And all the ROD is is it - it tells you what's
14 being done, what choice was chosen and what's going to
15 happen with the site. The site decommissioning for JPG as
16 we've been discussing there's a lot of unexploded ordnance.
17 And thus far it's been proposed that no remediation takes
18 place due to the economic burden and the possible health
19 hazard to workers or EOD who has to go in and remove the
20 unexploded ordnance. So under this they may not do any
21 decommissioning at all. But that - that's not necessarily
22 the final answer. They may end up doing decommissioning
23 work. But as it stands right now they are not planning on
24 it. JPG will prepare a final status survey. The NRC will

1 review that and following that the site will be acceptable
2 for release provided that we find their final status survey
3 acceptable. And this is just kind of a diagram of the
4 process. Up at the top it has a license amendment request.
5 This is the decommissioning plan. And it goes down to the
6 acceptance review, notice and opportunity for a hearing.
7 We're already through these steps. The Save The Valley
8 requested a hearing. It has been granted. Now we're down
9 to the request for additional information. They've given us
10 that back. We're going to go back up and they're going to
11 revise the decommissioning plan. Since the hearing has
12 already been granted I don't believe we'll go through that
13 process again. Then it will come back down to us and we
14 will do a EIS which I was talking about before as well as a
15 safety evaluation report. After that there will be the
16 hearing. I'm not sure of the definite time if there is a
17 hearing. If it's not resolved it could be - well it will
18 come after the EIS. It could be several years from now. I
19 think right now it's scheduled to be maybe in 2003 or 2002.
20 After that the licensing action whether or not this will
21 determine if the license is terminated or not. And the
22 hearing process basically we put out a notice and
23 opportunity for hearing. If it's requested it is reviewed.
24 In this case Save The Valley requested it. It was reviewed

1 and granted. Therefore there will be a hearing. As I said
2 before the hearing time will be determined by the presiding
3 officer and at this time that - that time is not known. The
4 final steps. The NRC staff most likely the project manager
5 along with other members of the NRC will prepare a
6 commission paper or some type of avenue to notify our
7 commission. Our commission are five (5) publicly appointed
8 commissioners who vote on actions that come before them.
9 This will be an action and they will determine if it is an
10 suitable for decommissioning, if they agree with what's
11 going on. If it is in fact that they vote for it the
12 license will be terminated. This is my contact information.
13 One (1) thing I want to emphasize is that the NRC is a -
14 it's an open agency. I have a security clearance. I have
15 yet to see a classified document. If there's a document
16 related to DU or what the NRC regulates and you have trouble
17 finding it, you don't like something that's going on, feel
18 free to contact me. Like I said though we're only
19 responsible for the depleted uranium portion of the site or
20 anything that may affect that site, anything that would
21 allow further migration or anything that could affect the
22 environment or public health. But we do have a web site.
23 All our documents should be publicly available that we have
24 a public document room so like I said if you have trouble.

1 finding anything, if you need someone to talk to about the
2 depleted uranium, I'm always open and we are a very open
3 agency. I don't want anyone to think that we're behind
4 closed doors and doing anything behind your back. So with
5 that I do appreciate you allowing us to come here and talk
6 and if you have any questions I will be happy to answer them
7 or have my section chief or Linda help. Yes sir?

8
9 **MR. KEN KNOUF:**

10 As part of the NEPA process my experience
11 with EISs has been that they generally are looking at the
12 effects of actions in terms of alternatives. Now this seems
13 to be, especially EIS, this really isn't any other
14 alternative but to object to the merits of the
15 decommissioning plan, but are you going to be assessing
16 possible effects of components of the decommissioning plan
17 like sampling frequency and how many wells might be tested,
18 how often they might be tested? Is that going to be a part
19 of that or do you guys oversee that?

20
21 **MS. LINDA SUTTORA:**

22 We're in the area. Before we do anything
23 with the decommissioning plan - I mean before we do anything
24 with the Environmental Impact Statement we have to be a

1 little bit further along with the decommissioning plan. And
2 typically NEPA looks at alternatives and even when the Army
3 may not present another alternative, we may you know request
4 that the Army present those with other possible - I mean for
5 example there is the - an option is to clean it all up, to
6 pull out all that stuff, even though it's not technically
7 feasible at this time. We may ask the Army to explore that
8 and explain - and be able to present all possible reasons
9 why it's not technically feasible and what would make it
10 feasible? That's an example of the type of alternative we
11 look at. Even though the Army doesn't feel as though it's
12 feasible at this time, there's got to be a breaking point at
13 which point it becomes feasible and what is that point? And
14 then so that people would know in the future what to look
15 for.

16
17 **MR. ROBERT NELSON:**

18 I would like to expand on that. Bob Nelson
19 with the NRC. Actually there's three (3) alternatives that
20 come to mind right away. Do nothing, which is maintain the
21 license.

22
23 **MR. JOHN CONTARDI:**

24 That's required I believe as part of the

1 alternative.

2
3 **MR. ROBERT NELSON:**

4 We always look at the no action alternative.
5 And in that case - in this case that means maintain the
6 license. Second alternative is the proposed alternative,
7 that is to release it under conditions of restricted use.
8 The third is clean it up, get it out of here. So we would
9 look at at least those three (3). There may be others. I'm
10 not sure what they would be at this point but we - I'm
11 convinced that we would look at least at those three (3)
12 alternatives. And there may be iterations of those
13 alternatives that we would want to look at. Some mitigating
14 actions that maybe - maybe not have been proposed that come
15 to our mind that we think maybe ought to be added in to the
16 plan for example. But we really haven't started the process
17 yet so I don't want to get too far down that road committing
18 to things that we haven't really started to look at yet.
19 But - but those are the types of alternatives we would look
20 at with an EIS.

21
22 **MS. VICKI JENKINS:**

23 I don't mean to - after I start thinking
24 about it I'm sort of baffled. I'm trying to understand

1 actually what the difference is in what it means to say the
2 license is terminated? What changes apart from the fact
3 that they're not going to shoot DU - because you said one
4 (1) alternative is to do nothing and keep the license? And
5 such other options I think are do nothing and terminate the
6 license? I'm not clear what changes when the license is
7 terminated.

8
9 **MR. ROBERT NELSON:**

10 When our - when the license is terminated
11 our regulatory involvement with the site ends.

12
13 **MS. VICKI JENKINS:**

14 So there will be no NRC?

15
16 **MR. ROBERT NELSON:**

17 There would be no NRC over sight of the
18 site. There has been some discussion tonight about
19 requirements for long term monitoring. If we felt that
20 there was the requirement for long term monitoring, and that
21 needed to be enforced, we would not terminate the license.
22 Because absent a license we don't have a way to enforce that
23 action. So if that's our conclusion that monitoring has to
24 be done for five (5) years, ten (10) years, fifteen (15)

1 years, then we would not terminate the license until we were
2 confident that that monitoring was no longer necessary, that
3 the state of the environment was well known, that there were
4 no - and that the conditions of our license termination rule
5 had ben met. Yes ma'am?

6
7 **MS. DIANE HENSHEL:**

8 Well to continue that line of thought, given
9 that, and I will accept for the moment your assertion that
10 while the depleted uranium is in the ground it is not
11 dissolving, is not corroding, and therefore it is not
12 migrating? And so long as there is no explosions, there are
13 no explosions anymore, that there is no migration in terms
14 of movement into the soil and into the air, which is by far
15 the worst pathways as far as I can figure out, then why
16 would the Army even want to revoke the license when there's
17 still a potential for something happening because there's
18 still unexploded ordnance there? And until you remove both
19 the ordnance and the depleted uranium there's still a
20 potential for risk? Why would anybody want to revoke the
21 license?

22
23 **MR. ROBERT NELSON:**

24 Okay let me - let me back up a little bit.

1 and comment on the assertions that you say I made.
2

3 **MS. DIANE HENSHEL:**

4 Okay. Well references have been made to,
5 how's that?
6

7 **MR. ROBERT NELSON:**

8 Okay. What I said was - what I said was
9 that this type of uranium is not mobile in the environment.
10 And I did not comment on the risk of an explosion or a
11 possible spread by an explosion.
12

13 **MS. DIANE HENSHEL:**

14 Okay.
15

16 **MR. ROBERT NELSON:**

17 These are the types of things we would look
18 at in an EIS which we have not done yet. Okay? But I know
19 from previous experience that the statement I made, I'm
20 competent that this type of uranium does not - does not
21 readily move in the environment. So that the - it's not
22 likely that ah there would be an off site exposure.
23
24

1 **MS. DIANE HENSHEL:**

2 Should there be no explosion?
3

4 **MR. ROBERT NELSON:**

5 Should - should there be no explosions that
6 would spread the - spread the uranium. Okay? And I'm not
7 going to comment on the likelihood of explosion because that
8 - that I'm definitely not in a position to comment on. But
9 - and then - then you asked why would the Army want to
10 terminate the license? Well I can't speak for the Army
11 okay? But if we are asked by a licensee to terminate the
12 lic - to terminate the license we apply what we call our
13 license termination rule. And the Army has to demonstrate
14 to us that they meet the conditions of the termination rule
15 which is basically a dose based rule. And the dose basis
16 for the rule is really in two (2) parts. For a unrestricted
17 release, which is not apparently being applied for here, the
18 dose criteria is twenty-five (25) millirem per year to the
19 average member of the critical group. Now twenty-five (25)
20 millirem per year to the average member of the critical
21 group under - for an unrestricted release. And normally
22 what that means to us, what we look at, our default analysis
23 is a farmer residing on the property. Okay. In the case of
24 a restricted release the - with the restrictions in place

1 the licensee has to demonstrate that that twenty-five (25)
2 millirem dose criteria is met with the restrictions in
3 place, whatever those restrictions may be. Okay. Then they
4 have to look at the scenario when those restrictions - if
5 those restrictions were to fail, for whatever reason. It's
6 not required that they demonstrate how they fail, they
7 simply have to assume that they're no longer effective.
8 Then the dose limit is one hundred (100) millirem per year.
9 And if they can make those demonstrations then we will
10 terminate the license.

11
12 **MS. DIANE HENSHEL:**

13 Could you state from your position what the
14 benefits to the Army would be for termination of the
15 license?

16
17 **MR. ROBERT NELSON:**

18 Ah administratively not having another
19 agency involved with the site.

20
21 **MR. JOHN CONTARDI:**

22 What's the licensing fees?
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MR. ROBERT NELSON:

Well the Army doesn't pay licensing fees.

MR. JOHN CONTARDI:

Well that's true. They don't.

MR. ROBERT NELSON:

It's - it's basically not having - not having the need to report to us and eliminating that regulatory oversight, which is clearly - which is clearly their call. We can't advise them what they - go ahead.

MS. DIANE HENSHEL:

Okay. One (1) last question. You have - well there have been assertions made by you and him, by Richard - Richard Herring, okay that it does not migrate and it's stable in virtually all environmental conditions so long as there's no explosions. Is there a possibility for you to post that information or to post those studies on your web site? Or are they already there?

MR. ROBERT NELSON:

The - the demonstration about not - not being non mobile, you - your Army has to make to us. What

1 I'm talking about is my experience with this type of
2 uranium.

3
4 **MS. DIANE HENSHEL:**

5 But your experience has to come from
6 someplace and there has to be some sort of documentation.

7
8 **MR. ROBERT NELSON:**

9 Ah I'd have to - I would have to look and
10 see what we've got. We do have some studies on solubility
11 of uranium. It's mostly looks - looking at tests to
12 demonstrate solubility. But we can - we can look into that.
13 I can't think off hand. The study does not come to my mind
14 immediately that would - but I'm sure we can find one (1).

15
16 **MR. JOHN CONTARDI:**

17 I mean the solubility is going to depend on
18 some factors. The solubility can increase as you decrease
19 in ph. But typically you're not going to see that in
20 surface waters and in ground waters. So at a site like this
21 or in most typical sites uranium has a fairly high
22 retardation coefficient. It doesn't travel quickly through
23 soils, through any water type filtration soil like the
24 saturated-unsaturated zones of the soil. So even in

1 situations if you have low ph and oxidizing conditions and
2 things like that it's still not going to be that - that
3 mobile. But it's not to say that it's insoluble all the
4 time. But at this site it most likely will be.

5
6 **MS. DIANE HENSHEL:**

7 Asserted based on what facts that it's going
8 to be true in this instance?

9
10 **MR. JOHN CONTARDI:**

11 Just by the typical - I don't want to say
12 geography but of the soils of the site.

13
14 **MS. DIANE HENSHEL:**

15 What are the soils then?

16
17 **MR. JOHN CONTARDI:**

18 They're till. And I know there's clay
19 layers.

20
21 **MS. DIANE HENSHEL:**

22 Okay.

23

24

1 **MR. JOHN CONTARDI:**

2 And typically they have high ion - ion
3 exchange capacities which means it's going to be even
4 slower. But the ph is even just taking a general soil, a
5 typical - it's hard to say like a prototypical soil but
6 something on that nature, uranium is going to be fairly
7 immobile just due to the nature of it. There's other radio
8 nuclides. Take Tritium which is an isotope of hydrogen,
9 very mobile. Because it flows just like water. Different
10 radio nuclides are going to travel faster or slower in
11 mediums than others just depending on the type of element.
12 And uranium happens to be one (1) of those where it's an
13 actinide and it - it doesn't travel quickly.

14
15 **MS. LINDA SUTTORA:**

16 I believe a lot of studies have done by the
17 Army and Department of Energy on the different radio
18 isotopes and their travel through soils and waters and so
19 it's probably unlikely the NRC itself has done studies
20 although I don't know absolutely. I haven't looked at
21 literature. But it's very likely that the Army and
22 Department of Energy had done studies.

1 **MS. DIANE HENSHEL:**

2 I think the question is more the conditions
3 of the depleted uranium - well the conditions of JPG and the
4 conditions of depleted uranium in that the casings which is
5 where they are I assume in the casings primarily?
6

7 **MR. ROBERT NELSON:**

8 If - if that's your question?
9

10 **MS. DIANE HENSHEL:**

11 Yeah.
12

13 **MR. ROBERT NELSON:**

14 Then it's - it's the Army's job to
15 demonstrate that to us at this site.
16

17 **MR. JOHN CONTARDI:**

18 And that is something that should be
19 included.
20

21 **MR. ROBERT NELSON:**

22 We're talking - what we've talked about is
23 gen - generally - generally speaking uranium in the
24 environment in this form is not - is not highly mobile for

1 the reasons we have explained. But it's still incumbent
2 upon the Army to demonstrate that to us in their
3 decommissioning plan. Sir you've had your hand up for some
4 time.

5
6 **MR. ROBERT ROSENTHAL:**

7 I just want to be clear. An Environment
8 Impact Statement is required both for decommissioning and
9 for termination?

10
11 **MR. ROBERT NELSON:**

12 No. The Environmental Impact Statement is -
13 is developed because the licensee has submitted a
14 decommissioning plan and has requested an action by the - by
15 the NRC. That action is approving that decommissioning
16 plan. So once the plans - the Environmental Impact
17 Statement would be prepared for the decommissioning plan.
18 There would not be another Environmental Impact Statement
19 prepared for termination. Termination would be an
20 administrative action taken by the commission after it had -
21 it was convinced that the commitments made in the
22 decommissioning plan had been made. Yes sir?

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MR. ROBERT ROSENTHAL:

The terminology I'm just not clear about about institutional - I forget the term.

MR. ROBERT NELSON:

Institutional control.

MR. ROBERT ROSENTHAL:

Institutional control. Which institution are we talking about? Are we talking about the United States Army? Or some agency thereof?

MR. ROBERT NELSON:

Apparently in this - in this case it would be the Army. They would - they would retain title to the land. Yes sir?

MR. TIM MALONEY:

Is the NRC part of the Department of Energy?

MR. ROBERT NELSON:

No it is not.

1 **MR. TIM MALONEY:**

2 Is it an independent agency?
3

4 **MR. ROBERT NELSON:**

5 It's an independent agency. At one (1) time
6 the Department of Energy and NRC were in one (1)
7 organization and that was called the Atomic Energy
8 Commission. In 1974 the - the two (2) functions were split
9 by Congress into the - what was first called the Energy
10 Research and Development Administration and then that became
11 the Department of Energy and then the Nuclear Regulatory
12 Commission was on - was set - was separate from the
13 Department. Yes sir?
14

15 **MR. ROBERT ROSENTHAL:**

16 I just have one (1) more general thing.
17 Because when you were going over your mission statement at
18 the beginning, I was trying to figure out where in the world
19 this particular phenomenon fits that - in that model and it
20 wasn't obvious. And I was just wondering just in general if
21 you could say to us the kinds of concerns or what the
22 concern about public health and safety that depleted uranium
23 facilities like this pose to your agency as compared to
24 reactors and medical use and all that other stuff? Are we

1 talking about something that's really very marginal or poses
2 great issues of public safety and health and so on?
3

4 **MR. ROBERT NELSON:**

5 Well ah I will - first of all we haven't
6 completed our review so I'm not going to comment in
7 finality. But let me say that depleted - depleted uranium -
8 well let me also comment that we don't - that NRC is - this
9 is a rather unique site for us. This is the first site that
10 we've really looked at that has this type of contamination
11 to this level of this specific type and it's really isolated
12 to a single type of contamination. Normally at - at sites
13 that are undergoing decommissioning that are - that are
14 complex we're looking at multiple radio nuclides. And often
15 ah other hazards. There's ah for example a - a firing range
16 in Lakes - Lake City, Missouri, outside of Salt - outside of
17 St. Louis. They tested depleted uranium as well but much
18 smaller munitions on a firing range much smaller than this.
19 Ah and the - the issue there is not only the depleted
20 uranium but the amount of lead in the ground. So actually
21 the lead is - at that site is more significant hazard than
22 the depleted uranium at the Lake City site. So each site is
23 - is unique and it's type of contamination, the extent of
24 contamination and the hazards that's posed. Now you asked

1 me the kind of - I think you asked me to compare the hazard
2 here with other sites? The real - the real hazard here as
3 far as I see it is not the uranium but the unexploded
4 ordnance. The - if the unexploded ordnance could be - if
5 that weren't an issue we would probably be looking at
6 cleaning up this depleted uranium. That's what we're doing
7 at the Lake City site. That's going to be cleaned up. The
8 depleted uranium is going to ultimately be removed because
9 they don't have an unexploded ordnance issue there. They do
10 here. So the - the real concern from a public health and
11 safety prospective totally is - is really the unexploded
12 ordnance, not the depleted uranium. Ah I think the, correct
13 me if I'm wrong, but the dose assessment that the Army has
14 done for - for an onsite intruder scenario is what, like
15 forty-four (44)?

16
17 **MR. JOHN CONTARDI:**

18 Forty-four (44) millirem.

19
20 **MR. ROBERT NELSON:**

21 Forty-four (44) millirem. Well - and that's
22 clearly above twenty-five (25) which is why they have to go
23 for a restricted release. But most - if you want me to
24 compare it to reactor sites, most of the reactor sites that

1 are being cleaned up are being cleaned up for unrestricted
2 use.

3
4 **MR. BOB HUDSON:**

5 The way that license appears to be prepared
6 is on a short term basis and what you guys - terms are,
7 almost makes the question when you issued the license you
8 could have - did you kind of do that not knowing what the
9 future might hold in this whole arena? Just kind of here
10 are the license and we will learn - we will learn from this
11 experience?

12
13 **MR. ROBERT NELSON:**

14 I can't comment on what - what went through
15 the - the minds of my predecessors. I can tell you that
16 when we ah issued the license termination rule back in -
17 three (3) years ago in 1997 that for any new lic - any new
18 license issued, the licensee has to address how at - they
19 will minimize contamination so as to allow eventual cleanup
20 of the site. Ah you can call that lessons learned. But now
21 we require that to be addressed up front.

22
23 **MR. BOB HUDSON:**

24 Knowing the condition of the land as it was

1 when that license was issued that unexploded ordnance was
2 already there. So the license was issued knowing that you
3 want to really compound the problem in the future because
4 you mixed these two (2) elements together. It almost seems
5 like - I was there when it happened - and it didn't seem
6 like to me maybe not much concern or something when you did
7 it.

8
9 **MR. ROBERT NELSON:**

10 Again - again I can't comment on that.

11
12 **MR. BOB HUDSON:**

13 And - and Richard I think is the one (1)
14 that commented on that that we didn't even know the future
15 about BRAC and we never knew that there was going to be a
16 day that they were going to close it down and try to dispose
17 of -- I guess that was just something we believed was always
18 going to be there.

19
20 **MR. KEN KNOUF:**

21 Nothing lasts forever Bob.

22
23 **MR. BILL CORNING:**

24 Why didn't you stop it Bob?

1 **MR. BOB HUDSON:**

2 Well I guess I just thought it would be
3 extra work so we just - it was a big work load for us so we
4 took it on.

5
6 **MR. ROBERT NELSON:**

7 Well specific - I wasn't in a position to
8 stop it if I could but ah the - I do want to get back to the
9 point that the unexploded ordnance here is I think the real
10 environmental and safety hazard. The uranium does pose a
11 hazard if you were to - as I explained earlier if you were
12 to go on to the site. If all the UXO were not there, if it
13 magically went away and the uranium stayed there, it would
14 be a problem. You would not want to go onto that site and -
15 and play with that uranium, pick it up, use it, use it for
16 tent stakes, whatever you might want to use it for, not -
17 not a good thing to do. Ah so there would still be a
18 problem. But it's - it's - as I mentioned earlier it's
19 really primarily an ingestion hazard and by keeping you away
20 from it you will not be - you will not likely be exposed to
21 it. Yes ma'am?

22
23 **MS. DIANE HENSHEL:**

24 If you're saying that it's primarily an

1 ingestion hazard where is this forty-four (44) millirem
2 exposure for a visitor coming from? Is it coming from dust?
3 Is it coming from just - it's only an output emitter. So it
4 kind of --

5
6 **MR. ROBERT NELSON:**

7 I would have - I would have to look at - at
8 the specific dose assessment.

9
10 **MR. JOHN CONTARDI:**

11 I believe actually the majority of that
12 pathway actually is external because it does have weak
13 gammas coming from it.

14
15 **MS. DIANE HENSHEL:**

16 Okay so it's primary.

17
18 **MR JOHN CONTARDI:**

19 I think that's - I can't even guess. But
20 that is the major fraction. I don't know if that's fifty
21 (50) percent or sixty (60) percent. I don't know if someone
22 from JPG recalls that number or not. But ah it does have
23 gammas that come off of it.

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MS. DIANE HENSHEL:

So that's primarily from gamma then, not from the alpha?

MR. JOHN CONTARDI:

For the - yes.

MS. DIANE HENSHEL:

For the forty-four (44) millirem per year?

MR. JOHN CONTARDI:

But that's not all forty-four (44) of it. The majority of it - or the major pathway, let me put it that way, is from gamma. That means if you summed up all your different pathways, and I can't remember in RESRAD how many there are, there's like thirteen (13). So that means you could have like nine (9) from external and then have eight (8), seven (7), six (6) and just add those up until you get to forty-four (44). So that doesn't mean forty-four (44) millirem comes from external. It just means the major pathways from external.

MS. DIANE HENSHEL:

So you're saying some could be internal

1 which means there's some in the dust so the dust is not a
2 hundred (100) percent clean?
3

4 **MR. JOHN CONTARDI:**

5 Could - so yeah there will be some in the
6 soil. What the scenario is --
7

8 **MS. DIANE HENSHEL:**

9 Does that mean there is some in the soil or
10 there would be some in the soil? I guess - I thought what I
11 heard before was the soil is clean. And what I'm hearing
12 now is the soil is not a hundred (100) percent clean after
13 all.
14

15 **MR. JOHN CONTARDI:**

16 Well it depends on what you want to call --
17

18 **MS. DIANE HENSHEL:**

19 Paul? Do you have the numbers?
20

21 **MR. PAUL CLOUD:**

22 You guys took those assessments.
23
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MR. ROBERT NELSON:

I'm not - before I turn over the mic let me explain that what I gave you was the number from their dose assessment which we are currently reviewing. We have not put our stamp of approval on it that says this is right, this is wrong, whatever. I am just giving you the numbers.

MS. DIANE HENSHEL:

I understand.

MR. ROBERT NELSON:

I'm not here to defend what's - what's been proposed to us.

MS. DIANE HENSHEL:

I'm aware of that.

MR. ROBERT NELSON:

Okay. I understand.

MS. DIANE HENSHEL:

I just want to know what that means.

1 **MR. PAUL CLOUD:**

2 Diane?

3
4 **MS. DIANE HENSHEL:**

5 Yeah.

6
7 **MR. PAUL CLOUD:**

8 We were just talking back there and we can
9 provide you or anyone else in the - in the audience who's
10 interested but I believe that those numbers come from what
11 is referred to as the resident farmer scenario, someone who
12 would live on the property, grow crops, drink the water,
13 grow vegetables, you know have animals there, slaughter the
14 animals, eat the meat, be there all the time.

15
16 **MS. DIANE HENSHEL:**

17 Un-huh (yes).

18
19 **MR. PAUL CLOUD:**

20 It would be a combination of all those
21 exposure pathways combined that would come up to this forty-
22 four (44) millirem per year. Clearly because of the UXO and
23 the fact that there's not going to be a resident farmer
24 there is one (1) of the rationales, although not the only.

1 one (1) that the Army is utilizing as the basis or part of
2 the basis for the restricted reuse termination. That's what
3 I recall but we can get you that information.
4

5 **MS. DIANE HENSHEL:**

6 So this is all in the original 1995 EIS?
7

8 **MR. PAUL CLOUD:**

9 Yeah.
10

11 **MS. DIANE HENSHEL:**

12 Where is that in there?
13

14 **MR. PAUL CLOUD:**

15 That information is in some of the surveys
16 that we have, we the Army, have done that we have provided
17 to the NRC for leading up to the proposal to decommission
18 the license.
19

20 **MS. DIANE HENSHEL:**

21 Okay.
22

23 **MR. PAUL CLOUD:**

24 There are actual studies, documentation that

1 has been done.

2

3 **MS. DIANE HENSHEL:**

4 Does Richard have all this at this point?

5 Do you have all this?

6

7 **MR. RICHARD HILL:**

8 I have everything that they've talked about
9 so far. It sounds familiar.

10

11 **MS. DIANE HENSHEL:**

12 Okay.

13

14 **MR. PAUL CLOUD:**

15 If he doesn't have it you know let me know.

16

17 **MR. RICHARD HILL:**

18 I have like I said a seventy (70) pound box.

19

20 **MR. PAUL CLOUD:**

21 But anything he doesn't have we can provide
22 either to him or to yourself or anyone else who's
23 interested.

24

1 **MS. DIANE HENSHEL:**

2 Okay.

3
4 **MR. PAUL CLOUD:**

5 None of that information is classified.

6
7 **MS. DIANE HENSHEL:**

8 Okay.

9
10 **MR. JOHN CONTARDI:**

11 I can also add to that. RESRAD is a
12 computer model that ah - a national lab, Argon National
13 Laboratories developed and it's not capable of modeling
14 penetrators. What you have to do is you have to assume, and
15 correct me if I'm wrong, but I believe the assumption was
16 made that it is - that uranium is mixed into the soil? So
17 for the modeling portion of it you would have contaminated
18 soil, you would have some type of re-suspension where it
19 comes up into the atmosphere but that doesn't necessarily
20 mean that's how it is on the site. That's just the manner
21 in which you have to model it. And that would be what we
22 call a conservative model. That means it's going to over
23 estimate what the actual dose is. Chances are if predicting
24 forty-four (44) millirem, chances are statistically it's

1 going to be lower than that.

2
3 **MS. DIANE HENSHEL:**

4 But what I think I'm hearing from other
5 people and what I myself am feeling is what are the numbers
6 for what's in the soil and for what you've measured? What
7 are the numbers for what's in the air for what you've
8 measured when you've monitored? Because you say you have
9 done so. So what are the numbers?

10
11 **MR. JOHN CONTARDI:**

12 Well you will have to ask them about the
13 site characterizations.

14
15 **MS. DIANE HENSHEL:**

16 I'm assuming that's in the study.

17
18 **MR. PAUL CLOUD:**

19 That's in there. All the information we
20 have is like in a - as John has said we have that
21 information. It's in a site characterization. Whatever
22 information that we have is - is in those studies.

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MS. DIANE HENSHEL:

Right.

MR. ROBERT NELSON:

But let me just clarify that.

MS. DIANE HENSHEL:

Yes?

MR. ROBERT NELSON:

What's - what's going to be in those studies are going to be concentration values. Okay? In amounts of activity per - per gram or per liter all right? That - somehow you would have to translate those numbers into a dose okay, into an exposure? And that's done via a model, computer model, which John was taking about earlier. You take what you know you have okay in terms of concentration values okay and within the confines of the model you make some limiting assumptions okay? As John said the model doesn't model penetrators. It models concentrations and soils. So you have to make some conservative bounding assumptions that - that translate these penetrators into soil contamination. And then you can - you put into the model what you know about the soil, the precipitation in the

1 area, the - the speed of the ground water, the - and various
2 other factors and you look at the various pathways of
3 exposure that Paul described. You add those all together
4 and you get a dose. So there's a big step from what's there
5 in measured numbers to what you predict to be the exposure
6 as a result of those values.

7
8 **MR. PAUL CLOUD:**

9 I think a rough analogy would be on the
10 environmental - in the environmental arena what would be a
11 risk assessment for environmental contamination? There are
12 - to a certain degree there are conservative assumptions
13 made on some types of things like the length and time of
14 exposure. They may not be the concentration in ground but
15 it may be is there going to be somebody there eating a
16 specified amount of dirt every day for five (5) years, ten
17 (10) years, twenty (20) years? Are they going to do other
18 things? Those I'm sure you're much more familiar with. If
19 you apply that type of rationale in a - in a very crude
20 manner that's what I think we're trying to explain. There's
21 - it's not an exact science but it's - you know it's the
22 best I think that we have at the current time.

23

24

1 **MS. DIANE HENSHEL:**

2 Right. But what I was hearing before from
3 you Paul was there is nothing there other than in the shells
4 themselves and it's not migrating.

5
6 **MR. PAUL CLOUD:**

7 It's not migrating. And when I say it's not
8 migrating, it's not migrating more than an inch or two (2)
9 from where it - as soon as it lands on the ground it begins
10 an oxidation process. Our experience has shown that once
11 the oxidation layer has covered the ground there is no
12 further deterioration of the round so that migration ceases
13 to be an issue. It takes a finite amount of time for that
14 oxide layer to form. It may be days, weeks, months,
15 whatever.

16
17 **MS. DIANE HENSHEL:**

18 And in the meantime --

19
20 **MR. PAUL CLOUD:**

21 But because of the soil condition at
22 Jefferson, the till, the clay, the fact that it is a very
23 typed soil condition, we have not seen it in any - in any of
24 the soil samples any sediment or anything else where we have

1 located a penetrator and done sampling analysis two (2)
2 inches, six (6) inches, a foot, two (2) feet underneath. It
3 stops very close to the penetrator. And when I mean very
4 close we're talking very few inches. So there is no
5 "migration". We have not experienced that at this site and
6 I can only - I only speak to Jefferson.

7
8 **MR. JOHN CONTARDI:**

9 But I can also say to put it into
10 prospective ah about - there's radiation occurring
11 everywhere that believe it or not the federal government did
12 not put there. That's just natural radiation that happened
13 from the creation of the universe or what have you and your
14 average background is going to be three hundred and sixty
15 (360) millirem per year. Under this scenario you're going
16 to get forty-four (44), which I'm not saying is trivial,
17 don't get me wrong, but I'm just saying in comparison it's
18 significantly lower. Now this scenario assumes you have
19 someone on this that creates a farm, grows vegetables on the
20 contaminated soil, and here we are assuming it's distributed
21 there. He's drinking from water - actually no, in their
22 scenario they didn't drink from the water because it doesn't
23 have a high enough yield and I believe due to the sulphur
24 content.

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MR. PAUL CLOUD:

You wouldn't want to drink it.

MR. JOHN CONTARDI:

So under that scenario they would have forty-four (44) and I'm not sure what the doses are for calculating down stream any farther than that. But like I said don't get me wrong. I'm not saying forty-four (44) is trivial. I'm just saying in prospective to what you get from natural background it's significantly lower. When you fly - when I flew here I got approximately one (1) to three (3) millirem just because I was closer to the sun. Yes ma'am?

MS. MARY CLASHMAN:

So the Nuclear Regulatory Commission representative could not answer the question and now that Mr. Cloud is back possibly he can for the Army. Why does the Army wish to discontinue the license?

MR. PAUL CLOUD:

Well actually the NRC did explain it very you know well from the Army's prospective. We looked at it as a mechanism by which the license is no longer a - a

1 necessity. There is no activity generating additional DU
2 there. We feel that if we can meet the statutory regulatory
3 legal requirements for the termination of the license then
4 that is something that will benefit our organization. And
5 if there is no monitoring or reduced set of monitoring that
6 is required in the future then that is also less tax dollars
7 that will have to be spent at this site for that particular
8 issue. That is something that will be ultimately determined
9 between the Army, the NRC and it will also be affected by
10 whatever public input that we receive on it. But that's -
11 that's the essential reason. Are there any other questions?
12 John do you have anything else?

13
14 **MR. JOHN CONTARDI:**

15 No that's all.

16
17 **MR. PAUL CLOUD:**

18 All right.

19
20 **MR. JOHN CONTARDI:**

21 I would just like to thank you again for
22 having us here.

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MR. PAUL CLOUD:

We have twenty (20) minutes before I physically have to be out of here or I'll have to pay a bill that is very difficult to pay by the federal government. So I - I would also like to thank everyone for being here. Richard do you have any closing comments?

MR. RICHARD HILL:

Not other than thank everybody for coming and appreciate your - your comments. And encourage you to get with me if you have any other questions or comments.

MR. ROBERT NELSON:

We'll - we'll be here until everybody else is gone or we get kicked out. So if you want to come up and to talk to us one (1) on one (1) we will be glad to do that.

MR. PAUL CLOUD:

The next meeting is on October 4th at the Jennings County Library in North Vernon on Wednesday, 7:00 P.M. Hope to see you there. Thank you.

* * * * *

CONCLUSION OF HEARING

C E R T I F I C A T E

STATE OF INDIANA)
) SS:
COUNTY OF JEFFERSON)

I, Sharon Shields, do hereby certify that I am a Notary Public in and for the County of Jefferson, State of Indiana, duly authorized and qualified to administer oaths; That the foregoing public hearing was taken by me in shorthand and on a tape recorder on May 31, 2000 in the Madison-Jefferson County Public Library, 420 West Main Street, Madison, IN; That this public hearing was taken on behalf of the Jefferson Proving Ground Restoration Advisory Board pursuant to agreement for taking at this time and place; That the testimony of the witnesses was reduced to typewriting by me and contains a complete and accurate transcript of the said testimony.

I further certify that pursuant to stipulation by and between the respective parties, this testimony has been transcribed and submitted to the Jefferson Proving Ground Restoration Advisory Board.

WITNESS my hand and notarial seal this 19th day of June, 2000.

Sharon Shields

Sharon Shields, Notary Public
Jefferson County, State of Indiana

My Commission Expires: July 2, 2007