

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL  
NATIONAL INSTITUTE FOR OCCUPATIONAL  
SAFETY AND HEALTH

+ + + + +

ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH

+ + + + +

TBD-6000 WORK GROUP

+ + + + +

WEDNESDAY  
NOVEMBER 28, 2012

+ + + + +

The Work Group convened in the Zurich Room of the Cincinnati Airport Marriott, 2395 Progress Drive, Hebron, Kentucky, at 9:00 a.m., Paul Ziemer, Chairman, presiding

PRESENT:

PAUL L. ZIEMER, Chairman  
JOSIE BEACH, Member  
WANDA I. MUNN, Member  
JOHN W. POSTON, SR., Member\*

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ALSO PRESENT:

TED KATZ, Designated Federal Official  
DAVE ALLEN, DCAS  
BOB ANIGSTEIN, SC&A  
ZAIDA BURGOS, NIOSH\*  
PATRICIA JESKE\*  
JOSH KINMAN, DCAS\*  
JENNY LIN, HHS  
JOHN MAURO, SC&A\*  
JAMES NETON, DCAS  
JOHN RAMSPOTT\*  
WILLIAM THURBER, SC&A\*

\*Present via telephone

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

2 (9:00 a.m.)

3 MR. KATZ: Okay, good morning  
4 everyone in the room and on the line. This is  
5 the Advisory Board on Radiation and Worker  
6 Heath, TBD-6000 Work Group, and we're going to  
7 get started here. And I'll begin with roll  
8 call. We're talking about a site so please  
9 speak to conflict of interest everybody, as we  
10 do roll call. And let's begin with the Board.

11 (Roll call.)

12 MR. KATZ: Let me just remind  
13 folks on the line to mute your phone except  
14 when you're speaking, and use \*6 if you don't  
15 have a mute button, \*6 again to come off of  
16 mute. Thanks.

17 CHAIRMAN ZIEMER: Well, good  
18 morning everyone. The agenda for the meeting  
19 was distributed to the Work Group Members, I  
20 believe to the petitioners as well, and also  
21 is on the website if you don't have a copy.

22 Just a very quick review, we're

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1 going to focus initially here on the issue of  
2 the use of surrogate data for the active and  
3 residual periods. And we have in that regard,  
4 we have a report from NIOSH, we have a review  
5 of that report by SC&A. And we also have, I  
6 actually have three sets of comments from the  
7 petitioner relating to that issue as well.

8 And then, so we'll hear initially  
9 from NIOSH and SC&A and then have an  
10 opportunity for the petitioner to make  
11 comments. And then after we complete that  
12 part, we want to take a look at where we stand  
13 on open issues on TBD-6000, Appendix BB, on  
14 the issues resolution. You may recall that a  
15 number of the SEC issues we had previously  
16 transferred to be resolved under TBD-6000  
17 Appendix BB, so those become part of that  
18 issues matrix and Bob has prepared a, sort of  
19 a merger of those two documents. We actually  
20 have the up to date version of both of those,  
21 but the transfer puts them all under TBD-6000,  
22 Appendix BB.

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1                   But let's begin now with the  
2 document that is submitted to us by Dave  
3 Allen. It's called Evaluation of Additional  
4 Air Sample Data Applicable to GSI. And I know  
5 you've all had a chance to read it. What  
6 we'll do is just ask Dave Allen if he has any  
7 additional comments or if anything that you  
8 want to highlight on the paper itself, and  
9 then we'll ask if the Board Members have any  
10 questions, and then we'll go on to the SC&A  
11 review.

12                   MR. ALLEN: Well, I think you  
13 don't want me just to summarize the whole  
14 thing, so --

15                   CHAIRMAN ZIEMER: I don't know  
16 that you have to go through it in detail, just  
17 anything that you think you want to highlight.  
18 I know you did a pretty extensive search of  
19 databases.

20                   MR. ALLEN: Yes, I would like to  
21 point out, you know, just to make sure it's on  
22 the record there, it was not a systemic

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1 search. I didn't go through every document in  
2 our Site Research Database. That would have  
3 taken a few lifetimes.

4 CHAIRMAN ZIEMER: Right.

5 MR. ALLEN: I tried to concentrate  
6 on some sites that had limited work like did  
7 some testing and stuff thinking there would be  
8 less interference. Found limited samples  
9 there so then I went to some of the sites that  
10 handled a lot of uranium metals such as  
11 Mallinckrodt, Weldon Spring, and Fernald, and  
12 just started looking for big caches of air  
13 samples and pored through them.

14 And that's essentially how I did  
15 this search, so it wasn't systemic or it could  
16 be, it wasn't systematic. There could be  
17 other stuff out there but I don't know of a  
18 better way to go find that other than to  
19 stumble across it.

20 The one thing in the analysis I  
21 would like to point out, and I notice it's in  
22 there and I'm sure you've seen it, but when I

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1 first started putting this together, I was  
2 really thinking that the airborne  
3 concentrations as far as different forms of  
4 uranium would be more related to the surface  
5 area of the shapes than the mass.

6 So I started doing that analysis  
7 and I don't think anybody was more surprised  
8 than me to find out it wasn't in fact related  
9 to the surface area. There was quite a bit of  
10 difference there. And as the analysis turned  
11 out, it was essentially airborne associated  
12 with handling a quantity of uranium metal  
13 regardless of the shape or the size or  
14 anything, because the slugs were giving just  
15 about as much airborne contamination as  
16 billets or dingots, which turns out pretty  
17 good for what we want, you know, makes the  
18 surrogate data useful regardless of the shape  
19 and size. So it helps a lot on this movement  
20 of cold uranium metal because you can have  
21 more of that as relative to what you're  
22 looking at. And I think that's all I wanted

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1 to point out unless you wanted me to go over  
2 anything in particular.

3 CHAIRMAN ZIEMER: Well, let me ask  
4 the Work Group Members if they have particular  
5 questions on Dave's results. We have a more  
6 detailed critique that SC&A did and want to  
7 hear their comments and then perhaps get  
8 NIOSH's response to SC&A's comments, because I  
9 know that you've had a chance to look at  
10 those.

11 MEMBER BEACH: Can I ask one  
12 thing?

13 CHAIRMAN ZIEMER: Sure.

14 MEMBER BEACH: Dave, how does the  
15 Putzier effect? Does it come into play in  
16 that?

17 MR. ALLEN: The Putzier effect,  
18 when we went over that for the TBD-6000, kind  
19 of showed that it really didn't apply to the  
20 reduction of uranium-2 metal. It came into  
21 effect with the remelting. And for dingot  
22 production, that stuff is skipped, it's all

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1 combined into, you wouldn't get much of that  
2 effect.

3 Fernald or anyplace else that  
4 actually did a vacuum remelt of the derbies  
5 into an ingot, is where you would see that  
6 effect. And we didn't -- I didn't use any of  
7 that data. There's so much interference when  
8 you've got that going on that there's really  
9 no data we could use for what we wanted to do.  
10 But primarily, the airborne from that ends up  
11 being shorter lived beta gamma type of, it's  
12 protactinium-234m and thorium-234.

13 From an internal dose standpoint,  
14 they're not real significant and so  
15 concentrating them by a factor of ten doesn't  
16 really change it all that much from an  
17 internal dose standpoint. It's mostly an  
18 external dose, a special beta. So for this  
19 analysis, it really wasn't a critical issue or  
20 an issue at all.

21 MEMBER BEACH: But it would be for  
22 an external possibly?

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1                   MR. ALLEN:       From an external  
2                   standpoint it can be.

3                   CHAIRMAN ZIEMER:   Bob?

4                   DR. ANIGSTEIN:     I'm not sure I  
5                   caught every word that Dave said.   What you  
6                   have in a Putzier effect is very short lived,  
7                   thorium-234 with a 24 day half-life.   So as  
8                   Dave said, you know, you put your hand on it,  
9                   sure, you know, it will give you getting the  
10                  beta dose.

11                  But     for     internal,     the     most  
12                  important first of all is the alpha dose.   You  
13                  get uranium that resides in the lungs for a  
14                  long period of time and you get the lung dose  
15                  from the -- whereas the dose from the thorium-  
16                  234 is virtually zero, by comparison.   It's  
17                  orders of magnitude smaller because first of  
18                  all, it's not an alpha emitter.   And second of  
19                  all, it's short-lived.   So it's a, you know,  
20                  be completely lost in the noise.

21                  CHAIRMAN ZIEMER:   Okay, thank you.  
22                  Any other questions or comments?   Okay, well,

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1 let's just emphasize your bottom line then,  
2 sort of two bottom lines. One is the activity  
3 that you associate with the handling. And the  
4 other is the surrogate data issue, so just  
5 recap your conclusions on that, put it on our  
6 record here.

7 MR. ALLEN: Appendix BB used some  
8 surrogate data that was not similar to GSI.  
9 We tried to use that as a bounding estimate  
10 and the worker wanted to see if there was some  
11 data out there more applicable to GSI, and  
12 that's why we went searching for this data.

13 And so this data was for, since  
14 this data was for various forms of uranium, I  
15 did that analysis to try to decide which of  
16 those forms would be most applicable to GSI  
17 from my analysis and deciding that all of  
18 those forms were applicable, so we took all  
19 that data and put it together and came up with  
20 a distribution resulting in a log normal with  
21 a median of 104 dpm cubic meter, I believe.

22 And then from that data set, I put

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1 through the Board's surrogate data, surrogate  
2 data criteria to decide whether or not it is  
3 applicable to GSI per the Board's criteria.

4 And I decided it was anyway, and then  
5 obviously that's reviewed.

6 DR. NETON: I think it's important  
7 to point out, what Dave's done here is what I  
8 would consider a process specific analysis,  
9 which was not envisioned in TBD-6000, this  
10 process itself, which was a movement of  
11 uranium metal. And I think he might have put  
12 this in the White Paper, I don't remember, but  
13 this would fully be intended to be added to  
14 the TBD-6000 as another process.

15 CHAIRMAN ZIEMER: Right, I noticed  
16 on the site or process similarities where, or  
17 no, in exclusivity I think it was, where the  
18 justification is called for. You indicated  
19 you would put that in Appendix BB. My  
20 suggestion is that you include all of the  
21 surrogate data issues in the Appendix, just as  
22 discussion points as to why this data set or

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1 some version of it at least, is used.

2 And it's an important distinction  
3 between the general TBD-6000 and this as a  
4 site specific, as you say process related,  
5 because it deals with handling cold uranium,  
6 which is more specific than the general TBD-  
7 6000. So you would have a commitment I think,  
8 to include that discussion in here if, in  
9 fact, this turns out to be agreeable to the  
10 Work Group and we are on the same page with  
11 SC&A.

12 And I know they're, Bob has  
13 suggested some perhaps modifications, but  
14 let's hear from you, Bob, and again, we have  
15 your report and I don't think you need to go  
16 through it in complete detail, but you might  
17 want to highlight where you differed.

18 DR. ANIGSTEIN: Yes.

19 CHAIRMAN ZIEMER: And then I'd  
20 like to hear response from NIOSH on whether  
21 you have some concerns about those issues or  
22 agree with them and so on. So why don't you

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1 highlight where you found, or where you're  
2 suggesting some differences. And do you have  
3 overheads you're planning to use?

4 DR. ANIGSTEIN: Yes I do.

5 CHAIRMAN ZIEMER: Okay, while he's  
6 getting that set up, let's check again and  
7 make sure that, did John Ramspott get back on  
8 the line okay?

9 MR. KATZ: Yes, two things I want  
10 to check on, John Ramspott, I'll just look and  
11 check in my email just for this actually.  
12 John Ramspott, are you now on and audible?

13 (Off record discussion.)

14 MR. KATZ: John Ramspott? Okay,  
15 John Ramspott, if you're on, we cannot hear  
16 you. And the other person I just wanted to  
17 check on is Dr. Poston. Are you on with us  
18 now? I heard someone taking themselves off  
19 mute but I don't hear a voice. Dr. Poston,  
20 are you online with us?

21 CHAIRMAN ZIEMER: So, and Dr.  
22 McKeel is not online I gather?

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1 MR. KATZ: No. No, I don't expect  
2 Dr. McKeel, I have a letter from Dr. McKeel to  
3 read later.

4 CHAIRMAN ZIEMER: Okay.  
5 (Off record discussion)

6 MR. KATZ: Can someone who's on  
7 line speak just so that we know that I can  
8 hear people who are on line?

9 MR. RAMSPOTT: Ted, can you tell  
10 this is John Ramspott?

11 MR. KATZ: John, your phone is not  
12 functional still. I can hear you but just  
13 only by great effort, so something is wrong  
14 with your phone. Someone else on the line,  
15 can someone --

16 MR. THURBER: This is Bill  
17 Thurber, I'm --

18 MR. KATZ: Yes, you're clear as a  
19 bell, thank you though.

20 CHAIRMAN ZIEMER: And John Mauro  
21 is clear.

22 MR. KATZ: And John Mauro's clear.

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1 I just wanted to make certain it was still  
2 that it wasn't a problem with the phone, okay.

3 MR. KINMAN: Yes, and this is Josh  
4 Kinman, I just joined shortly after you began  
5 the meeting, so I can hear everything fine.

6 MR. KATZ: Okay, yes, I thought  
7 you could hear me, I just wanted to be sure I  
8 could hear you. Thanks, okay.

9 CHAIRMAN ZIEMER: So, is John or,  
10 I guess we don't know whether he can, I guess  
11 he can hear us okay.

12 MR. KATZ: John Ramspott, you can  
13 hear us, right?

14 MR. KINMAN: I barely heard him  
15 say that, this is Josh, that he was going to  
16 move to another phone.

17 MR. KATZ: Yes, okay, okay, so  
18 he's probably switching right now while we're,  
19 to another phone.

20 MS. JESKE: This is Patricia  
21 Jeske, I'm on line now.

22 MR. KATZ: Okay, we hear you

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1 clearly. Thank you.

2 MS. JESKE: Okay, great.

3 (Off record discussion)

4 CHAIRMAN ZIEMER: We're going to  
5 wait just a minute here while the projector's  
6 being set up. Dr. Anigstein is projecting  
7 some materials that are in his written report,  
8 so I assume that everybody has copies of that  
9 report. It was distributed to the Work Group,  
10 to the petitioners, and is this also online  
11 now, the SC&A report?

12 MR. KATZ: Yes, the SC&A report's  
13 posted, the NIOSH report's posted, yes.

14 CHAIRMAN ZIEMER: Okay, I think  
15 we're set to go then.

16 DR. ANIGSTEIN: Very good. Okay,  
17 well this is basically some highlights from  
18 the report. There's nothing new in here, even  
19 though this briefing per se has not been  
20 distributed, it was just done at the last  
21 moment.

22 So okay, I'll start off with the

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1 table that was prepared, I took this out of  
2 Dave Allen's report with some editing. And  
3 Dave provided 37 measurements of airborne  
4 uranium concentrations, the measurements were  
5 always stated in alpha activity as dpm per  
6 cubic meter. And the first six were for this  
7 type, for LeBlond, which was, what was LeBlond  
8 again? All of a sudden I have a mental block.

9 MR. ALLEN: I think that was  
10 boring a hole in a billet.

11 DR. ANIGSTEIN: Pardon?

12 MR. ALLEN: I think that was  
13 boring a hole in a billet.

14 DR. ANIGSTEIN: Yes. Yes, right,  
15 right, that was a test to see whether they in  
16 fact were using, there we had in the past cast  
17 hollow billets, and it wasn't working out too  
18 well, so they were investigating the boring  
19 machine. So the first six were completely  
20 applicable to what was going on at SC&A, at  
21 GSI, excuse me. I can't even think, I work  
22 for that company.

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1                   However, in looking over the data  
2                   set, we found six more that seemed to be quite  
3                   applicable, that were in the same range of  
4                   concentrations and that they were just like  
5                   here with the operator actually hooking the  
6                   billet up and removing the billet. He was  
7                   working the controls of the boring machine,  
8                   and it may sound well, but that's not  
9                   comparable, well it is because the boring  
10                  machine was working, but a constant flow of  
11                  coolant, so there was really no airborne  
12                  activity from the boring itself.

13                  There was this coolant, which was  
14                  probably some kind of an oil, that was flowing  
15                  right into the drill bit and all the chips  
16                  were being washed out down there, you know,  
17                  into a collection area. So the fact that the  
18                  operator was nearby, this was a perfectly good  
19                  example of concentration we wanted to, and the  
20                  reason we wanted to add to the data set, I  
21                  mean, because there was some other things that  
22                  we thought was not applicable.

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1           The next one was a place called  
2 Chambersburg.       And we disagreed with  
3 Chambersburg, and I indicate why, this is  
4 actually LeBlond where I show the additional  
5 samples, the operating, BZ stand for breathing  
6 zone operator, operating controls of the  
7 machine, no visible dust or fumes or oil  
8 spatters for that, again, shouldn't have much  
9 of an impact. However, and then there was six  
10 more at LeBlond, same as 967, said that 967  
11 was this one.

12           Now Chambersburg, these were,  
13 there were a few BZ samples that were used,  
14 these are the BZ samples that were used by  
15 NIOSH, operator working safety control of an  
16 impactor was located five feet west of the  
17 impactor safety control that is.

18           However, they also had a lot of  
19 other samples that were much, much higher and  
20 there was really no basis for selecting those  
21 particular ones. This is again the same,  
22 these are these that were selected by NIOSH.

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1       However, if they're going to select these, why  
2       not select the operator impactor who was ten  
3       feet away, twice as far?

4                       And there is an observation of  
5       the, there was a cover letter, this is  
6       basically, all of these are reports from field  
7       personnel deployed by the National Lead of  
8       Ohio, which of course was the contractor  
9       operating Fernald, to these facilities, you  
10      know, to check up on the health and safety.

11      So this was a report reporting back to a Dr.  
12      Quigley, I believe his name was, at National  
13      Lead.

14                       And he noted it was like a draft  
15      that was blowing towards this impactor  
16      operator, and giving him a very high  
17      concentration. So there was a lot of airborne  
18      uranium activity. And it happened to have  
19      missed the one that was five feet west, but it  
20      hit the one that was ten feet north.

21                       And since the whole operation was  
22      punching holes, was they were taking these

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1 washers and punching holes in them with the  
2 impactor, and then there were those removing  
3 the washers and putting the slugs into the  
4 furnace, this was not an applicable operation.

5           This was a very different  
6 operation, we did a lot of processing of  
7 uranium, putting it into a furnace, punching  
8 holes in it, removing the washers, so we feel  
9 that this is really not applicable to GSI, it  
10 would distort the picture. We feel that those  
11 should have been removed, that's why we here  
12 indicated the blue is the one that should be  
13 removed, their work with them, blue and cross  
14 out those to be removed.

15           And then we get to Tocco. Tocco  
16 is a place again, that was doing some tests of  
17 a furnace. And however, there were a lot of  
18 samples collected before these slugs went into  
19 a furnace, so that would have been applicable  
20 with some handling.

21           And there were two campaigns, one  
22 in, no sorry, I didn't get a picture of those.

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1 And they were about six months apart, and the  
2 first campaign, there were two readings which  
3 were loading uranium slugs in preparation for  
4 heating them, and those are perfectly  
5 legitimate.

6 And then there was another  
7 campaign two months later, and the only thing  
8 was, here they were using depleted uranium.  
9 The chambers, Tocco got depleted uranium as  
10 well as normal uranium, I think it was  
11 something from my memory of 5,600 pounds of  
12 depleted and only 2,000 pounds of normal. And  
13 since the earlier campaign was only normal, we  
14 assume that it will be safe to assume that  
15 this was primarily, if not entirely depleted  
16 uranium. It said on the sheet combination of  
17 both.

18 So to be conservative and  
19 claimant-favorable, I took each of these  
20 concentrations that was listed in dpm per  
21 cubic meter, and said what if this had been  
22 normal and not depleted uranium? And the

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1 result is, you multiply by the ratio of  
2 specific activity between depleted and normal  
3 uranium and you end up at about a factor of  
4 1.8 I think is higher. So I took each of  
5 these readings that was in the NIOSH report  
6 and simply multiply it by this factor to come  
7 up with a higher reading. And this continues  
8 on to the next page here.

9 Now at Fernald, we believe that  
10 these were very aggressive operations,  
11 breaking out the derby, cleaning the derby,  
12 removing the derby from the breakout table,  
13 that these were really again, not applicable,  
14 to simply handling of uranium.

15 A derby is not, this is, it's  
16 called a derby because it looks like a hat  
17 when it comes out of the, when they reduce the  
18 uranium tetrafluoride to uranium metal, and  
19 you get this shape. And then later on, they  
20 remelt it, they melt it and make it into an  
21 ingot. So we felt that these should not  
22 really have been used.

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1           Then you get to Weldon Spring,  
2           there were a couple of handling dingots that  
3           was exactly, probably similar to the dingot  
4           that was sent to GSI, so this was very  
5           applicable. However, what was then here was  
6           they took, the first two were fine, but then  
7           they took the installation removal of dingot  
8           in lathe. What they gave was only, they  
9           didn't give the raw data sheet, they gave a  
10          summary report and the raw data sheet wasn't  
11          available. And there were three numbers,  
12          they're actually in different units but, you  
13          know, microcuries and then we can get them  
14          down to dpm, and they gave high, low, and  
15          average, that were considered routine of all  
16          their report.

17                 But the high and the low were  
18                 given and the average was given in terms of,  
19                 not in terms of activity unit, but in terms of  
20                 mass loading, so it's a microgram per cubic  
21                 meter. And when you work it out, it comes out  
22                 exactly between these two readings and it

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1 would be very safe to say that it simply is  
2 the average of these two and not a third data  
3 point. So our opinion is that this should be  
4 deleted, this one average should be deleted.

5 Then on Weldon Spring, I think  
6 maybe there's an oversight because the Weldon  
7 Spring data was for general air samples. I  
8 mean, these were just samples taken somewhere  
9 in the room but not in the breathing zone of  
10 the operator. All the others were breathing  
11 zone samples. So these three just don't  
12 belong in that data set.

13 However, there was another one  
14 that there was a single breathing zone sample  
15 from the same operation, that does belong  
16 there. So with that we pick up these three,  
17 included this one, and then there were three  
18 more setting of dingot which is applicable,  
19 it's labeled Weldon Spring. Actually, that  
20 facility was at Mallinckrodt. In other words,  
21 it was operating at Mallinckrodt but this was  
22 actually in the, I looked up the Mallinckrodt,

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1 St. Louis facility. So it doesn't change the  
2 data, it's just an explanatory point.

3 And so then we reproduced the  
4 analysis that NIOSH gave. They did not give  
5 these raw data but they gave the results and  
6 reproduced how they got it, which is using one  
7 of the procedures of NIOSH. And these are the  
8 37 data points plotted, now this is the  
9 transformed log normal plot, so there would be  
10 a natural log of the values and here is the Z  
11 score, how far, how many standard deviations  
12 it is away from the geometric mean.

13 CHAIRMAN ZIEMER: Let me  
14 interrupt, for people on the line, this graph  
15 is in Appendix A of the SC&A report.

16 DR. ANIGSTEIN: Yes, Figure 1.

17 CHAIRMAN ZIEMER: It's Figure 1.

18 DR. ANIGSTEIN: All right, okay.

19 So we see that there is a reasonable fit, our  
20 square root of 0.878, with a number of points  
21 being well below that. So however, when we  
22 took this review status act of, we reduced it,

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1 in other words, we added some, deleted others,  
2 adjusted others, we ended up with 28 points.  
3 Now not all of them are plotted because there  
4 were eight non-detects, so they enter into  
5 this calculation but they don't show up on the  
6 plot.

7 And then there was another point  
8 of one dpm, which was just an outlier, but  
9 there's nothing else that low and that's  
10 really covered, we usually would have  
11 considered it a non-detect. So we removed  
12 that and we got this plot of way up to 0.946 r  
13 squared, with the points pretty evenly  
14 scattered, with no trend of a way again,  
15 showing you difference. Here you got the,  
16 sort of a big hump in the middle above the  
17 line, the lower and upper, so you would really  
18 by eye, if you want to plot a line, it would  
19 be more like a curve than a straight line.

20 Whereas here, we've got a pretty good  
21 agreement.

22 And then finally, doing the final

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1 calculations, we find that, see there's  
2 another way of calculating, which this is more  
3 of a personal opinion, well, shared by most of  
4 my colleagues, and that is when you have  
5 something that's really average for whether  
6 it's a log normal or not, it makes more sense  
7 just to interpret, so if you have like here,  
8 37 data points, the 95th percentile, with not  
9 making any judgement as to what the shape of  
10 it is, you just interpolate among like right  
11 here, would be the second and third highest  
12 points, it would be somewhere in there, there  
13 is a numerical method of interpolation, and  
14 when we do that for the NIOSH data, we get a  
15 very different value, somewhat different  
16 values, okay?

17 If you take the 95th percentile,  
18 simply using the log normal formula, and you  
19 get 103, they bound it up to 104. But if you  
20 do the empirical interpolation, you get 83.  
21 So it's significantly lower, whereas on this  
22 adjusted data set, it really looks very much

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1 like a log normal, the first three are the  
2 same, your two techniques, 66.43 and 66.92.

3 So we think that this might be a better value,  
4 it happens to be a little lower but we think  
5 it's more consistent with the data, more  
6 consistent with the operation.

7 And then finally, here's sort of  
8 an abbreviated review of the five Board  
9 criteria. So Criteria 1 is the hierarchy of  
10 data, which means obviously use site data  
11 first and then you use, there is a hierarchy  
12 of how you use the surrogate data. Well,  
13 there is no monitoring, there is no site data,  
14 there is no monitoring of uranium, air  
15 concentrations or intakes. So therefore, the  
16 hierarchy of data, the surrogate data, is  
17 appropriate through the hierarchy.

18 And then the other part of  
19 criteria is that there should be --  
20 appropriate surrogate data could be used on  
21 four different memory now, only after  
22 appropriate adjustments have been made. Well,

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1 taking the 95th percentile, which it was an  
2 appropriate adjustment, because you're saying  
3 we don't really know how this conforms to GSI,  
4 so we take the upper end to be conservative  
5 and claimant-favorable, which is something  
6 that we agree with at SC&A.

7           Second, exclusivity constraints,  
8 now with this data, do we get the right data  
9 and did we not exclude anything? This is the  
10 exclusive data set? We feel that it is.

11 NIOSH, the 37 measurements, at seven sites or  
12 seven operations, some of them were more than  
13 one operation at the same site, and we reduced  
14 it to 28 measurements, five sites.

15           But in either case, this is a  
16 fairly exhaustive search and I'm sure Dave  
17 would agree, we were talking offline about  
18 this, that probably if they search more they  
19 would come up with still additional, but it  
20 most likely would not change the picture since  
21 we got a distribution that fits this, you  
22 know, the fact that it does look log normal

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1 means that it's, you know, that it pretty much  
2 covers the spectrum of likely results, that  
3 you could get more but it wouldn't change the  
4 picture.

5           Then the Criteria 3 is the site or  
6 process similarities. Well, the data that was  
7 retained, in our opinion, we got rid of the  
8 derbies, the billets, the slugs, and the  
9 dingots. Well, billets and dingots were  
10 definitely handled at GSI. We know dingots,  
11 we know ingots, which was simply a dingot  
12 that's a different form of making them, most  
13 likely billets. Slugs were not, did not  
14 correspond but they really did not get a very  
15 different value.

16           And then the process, so the  
17 material was similar, the process, handling of  
18 traditional uranium objects was very similar,  
19 using a chain hoist, which is what they used  
20 at GSI, for instance. For the slugs there was  
21 weighed a few pounds, they were handed by  
22 hand. But basically, it's as good as you get.

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1                   Then       there's       the       temporal  
2       consideration, were they the same time period?  
3       Well, the surrogate data spanned 1956 to 1968,  
4       operations at GSI were '53 to '66, so there's  
5       a lot of overlap. And even though at GSI they  
6       started a couple of years earlier, there's no  
7       reason there would be any difference then  
8       because it wasn't as if oh gee, you know,  
9       suddenly in the middle of the period people  
10      got more safety conscious and started doing  
11      things differently. With what we know there  
12      was no concern about the uranium dust at GSI  
13      and there was no difference in the practice  
14      over those years, that we know of.

15                   And       then       finally,       there       is  
16      plausibility, and the criteria is a little  
17      able to be interpreted, we talked about  
18      models. And it mentions for the models side  
19      that has it, what they mean by the model I'm  
20      trying to realize is any models that was used  
21      to calculate, this would go more into  
22      dosimetry calculations, the workers aren't

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1 really -- it doesn't really apply here.

2           But this is scientifically  
3 plausible and these were measurements made by  
4 the Health and Safety Personnel of NLO, they  
5 were the government contractor and they in  
6 turn were, they had the AEC Health and Safety  
7 Office looking over their shoulder. So these  
8 were measurements as good as you get for that  
9 time period, because they were perfectly,  
10 scientifically were plausible.

11           And the workplace plausibility  
12 would be the lifting and handling at surrogate  
13 sites, is representative of operational GSI.  
14 So we feel that either data set fulfilled this  
15 criteria and we think that the adjusted data  
16 set is a little more consistent with these  
17 criteria.

18           So even though we feel we would  
19 recommend some adjustment to the actual  
20 numbers used to make them more consistent,  
21 more scientifically correct, that's an issue  
22 that could be worked out in the Appendix BB in

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1 the second version, but there is no  
2 showstopper here, there is no reason to  
3 believe that NIOSH cannot, well let me put it  
4 more positive. We believe that NIOSH can, in  
5 fact, reconstruct doses from inhalation of  
6 uranium.

7 CHAIRMAN ZIEMER: Okay --

8 MR. KATZ: Let's just check on the  
9 line again. Dr. Poston, have you joined us?  
10 Dr. Poston, you might, have you joined us?

11 CHAIRMAN ZIEMER: Check with John  
12 again, too.

13 MR. KATZ: And also, let me just  
14 check then while I'm doing this, John  
15 Ramspott, do you have a phone that now allows  
16 you to --

17 MR. RAMSPOTT: Can you hear me  
18 now?

19 MR. KATZ: Yes! Thank you, John.  
20 That's much better, thank you.

21 MR. RAMSPOTT: And I did have a  
22 comment on those SC&A report about a part of

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1 it, when there's time.

2 MR. KATZ: Yes, we'll have a  
3 session for petitioners and other interested  
4 parties coming up. Thank you.

5 MR. RAMSPOTT: Okay, thank you.

6 CHAIRMAN ZIEMER: Let's see, Dave,  
7 do you want to comment on, bottom line, it  
8 looks like the value that SC&A has come up  
9 with, or sort of their recommended value is  
10 actually lower than yours.

11 But I think the question here is  
12 are the recommendations that they've made, do  
13 you sort of agree with those in terms of  
14 there's some points that they suggest you  
15 might not include and others that you should  
16 add, and a couple others that should be  
17 adjusted? What comments do you have on that?

18 MR. ALLEN: By and large, I agree  
19 with the suggestions on, you know, some of the  
20 data that should not have been included or  
21 should have been included. I think I wrote  
22 down about three things that it's minor

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1 disagreement on, I don't know if you want to  
2 go through detail on this at this point or --

3 CHAIRMAN ZIEMER: Well, we don't  
4 need to necessarily, I suppose if you  
5 adjusted, you're going to get a slightly  
6 different number here. It's going to be --

7 MR. ALLEN: Yes, I think --

8 CHAIRMAN ZIEMER: -- if you do any  
9 adjustment, it's going to end up lower than  
10 what you have now, but it will be at least as  
11 high as Bob's number or somewhere in between.

12 MR. ALLEN: Well, with the ones I  
13 disagree with, yes, I think it will fall  
14 between the two, with the final answer.

15 MR. KATZ: I think it's useful to  
16 have it on the record --

17 CHAIRMAN ZIEMER: Yes, sure.

18 MR. KATZ: -- a discussion of  
19 these points though.

20 MR. ALLEN: It would take five  
21 minutes.

22 CHAIRMAN ZIEMER: Yes, at least

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1 tell us, you know, respond then, yes.

2 MR. ALLEN: Okay, the first one  
3 was LeBlond, Bob, there was a few others that  
4 you could have added. I think he mentions  
5 that they are GAs, but it's nearby, that the  
6 ventilation blowing that way is essentially  
7 making --

8 DR. ANIGSTEIN: They were chambers  
9 blowing, where it would be, the one that was  
10 ten feet away had a much higher dose than the  
11 one that was five feet away because of the way  
12 the air movement was.

13 CHAIRMAN ZIEMER: Okay, I --

14 DR. ANIGSTEIN: LeBlond, we just  
15 added some that we, I just saw some that  
16 looked like they could have been more --

17 CHAIRMAN ZIEMER: Well you started  
18 out six for LeBlond, to add.

19 MR. ALLEN: Okay, yes, you did add  
20 some for LeBlond, I got the wrong reason  
21 there. But there was some added for LeBlond  
22 while the billet was being bored, while a hole

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1 was being bored in the billet. I didn't add  
2 those originally just because, as Bob said, it  
3 was cooled with some type of oil and I thought  
4 that acted as an agent that would hold down  
5 any airborne, which is not similar to handling  
6 the dry, cold uranium metal. I mean it's --

7 DR. ANIGSTEIN: It's a moot point  
8 though. It's a minor point.

9 CHAIRMAN ZIEMER: Yes, okay.

10 MR. ALLEN: I just thought those  
11 could be disputed so I did not add them.

12 DR. ANIGSTEIN: Okay. Well again,  
13 that's not going to change --

14 MR. ALLEN: None of these are  
15 going to change anything very much.

16 DR. ANIGSTEIN: No, not at all.

17 MR. ALLEN: Chambersburg, Bob  
18 thought was not applicable enough to be  
19 included, and I don't think I disagree there.  
20 It was, I had to stretch to get some more  
21 somewhat applicable data, so I don't disagree  
22 with --

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1                   MEMBER BEACH:     Were you looking  
2     because of the dates also?   Those were done in  
3     '57, that's what I thought might have been why  
4     you added them?

5                   MR. ALLEN:     Honestly, no --

6                   MEMBER BEACH:    No?

7                   MR. ALLEN:     -- I'm not sure what  
8     it does to the date, so, we had some Weldon  
9     Springs from '56 so --

10                  MEMBER BEACH:    Well, just trying  
11     to get into the time period.

12                  MR. ALLEN:     I didn't honestly --

13                  MEMBER BEACH:    Didn't look --

14                  MR. ALLEN:     -- the dates were  
15     somehow looked at at a later date just because  
16     handling cold metal that's standard industrial  
17     stuff is really not, site for data specific,  
18     you know, today you would pick them up with a  
19     fork truck or something, it wouldn't change on  
20     the bidding.

21                  DR. ANIGSTEIN:   Chambersburg was  
22     1957, so it's right in the middle of a --

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1 MR. ALLEN: Yes, that's what they

2 --

3 MEMBER BEACH: Yes.

4 MR. ALLEN: On Tocco, the only  
5 disagreement I had was the, I didn't get the  
6 factor that he used to adjust those. He  
7 adjusted them from being depleted to being  
8 normal with a 1.88 factor, I thought it should  
9 be something more like 1.66, it's like a ten  
10 or 15 percent disagreement there, it's no big  
11 deal.

12 DR. ANIGSTEIN: You mean that it  
13 shouldn't be 100 percent included?

14 MR. ALLEN: No, I just thought  
15 that the depleted versus natural should be  
16 more like a 1.66 factor.

17 DR. ANIGSTEIN: I'm sorry, I like,  
18 I had calculation on the --

19 MR. ALLEN: Okay, I mean, I could  
20 be wrong and we will --

21 DR. ANIGSTEIN: I was using data  
22 originally from Fernald, from the Fernald site

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1 where they had the, I mean, you know, we all  
2 agree what's natural uranium. Depleted is  
3 not, you know, they give you more than one  
4 type of depleted uranium to arrive on  
5 something on the Fernald site.

6 MR. ALLEN: That could be true.

7 DR. ANIGSTEIN: All right.

8 MR. ALLEN: Most depleted I'm used  
9 to, at least from Fernald is 0.2 percent, but  
10 we'll find a basis and, you know, document --

11 CHAIRMAN ZIEMER: Well, that's not  
12 going to change the number very much, it will  
13 be 1.6 to 1.8 or something like that, you  
14 know.

15 MR. ALLEN: As far as Fernald  
16 getting, eliminating those, I don't disagree.  
17 I even put in my White Paper that it could be  
18 elevated because of the more aggressive  
19 removing of the crust and stuff, but I  
20 included them to try to get more samples that  
21 were at least somewhat representative, even  
22 though that one would have been slightly

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1 elevated. Bob thought it should be removed I  
2 don't, like I said, don't really disagree.

3 Weldon Spring, he said we had  
4 three summary numbers of minimum, maximum, and  
5 an average. And he pointed out that the  
6 average falls right in between those two, and  
7 I don't disagree with that either. I think  
8 that I probably should not have included the  
9 average because it looks like it is the  
10 average of the two.

11 And the Weldon Spring, oh, he  
12 removed three of them from Weldon Spring  
13 because they were GAs. These were loading of  
14 slugs into baskets and then the loading of  
15 these baskets into what they called a coffin.  
16 I think from the description of the process  
17 which I'm trying to find here really quick,  
18 it's a pretty localized area.

19 Yes, from the description of the  
20 process, it's steel baskets loaded with 60  
21 slugs. Then a crane hoists the baskets into a  
22 boat, which they said is, did I miss

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1 something? Which they slide into the coffins,  
2 says the boat is merely a flat plate with  
3 sides, which slides into a long cylinder tube  
4 called a coffin. And then the whole assembly  
5 is hoisted up into a furnace.

6 So all this is happening to put  
7 into something that's then hoisted up. It's  
8 got to be just a small, localized area. GA  
9 versus BZ didn't seem to be a significant pool  
10 of that so I included them.

11 DR. ANIGSTEIN: They agreed, the  
12 issue with the Weldon Spring is that if you  
13 look on their operation, if you look on the  
14 original sheet which I'm showing here, it has  
15 the three operation, the positioning and both,  
16 you know, then there are notes alongside  
17 those, one, two, and three. And two is  
18 general air, not breathing zone. Three is  
19 breathing zone. It may not have been obvious  
20 or it may have been just, you know, slipped  
21 through the cracks.

22 MR. ALLEN: No, I realize that. I

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1 just, similar to what you were saying with  
2 LeBlond, I thought it was a localized enough  
3 area so even if they labeled it GA --

4 DR. ANIGSTEIN: Oh, I understand,  
5 okay, I'm sorry, I didn't get what you were  
6 saying. Okay, I hear you.

7 MR. ALLEN: -- so I'm, you know,  
8 they end up being slightly higher than the  
9 geometric mean than Bob calculated with his  
10 data set. I think you could include those and  
11 make it slightly higher. It's going to be  
12 somewhat irrelevant, you know, the difference  
13 between it, doing what I wanted to do here,  
14 it's probably going to put it somewhere my  
15 original number and what Bob got, which I'd  
16 like to fault towards conservative on that,  
17 but I'm not big on any of these either way,  
18 that's my opinion on where I fell with Bob's  
19 opinions.

20 DR. ANIGSTEIN: Yes, I guess maybe  
21 I'm just being very technical and it's --

22 MR. KATZ: So do you think that's

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1 reasonable, Bob?

2 DR. ANIGSTEIN: Pardon?

3 MR. KATZ: Do you think what Dave  
4 just explained is reasonable?

5 DR. ANIGSTEIN: That he was using  
6 the, well, I guess I'd just think why not be  
7 consistent and use breathing zone throughout  
8 and not throw in the, you know, the different  
9 type of measurement in this one case?

10 MR. ALLEN: I understand that  
11 opinion and I'd like to get the workers'  
12 opinion in all honestly, because I can go  
13 either way on that. I understand Bob's  
14 opinion and my opinion was that it was, you  
15 know, in those cases the breathing zones are  
16 not lapels hanging on people, they're an air  
17 sample in the vicinity. And the difference  
18 between a GA and a BZ is somewhat arbitrary  
19 sometimes, it's quite the small area.

20 DR. ANIGSTEIN: I see. Oh, I  
21 thought, pardon my ignorance, I thought that  
22 they actually were wearing little collectors.

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1 MR. ALLEN: Not at that time.

2 DR. NETON: Not in that time  
3 period.

4 DR. ANIGSTEIN: Oh, I see. I got  
5 you.

6 MR. ALLEN: Actually, a lot of  
7 times they took a big air sample and almost  
8 stuck it by somebody's face.

9 DR. ANIGSTEIN: I see. Well I  
10 know it was somewhat later --

11 MR. ALLEN: Yes, the lapel?

12 DR. ANIGSTEIN: -- when they were  
13 doing the --

14 MEMBER BEACH: So you're talking  
15 about the three that are 25, 25, and 25 that  
16 Bob passed out?

17 DR. ANIGSTEIN: Right. And I had  
18 0.23.

19 MEMBER BEACH: You're talking the  
20 one on the front, the 56.26, it was spurious  
21 data based on average? What was that?

22 MR. ALLEN: I agree with him, he

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1 kept the two, that was a summary that had the  
2 minimum, maximum, and the average. Bob  
3 pointed out that that average falls exactly  
4 between those two, he thinks it's an average  
5 of two and I don't disagree with him, so it  
6 would be --

7 CHAIRMAN ZIEMER: You would use  
8 the two original data points?

9 MR. ALLEN: Use the two, just like  
10 Bob did, you know, use the two --

11 CHAIRMAN ZIEMER: Right, two data  
12 points, right.

13 MR. ALLEN: -- the minimum and the  
14 max, that average seems to be a --

15 MEMBER BEACH: In the middle, that  
16 makes sense.

17 DR. ANIGSTEIN: I wouldn't argue  
18 very strenuously about that last point. If we  
19 clarify that the breathing zone, then there's  
20 not that much of a distinction there, I can go  
21 along with that, not a show stopper.

22 CHAIRMAN ZIEMER: And then was

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1 that it?

2 MR. ALLEN: That was it, I'm  
3 sorry.

4 CHAIRMAN ZIEMER: Right, so you  
5 would make those adjustments. You would not  
6 add the six LeBlonds that he was talking  
7 about.

8 MR. ALLEN: I wouldn't.

9 CHAIRMAN ZIEMER: But you will  
10 delete the three Chambersburgs, you'll adjust  
11 for depleted uranium?

12 MR. ALLEN: Yes.

13 CHAIRMAN ZIEMER: You'll delete  
14 Fernald --

15 MR. ALLEN: Yes.

16 CHAIRMAN ZIEMER: -- and keep the  
17 Weldon Spring?

18 MR. ALLEN: Yes.

19 MEMBER BEACH: What about the last  
20 one he makes on the second page of his table,  
21 the slugs, the positioning and bolting of the  
22 flange, would you add that one then, too? the

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1 one that's in red?

2 DR. ANIGSTEIN: It's the one we  
3 disagreed on the sample.

4 MR. ALLEN: I'm trying to remember  
5 --

6 CHAIRMAN ZIEMER: The Weldon  
7 Spring?

8 MEMBER BEACH: It's another Weldon  
9 Spring.

10 MR. ALLEN: Okay, I just missed  
11 that one.

12 DR. ANIGSTEIN: Yes, it was on the  
13 last page.

14 MR. ALLEN: I can go either way on  
15 that. I think my thinking when I went through  
16 them was the description of this coffin was a  
17 container that they bolted a lid on, so once  
18 you start containerizing it, you know, I  
19 thought maybe it's not applicable. In reality  
20 it's --

21 MEMBER BEACH: Well, that's that  
22 positioning and then bolting, so you'd be

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1 actually putting it in and then bolting it  
2 down maybe?

3 MR. ALLEN: Yes, so I mean, it's  
4 like some of it is, some of it isn't, and I  
5 can go either way. I can keep that one. I  
6 think just by the same argument I made, even  
7 if it was being containerized, while it's  
8 being containerized is relevant. After it's  
9 containerized it's not --

10 MEMBER BEACH: It's not.

11 MR. ALLEN: -- and this is kind of  
12 a while, so yes, it probably could be added  
13 easily. I would agree to add that one.

14 MEMBER MUNN: Not going to make  
15 significant differences in the outcome.

16 MR. ALLEN: None of these are, I  
17 don't think.

18 DR. ANIGSTEIN: None of it is at  
19 this point.

20 MEMBER MUNN: No.

21 CHAIRMAN ZIEMER: Okay, so SC&A  
22 and NIOSH with those changes, would be in

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1 agreement on how we handle the residual  
2 internal dose. This is for the period up to  
3 the residual period. This is for the  
4 operational period.

5 MR. ALLEN: Yes.

6 CHAIRMAN ZIEMER: And then for the  
7 residual periods, just comment on what would  
8 be done for the residual period.

9 MR. ALLEN: Okay, now I can't  
10 remember what we did.

11 CHAIRMAN ZIEMER: Well, are you  
12 going to take as a starting point --

13 MR. ALLEN: The current --

14 CHAIRMAN ZIEMER: -- the value  
15 that you have and then deplete it in some way?

16 MR. ALLEN: All I can remember off  
17 the top of my head, I'm sorry I'm not ready  
18 for that, but as I recall, the current  
19 residual period was based on the operational  
20 period.

21 CHAIRMAN ZIEMER: Right.

22 MR. ALLEN: And so I haven't seen

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1 anything that would require us to change that  
2 approach.

3 CHAIRMAN ZIEMER: Right.

4 MR. ALLEN: The number would  
5 change --

6 CHAIRMAN ZIEMER: But the number  
7 would change, the starting number.

8 DR. ANIGSTEIN: Now we may still,  
9 and this is not, the focus here was on the  
10 surrogate data.

11 CHAIRMAN ZIEMER: Right. Yes, I'm  
12 --

13 DR. ANIGSTEIN: It doesn't mean  
14 that when it comes down to actually doing the  
15 dose calculations, there's going to be some  
16 differences. I mean, we had, the last, you  
17 know, from last summer, just our review of  
18 surrogate data, really conflated two issues.  
19 One was the data that was used and the other  
20 one was the actual model that was used to  
21 calculate the airborne activity outside of the  
22 time of the handling of the metal and also the

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1 contamination on the floor and how it goes on.  
2 So those two issues were conflated all into  
3 one. And that was a problem.

4 And now, we separate this. We  
5 were looking, we said this is on surrogate  
6 data. And so we said we're sticking to  
7 surrogate data and we have come to, you know,  
8 we have come fairly close together.

9 CHAIRMAN ZIEMER: Right.

10 DR. ANIGSTEIN: But the other  
11 issue, that's for another day.

12 CHAIRMAN ZIEMER: Well --

13 MEMBER BEACH: And that's in BB,  
14 right, the model in BB you're talking about?

15 DR. ANIGSTEIN: Right, right.

16 CHAIRMAN ZIEMER: Right, now I see  
17 only the operational period --

18 DR. ANIGSTEIN: But that will  
19 inflate. That also affect the operational  
20 period because it affects the --

21 CHAIRMAN ZIEMER: Oh, yes, no,  
22 this is a component in the operational period.

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1 DR. ANIGSTEIN: Right, yes.

2 CHAIRMAN ZIEMER: At the end of  
3 the operational period, we know, we have a  
4 starting value now for airborne. And you have  
5 --

6 DR. ANIGSTEIN: Not really. I  
7 mean, the only thing that we addressed here  
8 and that we're coming to, as I said,  
9 reasonable proximity, not total agreement, is  
10 what are the airborne concentrations due to  
11 the handling of uranium, the disturbance of  
12 the uranium?

13 We have not discussed, and we  
14 haven't gotten to it here, what is it, the  
15 position on the floor, how much accumulates on  
16 the floor, how much is resuspended in between  
17 operations and even during the operations?  
18 That has not been addressed here and we  
19 deliberately kept that separate because  
20 otherwise, there would be a much more confused  
21 issue.

22 MEMBER BEACH: Well, and that

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1 affects the operation period also, '53 to '66,  
2 correct? That issue you just brought up, what  
3 was on the floor, what was resuspended?

4 DR. ANIGSTEIN: Yes, but the same  
5 mechanism, if I can briefly recap the paper,  
6 the report from last summer, was the picture,  
7 okay, the picture that NIOSH made was the  
8 operators, the betatron operators go into the  
9 betatron shooting room, they bring in the  
10 ingot or dingot or slice or whatever shape  
11 there is, and they spend some time handling  
12 it, putting it into position, handling,  
13 certainly handling the uranium, of handling  
14 the betatron apparatus to get into position,  
15 putting the film in, and so forth.

16 They're in the room with the  
17 uranium, then they leave the room going into  
18 the control room and set up, you know, the  
19 betatron shot, and make the betatron shot,  
20 come back in. And there's even some  
21 disagreement as to what fraction of the time,  
22 we know how many hours the betatron operators

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1 are employed in handling the uranium. That's  
2 the number of hours that Mallinckrodt paid  
3 for.

4 So we can say there's an upper  
5 limit that they said, you know, not to exceed  
6 \$500 in one quarter, I mean as an example. So  
7 we know how much time was spent. And if we  
8 come in agreement on the activity in the room,  
9 we know how much they were inhaling from the  
10 metal that they were handling on that day.

11 Now there's a second component,  
12 which they were exposed to all the time, that  
13 would be in the betatron room, would go in  
14 most the time that they were doing, you know,  
15 task things, and that is residual activity on  
16 the floor, that has deposited during this  
17 time. And maybe some chunks of uranium that  
18 are not airborne that might have sloughed off  
19 and fallen to the floor that are ground  
20 underfoot and eventually become airborne.

21 And then that same picture, that  
22 during the in between times, continues on into

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1 a residual period where they continued using  
2 that room and the continued stirring of the  
3 dust that had been deposited. And there, that  
4 matter is not being addressed today, or at  
5 least I have not addressed that matter here,  
6 that's a different matter and all the issues  
7 that were raised, that we raised in the report  
8 that came out I believe in June, are still  
9 there. They're still on the table. They have  
10 not been resolved.

11 CHAIRMAN ZIEMER: Well keep in  
12 mind now that this whole thing arose out of  
13 the residual period, where we were talking  
14 about what the value was to use for inhalation  
15 or the internal dose for the residual period.  
16 And the surrogate data criteria question arose  
17 as a result of considering the residual  
18 period.

19 MEMBER BEACH: The residual  
20 period, yes.

21 DR. ANIGSTEIN: Right, but that  
22 may be the origin --

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1                   CHAIRMAN ZIEMER:       And then we  
2       said, yes but then that has to go back into  
3       the operational period.

4                   DR. ANIGSTEIN:   Right, yes.

5                   CHAIRMAN ZIEMER:   So, and at one  
6       point, we had this data set that was a  
7       starting point for the residual period, but  
8       then realized that there had been these clean  
9       up things that the petitioner pointed out, and  
10      there was question about using that starting  
11      value and then depleting it over the residual  
12      period.

13                  So what I'm trying to get a feel  
14      for is because the recommendation that we take  
15      to the Board has to include the residual  
16      period. So I'm really asking that question.  
17      Do we have the starting point for the residual  
18      period?

19                  We have this airborne value, which  
20      we say comes from the handling. Now is there  
21      some other component that's added to that to  
22      start the residual period? Now Jim, I thought

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1 you had a model --

2 DR. NETON: Well we do, I mean --

3 CHAIRMAN ZIEMER: -- that if you  
4 knew the airborne --

5 DR. NETON: This is a standard  
6 TIB-70 application.

7 CHAIRMAN ZIEMER: Yes, right.

8 DR. NETON: I think what Bob is  
9 alluding to is that --

10 CHAIRMAN ZIEMER: Is there a piece  
11 that you add to it?

12 DR. NETON: -- if this were a  
13 standard operation that occurred everyday for  
14 the duration of the project, we would just  
15 apply a TIB-70 and allow that air  
16 concentration that we just agreed upon in  
17 principle to settle out, with its own settling  
18 velocity over a period of three days, I  
19 suppose is what you would do there?

20 DR. ANIGSTEIN: Well, there two --

21 DR. NETON: And then you end up  
22 with a surface contamination level that would

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1 be the starting point for the residual period.

2 CHAIRMAN ZIEMER: Right.

3 DR. NETON: Now I know Bob is  
4 talking about something different, which is  
5 there are periods when, they didn't do this  
6 all the time. So the question is, is how much  
7 time did they do this and how much time do you  
8 allow for the material to deposit on the  
9 ground? To me that's sort of a Site Profile  
10 type issue. I think conceptually this could  
11 be done --

12 DR. ANIGSTEIN: Yes.

13 DR. NETON: -- now that they've  
14 agreed on the air concentration value.

15 DR. ANIGSTEIN: I agree, I agree.  
16 It doesn't mean we're --

17 DR. NETON: So it's a matter of  
18 details not can it be done or not.

19 CHAIRMAN ZIEMER: Yes, yes.

20 DR. NETON: I guess that's what  
21 I'm --

22 MR. ALLEN: And I think there,

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1 just to add a little bit, Appendix BB was  
2 written before TIB-70 and I think there may be  
3 some inconsistencies in what was done there  
4 versus TIB-70, so there will be some  
5 adjustment to make it --

6 DR. NETON: But if we agree on  
7 what the upper air concentration was during  
8 the operations, it's a matter of deciding how  
9 many hours that occurred to go to the ground,  
10 and then what the resuspension factor is --

11 CHAIRMAN ZIEMER: Right.

12 DR. NETON: -- and then I think  
13 it's --

14 CHAIRMAN ZIEMER: From there you  
15 get a starting value for the residual period  
16 and you deplete it.

17 DR. NETON: To use John Mauro's  
18 words, a tractable problem.

19 CHAIRMAN ZIEMER: Right, right.

20 MR. ALLEN: Right.

21 CHAIRMAN ZIEMER: Yes, but I want  
22 to pin down then on the record that that's

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1 what you would be doing --

2 DR. NETON: Exactly.

3 CHAIRMAN ZIEMER: -- the case  
4 number.

5 DR. NETON: The key is to have the  
6 air concentration.

7 CHAIRMAN ZIEMER: Right.

8 DR. NETON: Once you know that  
9 then you can solve.

10 DR. ANIGSTEIN: Yes, it's a  
11 starting point.

12 CHAIRMAN ZIEMER: Yes.

13 DR. ANIGSTEIN: I agree.

14 MEMBER BEACH: So I don't know if  
15 we're not finished talking about the surrogate  
16 data yet, correct?

17 CHAIRMAN ZIEMER: Well, both  
18 parties here have agreed. I think we want to  
19 --

20 MEMBER BEACH: They have agreed,  
21 but you haven't heard from the petitioner --

22 CHAIRMAN ZIEMER: No, we want to

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1 hear from them.

2 MEMBER BEACH: -- and I had some  
3 questions that --

4 CHAIRMAN ZIEMER: We want to hear  
5 from the petitioners next, too. So we have  
6 several documents that Dr. McKeel distributed  
7 the past couple of weeks. I have one, let's  
8 see, I'm looking for the dates on these. I  
9 have one from November 9th, one from November  
10 11th, and one from Monday the 26th.

11 MEMBER BEACH: There's one from  
12 the 17th also.

13 CHAIRMAN ZIEMER: Let's see, yes.  
14 And apparently Dr. McKeel is not on the line  
15 today. I don't know if John Ramspott's going  
16 to speak to these?

17 MR. KATZ: He had said he'll have  
18 some comments when he gets to his opportunity.

19 CHAIRMAN ZIEMER: Well let's go  
20 ahead and have the petitioner comments or  
21 maybe Pat Jeske has some comments as well.

22 MR. KATZ: Yes, and there's Pat

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1 too. But let me ask, someone on the line is  
2 not on mute who's shuffling papers, and you'd  
3 be surprised how audible your shuffling is for  
4 other people on the line. So somebody needs  
5 to mute their phone. And then, Paul, I think  
6 you would like to hear from them now --

7 CHAIRMAN ZIEMER: Sure, yes.

8 MR. KATZ: -- John Ramspott and  
9 Pat Jeske, let's start with Pat, Pat's a  
10 petitioner.

11 MS. JESKE: Yes, I had a new  
12 concern that I just wanted to put before the  
13 Board. It's about the claimant-favorable  
14 issue. I recently had a reopened case for  
15 dose reconstruction, and I know you don't  
16 address that, but it was [identifying  
17 information redacted] and he had opened the  
18 first case with prostate cancer in 2007. In  
19 2010 he contracted leukemia, AML, in fact.

20 The dose reconstruction which  
21 really concerns me came back at a ten to 20  
22 percent range, PoC, they couldn't give me the

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1 exact. And I questioned that and basically I  
2 was told that nothing's going to change unless  
3 Appendix BB is revised. And at that time,  
4 everything would be reopened for everyone,  
5 they don't have to reopen it themselves.

6 My concern is, you know, even  
7 before this petition started, leukemia was,  
8 you know, was almost a given. And now the  
9 ranges went down to ten to 20 percent? I  
10 mean, I'm really concerned. And I'm not just  
11 concerned about [identifying information  
12 redacted], believe me. I'm thinking how many  
13 others have been treated the same way.

14 This is something I wanted to put  
15 before the Board, you know, the payoff  
16 percentage is so, so low. Compensation has  
17 just been very low for these GSI employees.  
18 This is just something I want you to think  
19 about reviewing, maybe even investigating.

20 I find it to be very incompetent  
21 to come back with a number like that with two  
22 primary cancers being what they are. And I

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1 have no idea why I'm not getting any answers.  
2 [Identifying information redacted], under  
3 duress, but I accompanied that with a letter  
4 that I definitely don't agree with it. But  
5 she was told that if she doesn't sign it by  
6 November 22nd, her case would close.

7 And my concern is for the  
8 claimants in general. I don't believe that  
9 this is happening to just her, that it may  
10 just be an error, but they're not telling me  
11 that it's an error. They've had every  
12 opportunity to tell me that and they have not.  
13 And I've not heard from the Department of  
14 Labor.

15 MR. KATZ: To Dave, do you want to  
16 address this or do you want me to --

17 CHAIRMAN ZIEMER: Well, I don't  
18 know if we can talk about specific cases but -  
19 -

20 MR. KATZ: No, no, not about the  
21 specific case, of course.

22 CHAIRMAN ZIEMER: -- the general -

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1 -

2 MR. KATZ: The general situation.

3 CHAIRMAN ZIEMER: -- situation.

4 MR. ALLEN: I could mention one  
5 general thing that she said was something  
6 about leukemias routinely are, well, two  
7 things. One, she said that the compensation  
8 rate at GSI was so much lower than every other  
9 site, and that's simply not true. GSI --

10 MS. JESKE: No, I didn't say that  
11 it's lower than any other site, just that the  
12 PoC for two primary cancers, the prostate and  
13 AML is a ten to 20 percent PoC range. That's  
14 all I was given was the range.

15 MR. ALLEN: Okay, that was the  
16 other thing I wanted to address is it is true  
17 that a leukemia, every case is different with  
18 the demographics as far as latency, et cetera,  
19 but in general terms, leukemias often will  
20 result in a higher PoC, not too, for  
21 compensation, often, not every time by any  
22 means.

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1           Most of these other sites, or many  
2 other sites, you get a considerable amount of  
3 internal exposure, airborne activity, et  
4 cetera. GSI is very different in that case.  
5 There was no manipulation of radioactive  
6 material other than moving a chunk of uranium  
7 metal in and moving it back out.

8           MS. JESKE: He was a welder.

9           MR. ALLEN: And the main doses  
10 that you would see at GSI, that we know after  
11 all this time of reviewing this are external  
12 doses, which is not unique but very few sites  
13 have this primarily external, very little  
14 internal dose that you see at GSI. And that  
15 makes a large difference when it comes to  
16 something like leukemia, where that primary  
17 exposure is usually from internal dose.

18           MS. JESKE: You don't find that  
19 PoC to be low? You don't think that's low  
20 then, is that what you're telling me?

21           MR. ALLEN: I think that's the way  
22 the --

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1 MS. JESKE: Because I think that's  
2 an error, at least I hope it is.

3 MR. ALLEN: -- the assumption I'm  
4 going to have to make at this point is that if  
5 the dose estimate followed the Appendix BB,  
6 then it's not high, it's not low, it's just  
7 what the estimate will give you. And like you  
8 mentioned, there will be, at some point, some  
9 changes to Appendix BB. But from what we've  
10 seen here today, the internal dose of that may  
11 actually be lower than what's currently in  
12 Appendix BB.

13 CHAIRMAN ZIEMER: Pat, did you  
14 have any other questions or comments on these  
15 items right now?

16 MS. JESKE: No, I just wanted that  
17 to be brought forth in the concern of other  
18 previous dose reconstructions done --

19 CHAIRMAN ZIEMER: Yes, okay.

20 MS. JESKE: -- low percentages  
21 coming about and the why of it all.

22 CHAIRMAN ZIEMER: Okay, thank you.

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1                   MS. JESKE:     Just see how many  
2 others are being treated this way.

3                   CHAIRMAN ZIEMER:   Sure.  Okay and  
4 John Ramspott, do you have some comments or  
5 questions?

6                   MR.  RAMSPOTT:        Yes,  just a  
7 comment, actually it applies to both SC&A and  
8 to David Allen's recent White Paper.  And one  
9 of them I think is, maybe I'm wrong, but an  
10 important technical thing, I have provided  
11 proof contrary to the fact that both SC&A and  
12 NIOSH's papers are basing surrogate data on  
13 uranium that has been post-cropped, post-  
14 scalped, post, actually gone through the mill.  
15 Because everything they're talking about are  
16 billets, slugs, those are machined products.

17                   And in the reading I've done, and  
18 I did look at Broomfield, or Westbrook and  
19 Bloom, the reference that Dr. Bob uses, those  
20 are all down the road activities.  Matter of  
21 fact, I need to reread that document again,  
22 but if I'm not mistaken, they don't even

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1 mention the non-destructive testing that was  
2 done on the uranium prior to any of these  
3 other things happening, in that article. Now  
4 the documents that I base my assumption on, I  
5 don't know think it's an assumption, I think  
6 it's a fact now, the one in particular, I'm  
7 going to quote this so that nobody's mistaken.  
8 And I have provided this in the past.

9           It's from the Symposium on Non-  
10 Destructive Tests, Field of Nuclear Energy,  
11 dated 1957, so we're talking our era, and it  
12 was held in Chicago, name stated is GSI, so a  
13 lot of the people that are involved in GSI I'm  
14 sure were in attendance. And some of the  
15 names, you know, are actually AEC experts on  
16 the subject, an one in particular is a Mr.  
17 McClain.

18           And for the record, I'm going to  
19 read this so that nobody misunderstands it.  
20 And I have provided it and you probably have  
21 it there now, "The amount of metal to be, to  
22 be removed, by cropping in order to produce

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1 sound material for rolling, is determined by  
2 the use of high energy X-rays."

3 That's early in the game. That's  
4 the first step in the game. All of the  
5 surrogate data that everybody's using for  
6 their analysis is with down the road items.

7 Now the other big factor that goes along with  
8 that now, and we've got pictures of it. I  
9 mean, it's definitely published information.

10 On that same page, the various contractors,  
11 Mallinckrodt's named. Mallinckrodt Chemical  
12 Works is named here. So is National Lead, and  
13 we know that's Fernald. So they're named. I  
14 mean, they're using this process.

15 So slugs, billets, derbies, that  
16 he talked about, and the pictures I've sent  
17 you, you know, from Mallinckrodt operation  
18 Weldon Spring, shows those dingots, you can  
19 see a different color at the top, which is  
20 eventually cropped. You can see the shaggy  
21 sides. There's not a little bit of crust on  
22 there. And I'm not talking about, you know,

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1 that when they ultimately start in the bomb,  
2 that's 4,500 pounds according to  
3 Mallinckrodt's document that I actually  
4 received out of Weldon Spring, which was  
5 authored by their Chairman, but I assume he's  
6 pretty knowledgeable.

7           They start out at 4,700 pounds.  
8 And then when they break them out, everybody  
9 used the term breakout, I have a picture of  
10 it, about 700 pounds of that or more, is taken  
11 out. Thirty-three hundred pounds is exactly  
12 what they say a dingot is after you take your  
13 magnesium fluoride, I guess, out of it, or  
14 break it off.

15           Now no one seems to account for  
16 it. That's a lot of crust. Now here's the  
17 other thing that none of these other sites  
18 have. I'll guarantee you those slugs may be  
19 non-destructive tested after they're  
20 essentially machined and canned, but GSI's  
21 dingots and ingots and slices, were betatron  
22 tested.

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1           None of these other products from  
2           any other surrogate site that I've seen here,  
3           that you guys have discussed, have gone  
4           through fission, like everybody admits has  
5           happened at GSI. So all the fission products  
6           that everybody's talked about, and I don't  
7           know enough about them, you guys are the  
8           experts, you tell me if I'm wrong, I don't  
9           hear anybody talking about any of that.

10           And this is, I agree with Dr. Bob,  
11           this is the whole issue. There's still stuff  
12           on the floor, in the air. The surrogate stuff  
13           is out of that bounds, that's a different  
14           subject. Now with respect, and I totally  
15           respect everybody that's involved with this.  
16           I'm disappointed, and I'm using that term,  
17           disappointed.

18           It's almost like everybody has put  
19           a nice wrapping on this and is ignoring this  
20           fact, that the material that we should be  
21           looking at is what really went to GSI, not  
22           what slugs, billets, they've all been

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1 machined, they been through presses, they've  
2 been canned, they've been, you know, I heard  
3 drill it, I heard the one where you drill  
4 through the thing and pour oil down while  
5 you're, that's not what happened at GSI,  
6 that's not surrogate data. If anything, the  
7 oil would make it much safer.

8           Now when I read the documents, and  
9 it even says in here, Bob's last document,  
10 which we just got it, I got it yesterday so I  
11 haven't read it ten times like I normally do,  
12 dingots would be, would presumably, I see  
13 words like presumably, at oxidized surface  
14 resulting in bomb reduction process. However,  
15 it is likely that most, loosely adherent oxide  
16 would be removed during the surface cleanup  
17 with the pneumatic chipping hammer, Westbrook  
18 and Bloom. I agree, but that's all after,  
19 after they've been to GSI, not before. That  
20 whole thing is done after.

21           And the guideline out of this  
22 symposium attests to that. And again, like I

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1 said, the Chairman, or the top executive at  
2 Mallinckrodt, this is out of his brochure that  
3 he issued, which I was given out at the  
4 visitor site, chemical analysis and betatron  
5 examination of early dingots confirmed the  
6 expectation that the inner core of the dingot,  
7 under, and I'm going to quote this, "Under a  
8 contaminated surface layer, was sound metal."

9 The contaminated surface layer was  
10 still on when it went to GSI, that's what they  
11 were trying to find out. Now I am, I'm  
12 disappointed. People just don't want to  
13 recognize the fact, and I have shared this,  
14 and I have emailed it, and I have sent it.  
15 It's not just me making this up. These are  
16 published documents. Nobody wants to accept  
17 that.

18 MR. KATZ: John, thanks. John --

19 MR. RAMSPOTT: If you can disprove  
20 it, please do.

21 MR. KATZ: John, I think folks  
22 here are ready to respond to that if you'd --

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1                   MR. RAMSPOTT: Yes, that would be  
2 great, go ahead.

3                   MR. KATZ: -- if you'd like to  
4 hear what they have to say.

5                   MR. RAMSPOTT: Sure, I'd love to.

6                   MR. ALLEN: Yes, I'd like to start  
7 this off, Bob, with some actual facts. And  
8 the actual facts are, in the uranium reduction  
9 process that makes the metal from green salt,  
10 it's a mag fluoride thermite process we've  
11 discussed before in this, it results in some  
12 still powdery form, but some very hard  
13 magnesium phosphate or mag fluoride, it's a  
14 white, hard crystal that adheres to the derby,  
15 the dingot, whatever you're producing in this  
16 reduction process.

17                   That material is then chipped off,  
18 it's cleaned out at the breakout, either  
19 chipped off, often with an air chisel or a  
20 needle gun, et cetera. That is what Bob, or  
21 I'm sorry, that's what John was mentioning and  
22 confusing with the second part of this, that

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1 when you remelt uranium, you produce these  
2 impurities that will float to the top, kind of  
3 like a slag when you're welding, that material  
4 is sawed off, top cropped, and that is what  
5 John is saying was X-rayed to decide where the  
6 metal was good and how far you'd have to saw  
7 it.

8 That is completely and 100 percent  
9 separate from what would be taken off with the  
10 needle gun or air chisel, et cetera. That  
11 would be done at Mallinckrodt before it went  
12 to GSI, no doubt about it.

13 MR. RAMSPOTT: No, the article  
14 said differently, Dave.

15 MR. ALLEN: No doubt about, it  
16 would be taken off before it went to GSI,  
17 number one. Number two, it is mag fluoride  
18 with a very low uranium content, we already  
19 know it's around the one percent uranium  
20 range. So even chipping that stuff off is not  
21 the highest airborne causing operation in the  
22 world. Number three, the air samples that I

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1 did give to this include air chiseling of  
2 derbies, which is the exact same process and  
3 exactly what you're talking about. So yes, it  
4 was considered --

5 MR. RAMSPOTT: Dave, I disagree --

6 MR. ALLEN: John, it's my turn  
7 here. It was considered --

8 MR. RAMSPOTT: All right.

9 MR. ALLEN: -- it was in my data,  
10 it's not a significantly different number,  
11 okay? Number two, the dingots, if you look at  
12 the data, part of that is hoisting these  
13 dingots and putting them on a lathe. The  
14 lathe is what was used to finish the surface,  
15 take that rough surface and finish it to a  
16 smooth surface. Obviously, these air samples  
17 are taken before it was finished. It is still  
18 the rough surface. If there was any crust,  
19 any mag fluoride crust that was not cleaned  
20 off, it would be there in those air samples.  
21 Now how, in the world, are these not  
22 representative of what you're talking about?

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1                   MR. RAMSPOTT:    I, am I, are you  
2   done now?

3                   MR. ALLEN:    Yes.

4                   MR. RAMSPOTT:    Okay, I'll, didn't  
5   want to interrupt you.    I just read the  
6   article and what it said.  If that article is  
7   incorrect --

8                   MR. ALLEN:    Your interpretation is  
9   incorrect.

10                  MR. RAMSPOTT:    Do you have another  
11   document, just like this document, that spells  
12   out the process that you're saying happened?

13                  MR. ALLEN:    I've got film that  
14   spells out what this was.

15                  MR. RAMSPOTT:    You have what?

16                  MR. ALLEN:    We have film that  
17   shows what this was.  I've got film of them  
18   air chiseling dingots at Mallinckrodt.

19                  MR. RAMSPOTT:    Yes, but the  
20   product, I have a still photograph of that as  
21   well.  And what they're doing there, if you  
22   look at it very closely, when they air

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1 chiseled the slag, I think they called it --

2 MR. ALLEN: Yes.

3 MR. RAMSPOTT: -- when they air  
4 chiseled that off, there's still a very rough  
5 dingot underneath it.

6 MR. ALLEN: Yes there is.

7 MR. RAMSPOTT: That's what went  
8 over to GSI so they could set it up for  
9 cropping --

10 MR. ALLEN: Yes, that would be  
11 similar --

12 MR. RAMSPOTT: -- according to  
13 this document.

14 MR. ALLEN: -- that would be  
15 similar to a derby and similar to a dingot  
16 being put on the lathe before it was machined.  
17 How would it not be?

18 MR. RAMSPOTT: Wait a minute, let  
19 me ask, a derby and a dingot are two totally  
20 different processes, are they not?

21 MR. ALLEN: No, they're exactly  
22 the same process. The difference is the size.

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1                   MR. RAMSPOTT:     They're the same  
2     item.

3                   MR. ALLEN:           They're made by  
4     heating magnesium and uranium fluoride to  
5     produce magnesium, or uranium metal, pooled in  
6     the bottom of the vessel.

7                   MR. RAMSPOTT:     So you're saying a  
8     derby's made just like a dingot in a bomb.

9                   MR. ALLEN:     Yes.

10                  DR. ANIGSTEIN:    If I can, this is  
11     Bob, if I can break in to clarify, what my  
12     understanding, and Dave, you correct me,  
13     please, is they used to make, they started off  
14     making the derbies, which were smaller shapes,  
15     a few hundred pounds, and then they would take  
16     several derbies and then put them into an oven  
17     and melt them to make an ingot.

18                  And then someone got the idea, why  
19     go through a two step process? We can make  
20     the ingot directly from the uranium  
21     tetrafluoride just the way we make the derby,  
22     just make it bigger. So they skipped that one

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1 remelting step. But as Dave said, it's  
2 exactly the same process. It's just that  
3 instead of having a bunch of small shapes and  
4 you melt them together to make a big one, you  
5 start off and make, you just scale the process  
6 up and make the big one directly.

7 That's why, dingot simply mean,  
8 you know, it's just a acronym, you know, for  
9 putting together a direct ingot, an ingot made  
10 by directly reducing the uranium tetrafluoride  
11 instead of by melting the derbies, which in  
12 turn were made be reducing uranium  
13 tetrafluoride. I hope that's, I'm just trying  
14 to be helpful.

15 MR. RAMSPOTT: Yes, no it's, Bob,  
16 I agree with you in my reading, understood it  
17 the way you said it, and they are two  
18 different processes. They melt the derby --

19 DR. ANIGSTEIN: They're the same  
20 process, they're just making two different  
21 sizes. I mean, they're similar processes --

22 MR. RAMSPOTT: That's right.

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1 DR. ANIGSTEIN: -- similar  
2 processes.

3 MR. RAMSPOTT: But the derby's  
4 already been processed.

5 DR. ANIGSTEIN: No, no, no, the  
6 derby is exactly the same as the dingot, just  
7 smaller.

8 CHAIRMAN ZIEMER: Now the use of  
9 contamination on the surface as they use it  
10 here as the magnesium compound is considered  
11 contaminant to the uranium I guess, right?

12 DR. ANIGSTEIN: Yes.

13 CHAIRMAN ZIEMER: When they say  
14 the surface is contaminated, that's what they  
15 mean.

16 DR. ANIGSTEIN: Yes, they mean  
17 it's not uranium.

18 CHAIRMAN ZIEMER: It's not  
19 radioactively contaminated.

20 DR. ANIGSTEIN: No.

21 CHAIRMAN ZIEMER: The magnesium is  
22 a contaminant that they're removing.

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1                   MR. RAMSPOTT:   Wasn't the cropping  
2 material uranium, the cropped material?

3                   MR. ALLEN:    The cropping material,  
4 after the mag fluoride slag is removed and you  
5 crop off the top because any impurities float  
6 to the top there and then they get rid of  
7 those.       It can include some unreacted  
8 magnesium or fluoride from that process.   It  
9 can also include some defective metals, not  
10 solid, you know, might have holes, et cetera.  
11 And in the process you end up with that  
12 Putzier effect, you know --

13                  DR. ANIGSTEIN:   Right.

14                  MR. ALLEN:       -- and the big  
15 remelting ingots in the --

16                  MR. RAMSPOTT:    Isn't that the  
17 issue though, whether the cropping was done  
18 before or after?

19                  MR. ALLEN:       No, not really, as  
20 Josie asked previously, the main thing as far  
21 as radioactivity in that top crop is the  
22 thorium-234 and protactinium-234m, doesn't

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1 show up so much in a dingot because it's  
2 directly from this process. But in the  
3 remelted ingots it will show up, but the top  
4 crop, as far as radioactivity, you get rid of  
5 that because of all the other impurities, and  
6 you also end up concentrating those things.

7 In a dingot you don't concentrate  
8 those so much, but you still get other  
9 impurities and non-solid metal, I guess is the  
10 best way I can put it, you know, you get like  
11 you said, rough surface or possibly even small  
12 voids, et cetera, in the metal near the top,  
13 and that is cropped off.

14 DR. ANIGSTEIN: And if I can  
15 answer another point that John Ramspott  
16 raised, in talking about the activation of  
17 fission products, if you had a chance, John,  
18 look on Page 48 of the original report back  
19 in, you know, early 2008, I think it was April  
20 --

21 MR. RAMSPOTT: Okay.

22 DR. ANIGSTEIN: -- and there is a

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1 detailed analysis of the, that if you inhale a  
2 milligram of the activated uranium, I would  
3 say the uranium immediately after betatron  
4 exposure like for several hours or repeated  
5 exposure, the difference between the dose,  
6 radiation dose, inhaled radiation dose of all  
7 of these fission activation products and the  
8 dose you would get just from natural uranium  
9 is like the difference in one to a million.

10 In other words, if you took the dose from  
11 natural uranium and you wanted to add the  
12 other, the addition would be maybe one  
13 thousandth of one percent.

14 Now NIOSH just did a quicky, quick  
15 solution to this, and they simply added one  
16 percent, in the original Appendix BB. They  
17 said well, whatever the dose from the uranium  
18 inhalation is, we'll add one percent to  
19 account for the activation product. But  
20 having done a very more detailed analysis, we  
21 came up with not one percent, one thousandth  
22 of one percent. So it's a total non-issue. It

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1 was taken and considered, so I mean I'm just  
2 taking a little, I know you mean well, John,  
3 and I'm taking a little umbrage saying that,  
4 you know, it was carelessly overlooked.

5 It was very carefully considered.

6 MR. RAMSPOTT: But those are  
7 products that are not in, I assume slugs and  
8 billets after they've gone through --

9 DR. ANIGSTEIN: Yes, but we're  
10 talking about a difference of one thousandth  
11 of one percent.

12 MR. RAMSPOTT: But I guess I'm  
13 just looking at it, it's a third stage down  
14 the road versus what really went to GSI, those  
15 products, in whatever shape they're in or, you  
16 know, I don't, I have a feeling I'm not going  
17 to win this argument about the cropping, even  
18 though I've got documents that say that's how  
19 it was, so I'm not going to beat a dead horse  
20 there. But I guess the point is, what  
21 everybody's analyzing is not what was at GSI,  
22 that's the bottom line.

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1                   CHAIRMAN ZIEMER:   Well, I think,  
2     John, I think we're disagreeing with that.  I  
3     think we're doing our best to analyze exactly  
4     what was at GSI.  And this is why we've gone  
5     through, trying to get samples that are  
6     comparable in terms of handling of uranium  
7     where the products that produce internal dose  
8     or other organ dose are, in fact, similar to  
9     what you would have at GSI.  That's really  
10    what this is all about.  So --

11                  MR. RAMSPOTT:   If I could make one  
12    more point --

13                  CHAIRMAN ZIEMER:  Right.

14                  MR. RAMSPOTT:   -- Bob, you said in  
15    your last comments, you know the hours that  
16    were spent.  And really you don't.  You know  
17    the hours that were spent on the purchase  
18    orders from 1958 on.

19                  DR. ANIGSTEIN:  That is correct.

20                  MR. RAMSPOTT:   Nobody knows the  
21    hours at GSI, that were spent pre-'58.  Now we  
22    know, with some new FOIA material, through

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1 '52. There is no information on the hours.  
2 You can guess, you really can't back  
3 extrapolate because up until a week ago,  
4 nobody even knew there was work going on in  
5 '52 so, I mean that's proven now. And I think  
6 it brings out a very important point. Nobody  
7 really knows anything that happened at GSI  
8 from '52 to '58. And this last document that  
9 [identifying information redacted] just  
10 located proves that.

11 DR. ANIGSTEIN: By the way, not to  
12 be blowing our horn --

13 MR. RAMSPOTT: Oh no, I know  
14 you've mentioned that you brought it up once.

15 DR. ANIGSTEIN: -- well we said  
16 from the beginning that we think that there  
17 was work in '52.

18 MR. RAMSPOTT: I pat you on the  
19 back, sir. I agreed with you before, and you  
20 were right. And that proves my point. Things  
21 were happening from '52 to '58, and they're  
22 talking about non-destructive testing and

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1 uranium shields, and Bob, you were 100 percent  
2 correct. And everybody said oh, well, sorry.  
3 I salute you, sir.

4 CHAIRMAN ZIEMER: Well, I think we  
5 passed that information along to Labor and  
6 that's all we can do as a Work Group on that  
7 particular thing.

8 MR. RAMSPOTT: Well, I know it,  
9 but the whole point is, things were really  
10 happening over there and there's no documents  
11 that anybody has pre-'58. There are none.

12 CHAIRMAN ZIEMER: Okay.

13 MR. RAMSPOTT: And I appreciate  
14 the chance to give you my feeling on this.

15 CHAIRMAN ZIEMER: Yes thanks,  
16 John. Ted Katz indicated he's received some  
17 correspondence from Dr. McKeel. Ted --

18 MR. KATZ: Sure.

19 CHAIRMAN ZIEMER: -- what is it, a  
20 letter you received?

21 MR. KATZ: It's a letter, it's a  
22 letter from Dr. McKeel and he asked that I

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1 read it into the record and then I distribute  
2 it then to the Work Group Members and to the  
3 Board Members after reading it into the  
4 record. So that's what I'd like to do now.

5 So it's from Dr. McKeel, dated November 28th,  
6 2012, to Members of the TBD-6000 Work Group  
7 and staff of the ABRWH.

8 "I am today resigning by this  
9 letter, in protest, from active participation  
10 in further deliberations of the Advisory Board  
11 on Radiation and Worker Health TBD-6000 Work  
12 Group, concerning GSI Appendix BB and SEC-  
13 00105. I have become persuaded that a  
14 majority of this Work Group, together with the  
15 DCAS and SC&A representatives, have exhibited  
16 a longstanding, persistent personal bias  
17 against adequately evaluating the many  
18 substantial scientific contributions made to  
19 the ABRWH since 2005 by myself, other GSI site  
20 experts, and the GSI petitioner team.

21 In particular, GSI claimants have  
22 been denied statutory due process under

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1 EEOICPA 2000 by not having Appendix BB to  
2 Battelle TBD-6000 revised in a timely and  
3 factually accurate manner since it was  
4 released in June 2007. McKeel personal  
5 contributions have included A, in 2006, being  
6 the first person to alert the ABRWH, DCAS, and  
7 SC&A, to the existence of Landauer film badges  
8 for a limited number of GSI radiographers 1963  
9 to 1973.

10 B, to clearly define all of the  
11 radiation source terms at GSI in conformance  
12 with DCAS directive OCAS-IG-003, via NRC FOIA,  
13 2010 through '12 of 1,116 pages of AEC  
14 byproduct license material for GSI.

15 And C, most recently via DOE, ORO,  
16 FOIA, 2013-00013, I have shown that during  
17 November and December 1952, an active  
18 collaboration was ongoing among MCW AEC Oak  
19 Ridge Office, and GSI personnel in developing  
20 betatron radiography, uranium imaging  
21 techniques that were applied to thin slices of  
22 MCW ingots. A special uranium shield

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1 fabricated at MCW, was used to contain  
2 scattered radiation fields from the 24 MeV  
3 betatron X-ray beam. The stated purpose was  
4 to provide higher quality X-ray images of AEC,  
5 MCW, uranium products.

6 Furthermore, DCAS, NIOSH, and SC&A  
7 and certain Board Members have chosen to  
8 ignore a large fraction of the above and other  
9 numerous factual contributions as oral and  
10 written comments and papers by the  
11 petitioner/site expert, and GSI  
12 worker/claimant teams as reflected in the  
13 transcripts of TBD-6000 and ABRWH Full Board  
14 Meetings. Various HHS, FOIA, and DCAS  
15 personnel have made accessing crucial GSI SRDB  
16 documents especially difficult.

17 For example, obtaining a single  
18 copy of Harris Kingsley 1958 from the CDC  
19 ATSDR FOIA office took over two and a half  
20 months. Many of my email requests to the TBD-  
21 6000 Work Group Chairman go unanswered by him  
22 except through a surrogate, the DFO, or at

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1 NIOSH, SEC Counselor, neither of whom are the  
2 Board or Work Group Secretary per se.

3 Finally, I'm persuaded that for  
4 GSI at least, the SC&A evaluation team has  
5 switched from strongly recommending a GSI SEC  
6 for the first ten years in October 2010, to  
7 its present position in supporting a denial of  
8 the SEC-00105.

9 SC&A is no longer acting as an  
10 effective oversight agent for the Board, at  
11 least in the case of GSI. Rather it and its  
12 Work Group Chair have become stalwart,  
13 scientific allies and collaborators with DCAS.  
14 The SC&A review paper released to me on  
15 November 26, 2012 at 12:30 p.m. is a prime  
16 example of the close collaboration between  
17 SC&A and DCAS. Whereas in their August 2012  
18 paper, SC&A found that these uranium slug  
19 facility and TBD-6000 failed to pass the five  
20 Board surrogate data criteria, now SC&A finds  
21 that David Allen's slug facilities meet all  
22 Board surrogate data criteria. Four Allen

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1 August-November 2005 White Paper, AWE sites  
2 have only 14 claims and 13 dose  
3 reconstructions between them and no one has  
4 been compensated. Those AWE sites and the  
5 Weldon Spring DOE site are judged by SC&A and  
6 DCAS as to be stringently justified as being  
7 comparable to GSI. This is scientifically  
8 ludicrous and offensive. It is definitely  
9 scientifically indefensible in my opinion.

10 Also, the authors of the November  
11 25th, 2012 SC&A review of Allen 11-6-2012,  
12 continue to insist that uranium ingots and  
13 dingots sent to MCW from MCW to GSI had only a  
14 few uranium oxide flakes on their pure uranium  
15 surfaces that were easily rubbed off.  
16 The petitioners and site experts have proven  
17 beyond a reasonable doubt using technical  
18 publications and photographs, that MCW,  
19 Destrehan Street, and Weldon Spring site  
20 uranium dingots of the type sent to GSI from  
21 NDT radiography were rough surface and taller  
22 than they were wide before cropping.

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1           SC&A ignores the proven fact that  
2           the adherent magnesium fluoride slag or crust  
3           of MCW uranium ingots and dingots sent to GSI  
4           1953 to 1966 contained radioactive daughter  
5           products of uranium and betatron activation  
6           products.     The DCAS cold -- term "cold  
7           uranium" is inappropriate.

8           SC&A and DCAS continue to ignore  
9           the well list substantiated fact that GSI MDT  
10          betatron radiography defined the interface  
11          between pure MCW uranium and the tightly  
12          adherent crust, detecting structural flaws  
13          competed with this prime MCW ACE directive.  
14          Objective science has been abandoned to the  
15          detriment of GSI claimants.     Please refer to  
16          NIOSH docket 140 for more documentation of  
17          statements in this letter.     Thank you for this  
18          added opportunity to set this record  
19          straight."     And then he gives the reference  
20          and he signs it Daniel McKeel, Daniel W.  
21          McKeel.     That's it.

22                   CHAIRMAN    ZIEMER:           Okay, that's

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1       been read into the record.

2                   MR. KATZ:   I'll send it to you so  
3       that you can --

4                   CHAIRMAN ZIEMER:     And are you  
5       going to distribute this to --

6                   MR. KATZ:   So I'll distribute this  
7       now to everybody involved, staff, Board  
8       Members.

9                   CHAIRMAN ZIEMER:     Okay, thank you.  
10       You know, I think we need a comfort break at  
11       this point. We went a little longer than I  
12       expected. So let's take a 15 minute break and  
13       we'll resume at five to 11:00. It's about 20  
14       of right now. Thanks.

15                   (Whereupon, the meeting in the  
16       above-mentioned matter went off the record at  
17       10:41 a.m. and went back on the record at  
18       10:57 a.m.)

19                   MR. KATZ:     Okay, we are  
20       reconvening, this is the TBD-6000 Work Group.

21

22       And let me just check on the line and see if

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1 Dr. Poston has joined us.

2 MEMBER POSTON: I'm here.

3 MR. KATZ: Well, John, at what  
4 point did you join us?

5 MEMBER POSTON: I joined you when  
6 Bob started talking and I didn't want to  
7 interrupt, so I waited until that was over.

8 MR. KATZ: When Bob started  
9 talking this morning first thing, you're  
10 talking about?

11 MEMBER POSTON: Yes.

12 MR. KATZ: Okay, in the future,  
13 John, please do register your attendance  
14 because it's important procedurally.

15 MEMBER POSTON: Well I did let you  
16 know I was there, but I waited until Bob  
17 finished.

18 MR. KATZ: Oh, we never heard you,  
19 John.

20 MEMBER POSTON: Oh, I thought Paul  
21 acknowledged me.

22 MR. KATZ: No.

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1 CHAIRMAN ZIEMER: No.

2 DR. NETON: Maybe that was John  
3 Ramspott you --

4 MR. KATZ: No, John Ramspott we  
5 heard from, but we never heard from you.

6 CHAIRMAN ZIEMER: No, I didn't  
7 think I acknowledged you, but I appreciate you  
8 thinking that I did. I don't want to overlook  
9 you, thanks though, appreciate you being  
10 there.

11 MEMBER POSTON: I apologize, I was  
12 probably on mute and didn't realize it like so  
13 many people.

14 CHAIRMAN ZIEMER: Yes, maybe you  
15 were on mute. In any event --

16 MR. KATZ: Thanks, I'm glad to  
17 know that you've been attending.

18 CHAIRMAN ZIEMER: Okay, now just  
19 before the break, Ted Katz read a letter from  
20 Dr. McKeel, and I think it will be appropriate  
21 if we prepare a response. I'll work on that  
22 with Ted on drafting that and we'll get a copy

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1 out to the Work Group to respond to Dr.  
2 McKeel's comments and concerns.

3 I do want to see, although Dr.  
4 McKeel isn't on the line to discuss his papers  
5 but, Board Members, you have had an  
6 opportunity to look at those. I'm wondering  
7 if there are some questions that any of you  
8 have that you want to raise and at least on  
9 the record. Josie, did you have a question on  
10 --

11 MEMBER BEACH: No, I just, I had a  
12 couple of things that I wrote down but John  
13 pretty much covered most of them. And then I  
14 think most of my, is not so much with the  
15 surrogate data, although I find that having  
16 data from several different sites for GSI is a  
17 little unsettling for me, but I'm not, the  
18 thing I had was just the rest of the issues  
19 that we have other than the data which John,  
20 or not John, Bob alluded to that we still had  
21 to cover today.

22 CHAIRMAN ZIEMER: Oh, okay.

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1                   MEMBER BEACH:    So I'll leave it at  
2                   that because I know there's still more to be  
3                   discussed.

4                   CHAIRMAN ZIEMER:    Well, I think  
5                   you all have the other concerns that Dr.  
6                   McKeel raised and I've had a chance to look at  
7                   those and to consider those as you move  
8                   forward.    So he's not here to discuss them  
9                   further so we'll leave it at that.

10                  We    need    to    have    a    formal  
11                  recommendation on this portion, that is the  
12                  use of the surrogate data for internal dose  
13                  for the residual period and the operational  
14                  period.    And I can ask for Work Group, if you  
15                  have a formal recommendation you wish to make  
16                  to the Board on the use of this methodology  
17                  that's been described by Dave and will be  
18                  slightly modified using the changes that were  
19                  described to characterize the internal dose  
20                  from the handling of the uranium during the  
21                  operational period and to use that information  
22                  together with the TBD-70 modeling for the

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1 residual period in the manner described. And  
2 we can take those separately if you wish, but  
3 a motion would be in order.

4 MEMBER MUNN: I'll be glad to try  
5 to address that, Paul, if you'd like. This  
6 has not been an easy deliberation. We have, I  
7 think, addressed each of the issues that has  
8 been brought up in turn. And I think we owe  
9 some thanks to the petitioners for having  
10 brought some of these issues to our attention  
11 so that they did receive a great deal of focus  
12 and a great deal of discussion. A great deal  
13 of thought has gone into it.

14 Contrary to some of the statements  
15 that have been made, our experts in these  
16 matters have made every apparent effort that  
17 was available to them to try to adhere as  
18 closely to good scientific principles as they  
19 could, and have taken into account the  
20 requirements that we, as a Board, have  
21 established for viewing much of this material.

22 We have agreement on what is

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1 reasonable to pursue and what material is  
2 available to us that's applicable to our  
3 issues. It seems only reasonable that we  
4 accept the basic recommendations and  
5 agreements that have come to us from the  
6 Agency and from our contractor.

7 I would like to move that we  
8 accept the recommendations that have been made  
9 with respect to the use of surrogate data  
10 that's available to us, and move forward with  
11 our assessment of the entire SEC petition from  
12 the GSI organizations.

13 CHAIRMAN ZIEMER: Okay, I would  
14 like to actually confine the motion originally  
15 to this part: the use of the surrogate data  
16 for the internal dose portion and then we can  
17 vote separately on the issues of, we sort of  
18 have, but I want to firm it up, but --

19 MEMBER MUNN: Please, please --

20 CHAIRMAN ZIEMER: -- could we have  
21 agreement that we should, your motion, if I  
22 can interpret it, would be to accept the use

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1 of surrogate data as described by NIOSH and  
2 as, with the modifications that they will  
3 incorporate from SC&A for a determination of  
4 internal dose during the operational and the  
5 residual periods.

6 MEMBER MUNN: That's most  
7 acceptable. Please delete my last phrase from  
8 my statement.

9 CHAIRMAN ZIEMER: Now, does anyone  
10 wish to break that into two parts? I realize  
11 it encompasses both periods. I need a second,  
12 also.

13 MEMBER BEACH: I think it should  
14 be broken into two parts.

15 CHAIRMAN ZIEMER: Okay.

16 MEMBER BEACH: But I think the  
17 inconsistencies --

18 CHAIRMAN ZIEMER: Now what --

19 MEMBER BEACH: -- so I don't want  
20 to get into it, no.

21 CHAIRMAN ZIEMER: I'm only talking  
22 about the two --

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1                   MEMBER BEACH:       Right, you're  
2     talking --

3                   CHAIRMAN ZIEMER:     -- only about  
4     the internal dose compound.

5                   MEMBER BEACH:     Okay, from '53 and  
6     you're saying all the way to '66, or '53 to --

7                   CHAIRMAN ZIEMER:     Operational plus  
8     residual period, just for this component.

9                   MEMBER BEACH:     I would say leave  
10    it as one.

11                  CHAIRMAN ZIEMER:       Are you  
12    seconding?

13                  MEMBER BEACH:     No.

14                  CHAIRMAN ZIEMER:     No. Okay --

15                  MR. KATZ:       John Poston's on the  
16    line.

17                  CHAIRMAN ZIEMER:     John?

18                  MEMBER POSTON:     Second the motion  
19    so we can at least discuss it.

20                  CHAIRMAN ZIEMER:     Okay.

21                  MEMBER BEACH:     There you go.

22                  CHAIRMAN ZIEMER:     So the motion is

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1 to accept the recommendation on the use of the  
2 surrogate data for internal dose calculations  
3 for the operational and residual periods.

4 Okay, all in favor, aye?

5 MEMBER MUNN: Are we going to have  
6 discussion?

7 CHAIRMAN ZIEMER: Oh, discussion,  
8 yes. I'm sorry.

9 MEMBER MUNN: Since John said he  
10 was seconding for purposes of discussion.

11 CHAIRMAN ZIEMER: After we take  
12 action on this, we'll go back and determine  
13 the overall recommendation for everything.

14 Okay, this is just for the internal dose  
15 components.

16 MEMBER BEACH: So where does, I  
17 guess I want to make sure I'm clear, we're  
18 talking surrogate data that we've discussed  
19 this morning.

20 CHAIRMAN ZIEMER: Right.

21 MEMBER BEACH: Where does the  
22 other material that's on the floor, loose

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1       contamination coming in on the products, where  
2       does that fit in? Because that's an internal  
3       component.

4                   CHAIRMAN ZIEMER: Right.

5                   MEMBER BEACH: Where does that fit  
6       into this particular motion?

7                   CHAIRMAN ZIEMER: Jim can describe  
8       how, or Dave can describe how that's done with  
9       the --

10                  MR. ALLEN: Well, if I'm  
11       interpreting all this right, I'm looking at  
12       this as if we had air samples at GSI, we  
13       don't, you know, but if we had air samples  
14       there at GSI when they were moving uranium  
15       around, we would still have to develop  
16       parameters and model what the exposure's going  
17       to be based on those air samples.

18                  MEMBER BEACH: Understand.

19                  MR. ALLEN: That stuff is still on  
20       the table, how we would use this air sample  
21       value as far as to estimate the dose and  
22       that's a tractable, as Jim would say, a

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1 tractable TBD issue. I think this motion, and  
2 you guys can direct me if I'm wrong, I'm  
3 thinking this motion is we don't have air  
4 samples, do we have the equivalent in  
5 surrogate data, as equivalent to an air sample  
6 at GSI?

7 DR. NETON: I think that's the  
8 first part. I think what Josie is asking  
9 though is beyond that. Assuming that we agree  
10 that we have an air sample that's  
11 representative of moving uranium around, then  
12 how do you model what would be on the floor  
13 and what the workers' exposure would be from  
14 the surface contamination?

15 MEMBER BEACH: Yes, because you've  
16 got two separate issues.

17 DR. NETON: Right. And that is  
18 dealt with in TIB-70. TIB-70 is a  
19 prescriptive approach so when you have air  
20 sample data during an operational period, how  
21 much of that material deposits on the ground  
22 over time, and then what fraction of that

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1 material goes back up into the air?

2 MEMBER BEACH: Right.

3 DR. NETON: The only thing in  
4 question at this point is, since it's not a  
5 continuous operation, we wouldn't say that  
6 that air concentration existed eight hours a  
7 day, you know, five days a week, 2,000 hours a  
8 year. We would have to come up with some  
9 amount of time, some duration of time that  
10 that material was depositing on the ground.

11 And that would have to be decided. And that's  
12 what I would consider a Site Profile issue,  
13 not can it be bounded at all? It can be  
14 bounded by saying it happened the full 2,000  
15 hours.

16 MR. ALLEN: All the time, yes.

17 DR. NETON: But the question is,  
18 what incremental, you know, what decrement of  
19 it would it be, 1,000 hours, 1,500, that's  
20 really what's up in the air. So it's a  
21 solvable problem using a standard approach  
22 that we used in TIB-70 that's an approved

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1 document for doing these type of estimates.

2 MR. ALLEN: Based on air sample.

3 DR. ANIGSTEIN: Well, I'd just  
4 like to, I hope it's not out of place, I'd  
5 like to comment, the surrogate data really  
6 does not apply to the residual period. The  
7 surrogate data tells you what was, I mean the  
8 purpose of surrogate data is to come up with  
9 an estimate of the uranium activity air  
10 concentrations during the minutes and hours  
11 that uranium was handled. And it does not  
12 directly bear on the residual period when  
13 there was no uranium handling. I mean, that's  
14 a separate component, I mean --

15 CHAIRMAN ZIEMER: Well, but as Jim  
16 was just explaining, that is used to determine  
17 the starting point.

18 DR. ANIGSTEIN: It will be, it  
19 will be used.

20 CHAIRMAN ZIEMER: Right so it --

21 DR. ANIGSTEIN: The data itself,  
22 surrogate data itself, does not --

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1                   CHAIRMAN ZIEMER:   Well insofar as  
2   it establishes the air activity for the --

3                   DR.    ANIGSTEIN:        Okay,   right,  
4   right, okay, as a source, all right, fine.

5                   CHAIRMAN ZIEMER:        --   for   the  
6   operational period, then it establishes the  
7   starting point for the TIB-70 value.   So in a  
8   sense, you're saying, because remember, this  
9   all started with the surrogate for that  
10  starting point so --

11                  MR.  ALLEN:     Okay, like Bob says,  
12  it's not directly used; it is indirectly used.

13                  CHAIRMAN ZIEMER:   It is indirectly  
14  used, okay.  Any other questions?  Or are we -  
15  -

16                  MEMBER BEACH:     So does that mean  
17  you should maybe change the way that motion is  
18  made so that it's not confusing?  Because  
19  right now the two periods are lumped together  
20  under that.

21                  MR.  KATZ:     But that's because it  
22  is indirectly involved in that --

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1 CHAIRMAN ZIEMER: Well --

2 MEMBER BEACH: But it is a  
3 starting point but it doesn't -- I don't know.

4 MS. LIN: Josie, do you feel like  
5 that remaining question, it's not a TBD  
6 question? Is that what you're getting at?

7 MEMBER BEACH: I'm not sure.

8 MS. LIN: Okay.

9 MEMBER BEACH: We haven't finished  
10 that discussion so --

11 MS. LIN: Okay.

12 CHAIRMAN ZIEMER: Well --

13 MS. LIN: Do you think that the  
14 surrogate data could be used as a starting  
15 point for the residual contamination? Because  
16 I'm trying to get a sense of why we're  
17 breaking it up.

18 MEMBER BEACH: Oh, I just thought  
19 it was for clarity's sake. If it's clear to  
20 everybody then it doesn't need to be. But  
21 see, I still have some questions on the  
22 surrogate data which --

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1 DR. NETON: Well, maybe we need to  
2 talk about that. Because if you agree that we  
3 have, if it's agreed that surrogate data, the  
4 95th percentile, the distribution that we're  
5 going to generate is representative to be used  
6 for inhalation exposures at GSI, then it sort  
7 of implies we have knowledge of what the air  
8 concentrations were in the plant. And once we  
9 have that, the rest sort of falls in place.

10 I mean, that's what we do all the time in  
11 residual contamination. It's a standard,  
12 there's nothing unique about that other than  
13 the non-continuous nature of the operation.  
14 That's the only difference in my opinion.

15 MR. ALLEN: Maybe I can try to  
16 just say this motion should be more or less  
17 agreement that the data we have collected can  
18 be used to estimate intakes at GSI, not  
19 necessarily agreement with what the intake  
20 estimate is at this point, just that it can be  
21 used, is kind of where we're at I think.  
22 Isn't that your question, is how we use that

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1 data, not --

2 MEMBER BEACH: Well, my question  
3 goes back just to the fundamental of the  
4 surrogate data and how it fits the criteria.  
5 Because I don't agree 100 percent that it does  
6 fit the criteria.

7 MR. ALLEN: Oh, okay.

8 MEMBER BEACH: But that's just my  
9 opinion.

10 MR. KATZ: Well you should discuss  
11 that then.

12 CHAIRMAN ZIEMER: Yes, let's  
13 discuss that then as part of yours, because  
14 the motion is dependent on the acceptance that  
15 this is valid use of surrogate data so I mean,  
16 I think you should go ahead and raise the  
17 question here.

18 MEMBER BEACH: Well I guess my  
19 question is, what I've gotten here is the  
20 differences between the operations at GSI, one  
21 of them on Bob's report on Page 11, the last,  
22 does the surrogate data reflect the type of

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1 operations and work practices used at the  
2 facilities?

3 I have concerns, the early time  
4 period, and I know this falls into, you know,  
5 the work practices between internal and  
6 external so I'm trying not to get those two  
7 confused, but the surrogate data is supposed  
8 to be a good example of what happened at GSI.  
9 And I have questions that it's not a good  
10 example between the three or four different  
11 sites or seven surrogate data to what actually  
12 happened at GSI. And part of that was because  
13 of the point that John brought up with the  
14 cropping and the scraping and the different  
15 phases of that operation, which we had that  
16 discussion here today and I know you're in  
17 disagreement with it.

18 CHAIRMAN ZIEMER: Well, well  
19 they're not doing the cropping at GSI.

20 DR. NETON: They didn't do any  
21 cropping.

22 MEMBER BEACH: Right, but when I

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1 was reading all these reports, that was one of  
2 the questions I had in looking at the  
3 surrogate data.

4 DR. NETON: The premise of our  
5 analysis is that the only thing that happened  
6 at GSI was they moved the material around the  
7 plant --

8 MEMBER BEACH: Right.

9 DR. NETON: -- to be X-rayed.

10 MEMBER BEACH: Right.

11 DR. NETON: There was no abrasion,  
12 no cutting, no grinding operations. Nothing  
13 of that sort, that we know of, occurred at  
14 GSI.

15 MEMBER BEACH: Right. But how  
16 that product came in and what it looked like  
17 as it came in.

18 MR. ALLEN: Well, I mean, part of  
19 what that White Paper I put together, because  
20 in all honesty, I didn't know how much of a  
21 difference there would be. But part of that,  
22 and one of the reasons I included those

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1 derbies originally, that's a rough surface  
2 right out of the reduction area. The slugs,  
3 obviously, have been through quite a bit of  
4 processing, you know, to get to the point of  
5 being a slug. The billets are intermediate  
6 process between ingot and rods.

7 I think the different forms  
8 represent pretty much every phase of the  
9 process, you know, at one point or another.

10 And the air sample values were fairly  
11 consistent, you know, through each part of it  
12 to where the result of that Paper essentially  
13 said that it doesn't matter what step of the  
14 process it's in or what size or shape it's in,  
15 you know, the air samples seem to be  
16 consistent as far as airborne you get from  
17 handling this --

18 CHAIRMAN ZIEMER: For handling.

19 MR. ALLEN: For handling, was all  
20 this was analyzed.

21 CHAIRMAN ZIEMER: And the rough  
22 surface typically represents, probably a lower

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1 amount of uranium on the surface. If it's  
2 mainly magnesium compounds --

3 MR. ALLEN: I think it's  
4 reasonable to believe that's possible. I  
5 don't know if it's fact or not.

6 CHAIRMAN ZIEMER: If we know that,  
7 okay.

8 MR. ALLEN: I just know that we  
9 did have some air samples from derbies, and  
10 you can actually see a derby. One of those  
11 pictures that John sent or --

12 CHAIRMAN ZIEMER: Right.

13 MR. ALLEN: -- I mean, there's a  
14 bit ingot with this littler things that's  
15 pointing to; that's a derby.

16 CHAIRMAN ZIEMER: Yes.

17 MEMBER MUNN: Yes, but you've just  
18 hit on a major point I think, Paul. It seems  
19 obvious from what we've heard and what we've  
20 read here today that in the claimant  
21 population there's a very clear implication  
22 that exclusions on the outside of any of the

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1 material that we have may be more pernicious  
2 in terms of exposure than the raw material  
3 itself.

4 And that is, I think we've  
5 addressed that in several ways but I'm not  
6 sure that we've addressed it directly in being  
7 able to say that the crust on these things is  
8 not more dangerous than the metal itself.

9 That's, it is, any differences in exposure  
10 that would occur from handling uncleaned  
11 material are not significant in terms of  
12 identifying increases in dose. And that is, I  
13 think, a misunderstanding that seems to be  
14 quite prevalent in what we're hearing from  
15 outside this table.

16 DR. ANIGSTEIN: In my interviews  
17 with the worker back in --

18 CHAIRMAN ZIEMER: Speak loud  
19 enough so that --

20 MR. KATZ: Yes, you're hard to  
21 hear.

22 DR. ANIGSTEIN: Pardon?

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1                   MR. KATZ:     You're hard to hear,  
2     speak up.

3                   DR. ANIGSTEIN:   Okay, spit out the  
4     candy.   In my interviews with the workers in  
5     2007, they initially, the only thing we really  
6     have clear evidence of is in the Mallinckrodt  
7     Site Profile, when they refer to betatron  
8     slices, so these were, they would take the  
9     ingot or dingot, it had been already cast,  
10    ready to go, and they wanted to find out, are  
11    there some inclusions of slag inside the body,  
12    not on the surface, inside the body of the  
13    metal.

14                  So if they then send it to be  
15    rolled and made into rods, these would be  
16    imperfections which may cause the thing to, I  
17    don't know, break or to be, you know?   So it  
18    was, essentially it was destructive testing  
19    because they would take the ingot, saw a slice  
20    out of it, and by my calculation they couldn't  
21    be more than four inches because the betatron  
22    couldn't penetrate more than that, it could

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1 have been thinner.

2           And I asked the workers, does that  
3 sound like what you were doing, a slice maybe  
4 18 inches in diameter like that? And they  
5 said yes, yes, that sounds familiar, that  
6 sounds like what we were doing.

7           Only in one case, one worker whom  
8 I interviewed said he worked on the day shift.  
9 And when he came in, the night shift people  
10 were telling him, oh yes, they were shooting  
11 the ends of the ingot. There was just one  
12 case that one time. And I even drew a diagram  
13 of my understanding of what he was saying and  
14 sent it to him and asked him to confirm is  
15 this what you meant? And I showed, you know,  
16 shots at each corner.

17           And these would be not the surface  
18 kind, the surface kind is those you see, you  
19 see, you could see, hey, this is magnesium  
20 fluoride, this isn't uranium, you took it off  
21 but it has a totally different physical  
22 property and you keep chipping it off with a

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1 hammer until it's all gone. You don't take an  
2 X-ray for that.

3           What you take an X-ray for is, it  
4 looks like metal but you can't see inside.  
5 And inside is porous and there is air in there  
6 like a froth, mostly slag, it's mixed in into  
7 the metal. And that gets cut off with a  
8 bandsaw. And they don't want to, you know,  
9 obviously you want to keep as much of the  
10 ingot as possible so you, you know, that makes  
11 perfectly good sense that they would take a  
12 radiograph. Now the radiograph cannot  
13 penetrate through the whole ingot, it's too  
14 thick. But if they get the corner it would  
15 show up and that, you know, as a gray area,  
16 here's black and here is white actually on the  
17 radiograph and then they go through that. And  
18 so they would see that, that's very true.

19           CHAIRMAN ZIEMER: Yes, but all  
20 that, all of that was done --

21           DR. ANIGSTEIN: But the material  
22 inside would behave pretty much like uranium.

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1 And if there were any of these short-lived  
2 daughter products, you know, later I said I  
3 did the analysis of you get something like two  
4 to the minus four sieverts per milligram from  
5 inhaling natural uranium and an additional ten  
6 to the minus nine in the activation product.

7 So it doesn't affect the, biologically it has  
8 no effect and physically it's no different.

9 It would be, you know, it would be no greater  
10 or lesser dust from that than the other. So  
11 it's a, you know, do we have, you know, that's  
12 why it's called surrogate data. It's not  
13 perfect, identical.

14 MEMBER BEACH: Right, right.

15 DR. ANIGSTEIN: I mean, the only  
16 identical is to go back in time and, you know,  
17 and then do it there.

18 DR. NETON: The thing that strikes  
19 me about this analysis is that you have to  
20 look at the magnitude of the exposure that  
21 we're talking about. I mean they've looked at  
22 37 air samples of various movements of

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1 dingots, slugs, derbies, dingots --

2 MEMBER BEACH: Right.

3 DR. NETON: -- and we took the  
4 95th percentile of all those air samples. The  
5 highest amount that got into the air is  
6 something about less than a tenth of a  
7 milligram per cubic meter of uranium, from  
8 doing those operations. That's the 95th  
9 percentile. I think the mean value is like 21  
10 dpm per second.

11 MEMBER BEACH: Right.

12 DR. NETON: You're talking about a  
13 very low operation. So we're comfortable  
14 saying, if we pick the 95th percentile, it's  
15 less than a tenth of a milligram, we bounded  
16 those workers' exposures from whether you move  
17 the slug, a derby, a billet, a dingot, under  
18 any form because we looked at all of the  
19 different air samples.

20 MEMBER BEACH: Right, I understand  
21 that.

22 DR. NETON: That -- kind of what

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1 strikes me is it's, and we talked about it a  
2 little bit at the Board Meeting last time,  
3 there is uncertainty there. But when you have  
4 such a low level of exposure, you almost have  
5 to allow for more uncertainty because it's so  
6 low, you know, it's different to have a factor  
7 or two difference from such a small exposure  
8 like this than if you had big exposures.

9 CHAIRMAN ZIEMER: But the  
10 surrogate that we're looking for is, process-  
11 wise, is not the process of radiographing;  
12 it's the process of handling. And so you're  
13 looking for sites, not that are, you're  
14 eliminating sites where they're doing other  
15 things, and trying to just get the handling  
16 part because that's the part GSI did.

17 So in my mind, the surrogate is  
18 finding the same process, in this case the  
19 process that we're talking about is the  
20 handling of the uranium. It's not  
21 radiographing; those doses are handled  
22 separately by the external exposure and the

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1 other thing. So this is just the handling  
2 part. That's how I see the surrogate part.

3 MEMBER BEACH: Okay.

4 CHAIRMAN ZIEMER: Yes, go ahead,  
5 you had another question.

6 MEMBER BEACH: No, I'm good.

7 Thank you.

8 MR. KATZ: Dr. Poston, do you want  
9 to check with Dr. Poston?

10 CHAIRMAN ZIEMER: John Poston, do  
11 you have a comment or question?

12 MEMBER POSTON: No, I don't have  
13 any other questions. I think the explanations  
14 helped me a little bit.

15 CHAIRMAN ZIEMER: Right now, the  
16 motion is to accept the recommendation on the  
17 use of surrogate data for the operational and  
18 residual periods, and that, for internal dose.  
19 And the implication for the residual period is  
20 that it would be used in conjunction with the  
21 TIB-70 procedure to determine the dose during  
22 residual period. But we can break it into two

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1 if you --

2 MEMBER BEACH: No, I don't think  
3 it's necessary.

4 CHAIRMAN ZIEMER: Okay, okay, then  
5 all in favor of this motion say aye.

6 MEMBER MUNN: Aye.

7 MEMBER POSTON: Aye.

8 MEMBER BEACH: Aye.

9 CHAIRMAN ZIEMER: Four ayes.

10 MR. KATZ: Four ayes.

11 CHAIRMAN ZIEMER: Motion carries.

12 Now I want to remind you that we previously  
13 moved the other issues that were in the SEC  
14 petition to the TBD Appendix BB, TBD-6000  
15 Appendix BB, meaning that we agreed that they  
16 were tractable issues and therefore could be  
17 handled under the Site Profile category.

18 However, I want to be able to go  
19 to the Board now and be very specific on the  
20 recommendation to the Board. And I think in  
21 fairness to everyone on the Work Group,  
22 certainly willing to divide the motion into

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1 three parts.

2 One would be what I would call the  
3 early years which right now is '53 to, I  
4 believe, '62, and then '62 to '66, I could get  
5 the exact months, but you understand what I'm  
6 talking about, those two operational periods  
7 and then the residual period. And I'd like to  
8 be able to tell the Board where we are as a  
9 Work Group on recommending the SEC petition  
10 relative to those three components.

11 MEMBER BEACH: You're talking  
12 external.

13 CHAIRMAN ZIEMER: I'm talking  
14 about everything now.

15 MEMBER BEACH: The whole thing,  
16 okay.

17 CHAIRMAN ZIEMER: The whole thing.  
18 We have done the pieces but I know that,  
19 Josie, I know you had concerns about the first  
20 early period and I think in fairness we need  
21 to be able to tell the Board that or, you  
22 know, I don't want to prejudge how you vote

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1 but I think unless somebody wants to do the  
2 whole thing in one motion I think it's quite -  
3 -

4 MR. KATZ: Let's do it in three.

5 CHAIRMAN ZIEMER: Okay, so first  
6 of all, the first motion would be, right now  
7 as it stands now, the motion would be to  
8 accept the NIOSH recommendation that doses can  
9 be reconstructed for the early period which  
10 is, right now, January 1st '53 is the  
11 beginning of the operational period. And I  
12 would, I guess I would put this, I don't have  
13 an official date here, but I'm going to say  
14 March 7th, '62, which is when they applied for  
15 the AEC license. Now that may be a good break  
16 point.

17 DR. ANIGSTEIN: '62, '62?

18 CHAIRMAN ZIEMER: '62.

19 DR. ANIGSTEIN: Right. They  
20 actually, they discontinued --

21 CHAIRMAN ZIEMER: Well the license  
22 was granted April 18th '62, so we could go to

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1 that period.

2 DR. ANIGSTEIN: That's when they  
3 discontinued using radium.

4 CHAIRMAN ZIEMER: So let's say  
5 April 18, '62. Now these dates are sort of  
6 arbitrary for us because that's not part of  
7 the petition. But I think in the minds of  
8 some, perhaps beyond this Work Group, that  
9 that might be a break point. So let me ask  
10 first for a motion to, on that period, the  
11 January 1st, '53 through April 18th, '62.

12 MEMBER BEACH: I would make a  
13 motion that probably wouldn't pass, to approve  
14 an SEC for 1953 to 1962 --

15 CHAIRMAN ZIEMER: Okay.

16 MEMBER BEACH: -- based on the  
17 lack of data and several other reasons.

18 CHAIRMAN ZIEMER: Okay, I need a  
19 second for that motion.

20 MEMBER MUNN: So, let me just  
21 change the motion.

22 CHAIRMAN ZIEMER: Okay, Josie

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1 didn't get seconded, so that's all right.

2 MEMBER BEACH: I didn't expect to,  
3 but I thought I would just throw it out there.

4 CHAIRMAN ZIEMER: Okay, no, that's  
5 fine, that's fine.

6 MEMBER BEACH: Yes.

7 CHAIRMAN ZIEMER: Okay, a motion  
8 to accept the NIOSH recommendation for that  
9 period.

10 MEMBER MUNN: Yes, so moved.

11 CHAIRMAN ZIEMER: Wanda?

12 MEMBER MUNN: Yes, please.

13 CHAIRMAN ZIEMER: John Poston, are  
14 you wanting to second?

15 MEMBER POSTON: I keep getting on  
16 the wrong side of the mute button.

17 MR. KATZ: Yes, we can hear you.

18 MEMBER POSTON: Can you hear me?

19 MR. KATZ: Yes, we hear you now,  
20 John.

21 MEMBER POSTON: Okay.

22 MR. KATZ: But we didn't hear your

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1 response.

2 MEMBER POSTON: Okay, well I'm  
3 thinking.

4 MR. KATZ: Oh, okay.

5 CHAIRMAN ZIEMER: The motion would  
6 be to accept the NIOSH proposal that dose can  
7 be reconstructed for the period January 1st,  
8 '52 through April 18th, '62.

9 MR. KATZ: '53.

10 MEMBER BEACH: '53.

11 CHAIRMAN ZIEMER: '53, I'm sorry.

12 MEMBER POSTON: And when you say  
13 dose, you're talking about everything.

14 MR. KATZ: Yes.

15 CHAIRMAN ZIEMER: Everything.

16 MEMBER POSTON: Okay well, we've  
17 already voted on internal dose, right?

18 CHAIRMAN ZIEMER: Yes we did and  
19 we actually, previously moved the other items  
20 to Appendix BB which implied that we had  
21 accepted --

22 MEMBER BEACH: But if you go back

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1 to the first issue that we closed and moved  
2 it, actually we just closed it without moving  
3 it. We basically closed it and the last  
4 action from SC&A was due to scarce data and no  
5 firsthand accounts for 1953 to 1956 period.  
6 It is not clear that bounding exposures can be  
7 assigned during this period. And that's how  
8 we left it.

9 And the next meeting we basically  
10 said that no further action was going to  
11 change it, so we went ahead and closed it.  
12 But we didn't resolve it in everyone's mind,  
13 in my opinion.

14 MEMBER POSTON: Yes, I'm pretty  
15 confused. That's why I was asking questions.

16 CHAIRMAN ZIEMER: On which one,  
17 Josie?

18 MEMBER BEACH: That was the very  
19 first one under 105. It has to do with  
20 external.

21 DR. ANIGSTEIN: The final SC&A  
22 position, after studying the records the, you

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1 know, the AEC records, was that we came to  
2 the, SC&A came to the conclusion that there  
3 was no reason to believe that the operations,  
4 in terms of external exposure from 1953 to  
5 1956 were any different than from '56 to '62.  
6 From '56 to '62 we had some data, some records  
7 and firsthand testimony as to the methodology,  
8 the procedures, the safety factors used, using  
9 radium for radiography.

10 And according to the records, the  
11 same people, the same supervisor was in charge  
12 for that whole ten-year period and the same  
13 safety procedures were used. And we have  
14 statement, even though there's no written  
15 records, we have I would say testimony from  
16 the GSI management to the AEC inspectors that  
17 we have never exceeded the safety limit, the  
18 exposure limits.

19 And so SC&A's position was that if  
20 they go with a much higher annual exposure  
21 than was previously assumed by NIOSH, this  
22 would constitute a reasonable upper bound to

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1 the exposures and that there was several, you  
2 know, I won't go through it all now but there  
3 were like three different methods based on the  
4 regulations, based on an actual hypothetical,  
5 you know, modeling of the time and motion  
6 study based on the testimony of this one  
7 worker and also based on his own film badge  
8 records. You put them all together, we feel  
9 yes, that this can be, that if you can do it  
10 from '56 to '62, going back to '52 or '53, or  
11 now it may very well be '52, there really  
12 should be no substantial difference.

13 CHAIRMAN ZIEMER: Well one thing  
14 here I'm noticing now in the matrix, Bob,  
15 because this is a little misleading I think --

16 DR. ANIGSTEIN: It may not have  
17 been updated --

18 CHAIRMAN ZIEMER: -- what you show  
19 for the action on 3/28, which was when we  
20 closed it, you didn't include here what SC&A's  
21 final position on that --

22 DR. ANIGSTEIN: I'm sorry. That

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1 was an oversight.

2 CHAIRMAN ZIEMER: -- meeting,  
3 because Josie's exactly right. In the  
4 previous meeting, on 3/22, your comment, not  
5 the meeting but your comment going into the  
6 3/28 meeting was that it wasn't clear that  
7 bounding could be assigned in the early  
8 period.

9 MEMBER BEACH: Right.

10 CHAIRMAN ZIEMER: That was the  
11 SC&A position when he was at the meeting. At  
12 the meeting, you guys actually agreed that it  
13 could but you don't show that. I mean, you  
14 have to go back --

15 DR. ANIGSTEIN: Sorry, I  
16 apologize, that's an oversight.

17 CHAIRMAN ZIEMER: But that was the  
18 reason we closed it, was because you both  
19 agreed --

20 DR. ANIGSTEIN: Yes.

21 CHAIRMAN ZIEMER: -- you had a  
22 slightly different number because it had to

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1 do, well, I'd have to go back to the minutes  
2 but --

3 DR. ANIGSTEIN: Right.

4 CHAIRMAN ZIEMER: -- some of the  
5 assumptions on those distances were a little  
6 different.

7 DR. ANIGSTEIN: Yes, I failed --

8 CHAIRMAN ZIEMER: But you both  
9 agreed it could be bounded and that was the  
10 reason for closing the issue.

11 DR. ANIGSTEIN: Yes.

12 CHAIRMAN ZIEMER: But this  
13 doesn't, it's not reflected in the words here.

14 MEMBER BEACH: Right, and I don't  
15 know if I fully agree with closing it, but  
16 that was the --

17 CHAIRMAN ZIEMER: That's right,  
18 that's what the vote was.

19 MR. KATZ: So Bob, if you, just  
20 before I forget, if you would just correct the  
21 matrix that way --

22 DR. ANIGSTEIN: Will do.

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1 MR. KATZ: -- as soon as you can -  
2 -

3 DR. ANIGSTEIN: Will do.

4 MR. KATZ: -- that will say,  
5 thanks.

6 DR. ANIGSTEIN: Well, what I'll do  
7 is I'll just update, as long as I'm at it --

8 MR. KATZ: Yes, no absolutely.

9 DR. ANIGSTEIN: -- is update it  
10 right through today.

11 MR. KATZ: Right, right, we should  
12 do that in a timely way since we have a Board  
13 Meeting --

14 CHAIRMAN ZIEMER: Well, we're not  
15 actually taking action on it today, I'm just  
16 reminding you that --

17 DR. ANIGSTEIN: Yes, I mean, I'll  
18 do it in time for the Board Meeting --

19 CHAIRMAN ZIEMER: Right.

20 DR. ANIGSTEIN: -- or I'll try to  
21 get it sooner.

22 CHAIRMAN ZIEMER: And right, the

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1 closing wasn't unanimous.

2 MEMBER BEACH: Right.

3 DR. ANIGSTEIN: I'll get it out by  
4 the end of the week.

5 MR. ALLEN: Well, if I remember  
6 right, that closing was based on the idea that  
7 there was no more information to be gathered  
8 or analyzed --

9 MEMBER BEACH: Yes.

10 CHAIRMAN ZIEMER: Yes, we had what  
11 we had and you work with it based on --

12 MEMBER BEACH: It said the Members  
13 of the Work Group as well as NIOSH and SC&A  
14 staff members present at the meeting agreed  
15 that further research or fact-finding would  
16 not produce any useful information so.

17 CHAIRMAN ZIEMER: Yes, but you had  
18 what you had and you would bound it based on  
19 that.

20 MEMBER BEACH: Exactly, exactly.

21 CHAIRMAN ZIEMER: Yes, okay.

22 Okay, John, did you have additional questions?

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1 We're still trying to generate a motion here  
2 on the early period.

3 MEMBER POSTON: Again, I was  
4 trying to understand, I was quite confused as  
5 to what has happened before and what we've  
6 done before. I think this has helped me a  
7 lot. I think we need to discuss Wanda's  
8 motion, so I'll second.

9 CHAIRMAN ZIEMER: Okay.

10 MEMBER POSTON: I'm still trying  
11 to understand exactly what that motion means  
12 in terms of --

13 CHAIRMAN ZIEMER: The motion would  
14 be, basically the motion says that we agree  
15 that NIOSH can bound dose for that early  
16 period.

17 MEMBER POSTON: Okay.

18 CHAIRMAN ZIEMER: This is all  
19 dose: external, internal.

20 MR. KATZ: Right.

21 MEMBER POSTON: And that was what  
22 NIOSH said they could do.

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1 MR. KATZ: Right.

2 MEMBER POSTON: Yes, okay.

3 CHAIRMAN ZIEMER: And SC&A, I  
4 believe --

5 MR. KATZ: Concur.

6 CHAIRMAN ZIEMER: -- is in  
7 agreement with that.

8 DR. ANIGSTEIN: Not with the  
9 values but with the statement it can be  
10 bounded, yes.

11 CHAIRMAN ZIEMER: Right. They  
12 would still have to go back on Appendix BB and  
13 agree on the final numbers.

14 DR. ANIGSTEIN: Yes.

15 MR. KATZ: Right, which is why it  
16 was referred to as a TBD --

17 CHAIRMAN ZIEMER: Right.

18 MR. KATZ: -- issue.

19 MEMBER POSTON: Okay.

20 CHAIRMAN ZIEMER: Any further  
21 discussion?

22 MR. RAMSPOTT: Dr. Ziemer?

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1 CHAIRMAN ZIEMER: Yes.

2 MR. RAMSPOTT: Will you allow the  
3 public to make a comment?

4 MR. KATZ: Not at this point.  
5 This is a Board process at this point, John.

6 MR. RAMSPOTT: Okay.

7 MR. KATZ: Thank you.

8 CHAIRMAN ZIEMER: Other comments?  
9 Are you ready to vote?

10 MEMBER BEACH: Yes.

11 CHAIRMAN ZIEMER: John, you ready  
12 to vote?

13 MEMBER POSTON: Yes.

14 CHAIRMAN ZIEMER: Okay, all in  
15 favor, say aye.

16 MEMBER MUNN: Aye.

17 MEMBER POSTON: Aye.

18 MEMBER BEACH: Nay.

19 CHAIRMAN ZIEMER: And nays, okay,  
20 we've got one nay and three ayes on the early  
21 period. Okay, next I'm looking for a motion  
22 on the rest of the operational period, which

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1 would then be from April 18 to the end of the  
2 operational period which is June 30th, '66.

3 MS. LIN: Dr. Ziemer, do you mean  
4 April 19?

5 CHAIRMAN ZIEMER: Okay, April 19,  
6 the next day, yes, to June 1966, June 30th.  
7 Motion?

8 MEMBER MUNN: Yes.

9 CHAIRMAN ZIEMER: Wanda, you're  
10 moving --

11 MEMBER MUNN: I'm moving that we  
12 identify as we have in our previous motion,  
13 that we accept their ability to --

14 CHAIRMAN ZIEMER: Accept NIOSH's  
15 proposal.

16 MEMBER MUNN: -- accept NIOSH  
17 recommendation --

18 CHAIRMAN ZIEMER: Okay.

19 MEMBER MUNN: -- for that period.

20 CHAIRMAN ZIEMER: Second?

21 MEMBER POSTON: I'll second it.

22 CHAIRMAN ZIEMER: Discussion?

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1                   MEMBER BEACH:     Well I want to  
2     direct you back to the Appendix, and this is  
3     for clarification mostly because I know the  
4     Board Members are going to be looking at this.  
5     If you look at the last Board action on  
6     3/28/12 --

7                   CHAIRMAN ZIEMER:   For which --

8                   MEMBER BEACH:     -- on the Petition  
9     105.

10                  CHAIRMAN ZIEMER:   Yes.

11                  MEMBER BEACH:     This one shows --

12                  CHAIRMAN ZIEMER:   Which item is  
13     it?

14                  MEMBER BEACH:     It's Item Number 2,  
15     oh I'm sorry, Item Number 2, which talks about  
16     the year in question, which they're a little  
17     bit skewed but, and I'm only bringing this up  
18     for clarification because it says it's  
19     possible to reconstruct dose from the period  
20     of 1964 to 1966 following the suggestion by  
21     Dave Allen and James Neton of NIOSH with  
22     Robert Anigstein's concurrence.   It doesn't

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1 really give you a whole lot of information so  
2 I guess I want to refresh why we decided we  
3 could, just briefly, not huge.

4 DR. ANIGSTEIN: We're talking  
5 about '64?

6 MR. KATZ: Yes.

7 MEMBER BEACH: Now see, this says  
8 '64 to '66. We've got some years that --

9 DR. ANIGSTEIN: You know, I think  
10 there was a lot of jumping, let's see, in  
11 November, middle of November '63, they started  
12 using Landauer film badges. So we have a --

13 MEMBER BEACH: So we have 89  
14 Landauer badges.

15 DR. ANIGSTEIN: -- we have the  
16 actual film badge reports starting from  
17 January 1st, '64. However, the film badge  
18 reports are cumulative so they say there were  
19 six prior weeks before that where we did  
20 happen to retrieve the record. But they show  
21 no significant, you know, everybody got  
22 minimal dose meaning below the readable level.

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1 So there were no, there was nothing in those  
2 first six weeks, that part meaning the last  
3 six weeks of 1963. So that's the basis for  
4 that.

5 MEMBER BEACH: Okay.

6 DR. ANIGSTEIN: Then we have the  
7 early, then I'm going into a much more fine-  
8 grained. Then there is the period from, say  
9 April 18th or Paul said, '62 until then, until  
10 '63, and the only difference was that there  
11 was a different film badge supplier, that the  
12 Nuclear Consulting Corporation was their  
13 radiation safety consultant and they came in,  
14 they did the actual surveys using survey  
15 meters to see what the codes were, and also  
16 supplied the film badges.

17 Those film badges we've not been  
18 able to obtain because there was, I actually  
19 interviewed the president of that company and  
20 he, you know, 50 years later could not  
21 recollect who he bought the film badges from.  
22 So we don't have the real, but he simply made

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1 the statement that they seemed to have their  
2 act together. He does not remember any  
3 unusual occurrences, any excessive exposures.  
4 And we do have, for the same period, film  
5 badge records of one worker, who was a  
6 radiographer. So, you know --

7 MEMBER BEACH: From '62 to '63,  
8 that time period?

9 DR. ANIGSTEIN: Yes, yes, right.  
10 We actually have his record and we have the  
11 statement of his previous exposure, which  
12 Nuclear Consulting Corporation put together  
13 based on, they simply say records. So they  
14 presumably looked at some earlier records and  
15 they assessed his exposure from the time,  
16 beginning of his employment which was about in  
17 '56.

18 So we have, from one person we  
19 have that, so we have some, you know, evidence  
20 and information. And again, modeling of the  
21 actual exposure, say, based on this man's  
22 testimony. He sat in this little room, he

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1 walked out, set up the radium exposure, came  
2 back, it took him, he carried the radium shots  
3 at the end of the stick and I calculated what  
4 would be the dose to his body. And there were  
5 three different things that just came to,  
6 unusually, three different and totally  
7 independent approaches which came together or  
8 overlapped that we feel there is, well we're  
9 comfortable in saying there is a number there.  
10 And sometime they --

11 CHAIRMAN ZIEMER: I have a note  
12 here also.

13 DR. ANIGSTEIN: Pardon?

14 CHAIRMAN ZIEMER: There was a  
15 radiation survey done by Nuclear Consulting  
16 Corporation that reported to those film  
17 badges, the fact that they were film badged --

18 DR. ANIGSTEIN: Yes.

19 CHAIRMAN ZIEMER: -- and also  
20 there was an AEC inspection in 1962 --

21 DR. ANIGSTEIN: Right, sure, sure.

22 CHAIRMAN ZIEMER: -- November of

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1 '62.

2 DR. ANIGSTEIN: And they looked at  
3 the film badges of the Nuclear Consulting,  
4 right.

5 CHAIRMAN ZIEMER: Right. This was  
6 an inspection following the license in April  
7 so --

8 DR. ANIGSTEIN: Yes, and they even  
9 said, oh and they even said, they even  
10 identified the person in the highest dose  
11 during the quarter was this person of 55  
12 millirem in one quarter, in a quarter. I mean  
13 these were --

14 MEMBER BEACH: Right.

15 CHAIRMAN ZIEMER: What did you  
16 say, Wanda?

17 MEMBER MUNN: Well, I was just  
18 muttering, very, very low exposures --

19 DR. ANIGSTEIN: Yes.

20 MEMBER MUNN: -- consistently low  
21 exposures.

22 DR. ANIGSTEIN: And those are

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1 recorded.

2 MEMBER MUNN: Yes.

3 DR. ANIGSTEIN: Now during the  
4 radium era, there were undoubtedly higher  
5 exposures because the person making the  
6 statement to the AEC said they were about one  
7 quarter of the annual limit --

8 CHAIRMAN ZIEMER: Which was  
9 higher.

10 DR. ANIGSTEIN: -- on average,  
11 were a quarter of the annual limit and no one  
12 was higher, with the implication that somebody  
13 might have gotten right up to there. So there  
14 was a drastic change between radium, which was  
15 very poorly shielded and carried by hand at  
16 the end of a stick, and the cobalt, which was  
17 remotely handled, was inside a heavy lead  
18 shield, was handled by a remote, you know,  
19 cable, a mechanical cable. And during the  
20 exposure, they used the same room but they put  
21 in four inch thick steel shields, that had not  
22 been there earlier.

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1 CHAIRMAN ZIEMER: Yes, we know --

2 DR. ANIGSTEIN: There was a big  
3 difference.

4 CHAIRMAN ZIEMER: Additional  
5 questions, Josie, on that? Or --

6 MR. KATZ: John?

7 CHAIRMAN ZIEMER: -- John,  
8 questions?

9 MR. KATZ: John Poston, Dr.  
10 Poston, do you have any other questions?

11 MEMBER POSTON: Can you hear me?

12 MR. KATZ: Now we can, yes.

13 MEMBER POSTON: Oh, okay, I just  
14 wasn't close enough I guess. I said no  
15 questions.

16 MR. KATZ: Okay, thanks.

17 CHAIRMAN ZIEMER: Okay, are we  
18 ready to vote on this item? This is --

19 MEMBER MUNN: Yes.

20 CHAIRMAN ZIEMER: -- operational  
21 period, the second part of the operational  
22 period. All in favor, aye?

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1 MEMBER MUNN: Aye.

2 MEMBER POSTON: Aye.

3 CHAIRMAN ZIEMER: Opposed?

4 MEMBER BEACH: I'm going to  
5 abstain from this one.

6 CHAIRMAN ZIEMER: Okay. I got  
7 three ayes, one abstain, thank you. Now  
8 residual period, residual period now would be  
9 the period for which this internal dose air  
10 sample data would be used in conjunction with  
11 TIB-70 to produce the residual period dose,  
12 which is basically an internal dose. Is there  
13 any external component added in? It would be  
14 trivial, I guess, compared to internal but --

15 DR. NETON: Yes, it --

16 CHAIRMAN ZIEMER: -- I don't  
17 recall.

18 DR. NETON: I think we would have  
19 looked at it if there was anything --

20 CHAIRMAN ZIEMER: Yes.

21 DR. ANIGSTEIN: They based the,  
22 yes --

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1 DR. NETON: TIB-70.

2 DR. ANIGSTEIN: -- Appendix BB  
3 based the external dose on the readings right  
4 at the surface of the back calculator, they  
5 got a external exposure rate and they said  
6 let's put that, let's use that as a limiting  
7 dose, external dose --

8 DR. NETON: That's right.

9 DR. ANIGSTEIN: -- for the entire  
10 residual period. That was, not based on, but  
11 that's not --

12 CHAIRMAN ZIEMER: Would you still  
13 be using that or --

14 DR. NETON: We'd have to go back  
15 when we remodel it and look at the deposition  
16 values and what that --

17 CHAIRMAN ZIEMER: And see if that  
18 gave a higher value, yes.

19 DR. NETON: -- how that compares  
20 and pick the most --

21 DR. ANIGSTEIN: I think they did  
22 look at it and said it was a lower -- that the

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1 groundshine, or I guess you can call it, was  
2 lower than from that vacuum cleaner, so that  
3 was the more limiting.

4 DR. NETON: Right.

5 CHAIRMAN ZIEMER: Okay. Anyway,  
6 is there a motion on the residual period?

7 MEMBER MUNN: Yes.

8 CHAIRMAN ZIEMER: Wanda?

9 MEMBER MUNN: I move that we  
10 accept the recommendation of the agency for  
11 the residual period covering GSI.

12 CHAIRMAN ZIEMER: Is there a  
13 second?

14 MEMBER POSTON: I'll second.

15 CHAIRMAN ZIEMER: Discussion?

16 MS. LIN: Dr. Ziemer?

17 CHAIRMAN ZIEMER: Yes?

18 MS. LIN: Just to clarify that  
19 when you guys say residual period, we're  
20 talking about 1967 to 1992 including the --

21 CHAIRMAN ZIEMER: July 1st '66 --

22 MS. LIN: July 1st --

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1 CHAIRMAN ZIEMER: -- to December  
2 31st, 1992.

3 MS. LIN: I'm sorry, July 1st --

4 CHAIRMAN ZIEMER: 1966 --

5 MS. LIN: 1966.

6 CHAIRMAN ZIEMER: -- to December  
7 31st, 1992.

8 MS. LIN: Okay, so you're  
9 excluding 1993.

10 MR. KATZ: DOE?

11 CHAIRMAN ZIEMER: Yes, I think the  
12 residual period officially ended I think --

13 MR. KATZ: Was '93 a DOE?

14 MR. ALLEN: Yes.

15 CHAIRMAN ZIEMER: There's FUSRAP  
16 site remediaton occurred in '93 but that's  
17 after --

18 MEMBER BEACH: Yes, on the  
19 Evaluation Report, that's correct, the July  
20 1st, '66 to '92.

21 MR. ALLEN: Yes, I think that was  
22 what was petitioned for and that's been a

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1 source of uncertainty here with that '93 being  
2 a remediation because, I mean, if you worked  
3 there in '93, you weren't covered.

4 MS. LIN: Thank you.

5 CHAIRMAN ZIEMER: Well, so what's  
6 the right date? I mean the --

7 DR. NETON: '92.

8 MEMBER BEACH: '92.

9 CHAIRMAN ZIEMER: -- the petition  
10 is the '92 --

11 DR. NETON: The petition, that's  
12 what we're evaluating.

13 CHAIRMAN ZIEMER: Yes, yes.

14 MS. LIN: Thank you.

15 CHAIRMAN ZIEMER: Discussion on  
16 the residual period? Okay, are you ready to  
17 vote? All in favor?

18 MEMBER MUNN: Aye.

19 MEMBER BEACH: Aye.

20 CHAIRMAN ZIEMER: John?

21 MR. KATZ: Dr. Poston, you may  
22 have put yourself on mute.

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1 MEMBER POSTON: Can you hear me?

2 MR. KATZ: Yes, now we can, yes.

3 MEMBER POSTON: Okay, I'm just  
4 getting further and further away from the  
5 phone. All right, I voted aye.

6 CHAIRMAN ZIEMER: Okay.

7 MR. KATZ: Okay, thank you.

8 CHAIRMAN ZIEMER: Four ayes and  
9 motion carries, okay. Now, a status of  
10 remaining TBD issues, okay, what we have done  
11 since the last meeting, we had the July 28th  
12 version of the Appendix BB findings, and we  
13 had the June 1st, 2012, these are both 2012,  
14 version of the SEC petition findings. And --

15 MEMBER BEACH: And now we have the  
16 November 26th.

17 CHAIRMAN ZIEMER: -- and what we  
18 did subsequently, remember that we took  
19 actions on, we closed a number of the items on  
20 the SEC petition and we transferred the others  
21 to Appendix BB. And so what I asked Bob to  
22 do, and I did a preliminary review of these

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1 and gave him my comments and then he has gone  
2 ahead with that, specifically on the Issue 2,  
3 Issue 3, Issue 6, Issue 7, Issue 8, and Issue  
4 9, those were transferred. There's six of  
5 them. And I tried to identify to him where I  
6 thought that they overlapped strongly with  
7 existing issues. And Bob went through and  
8 came up with, I think he just distributed it -  
9 -

10 MEMBER MUNN: Yes he did.

11 CHAIRMAN ZIEMER: -- yesterday, a  
12 final version which, where he's indicated,  
13 because I didn't want to lose the identity of  
14 which ones came over, but which ones are still  
15 in the mix.

16 And we had some where at the time,  
17 when we transferred them, we thought they were  
18 pretty close to closure but probably a little  
19 more discussion was needed. And I don't know  
20 that we're necessarily prepared to deal with  
21 these individually today, but I wanted to make  
22 sure, because we just got this document

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1 yesterday. And we can actually go through it  
2 if you want and see if there's any of them  
3 that we wish to deal with right away or we can  
4 wait until the next meeting, but at least  
5 they're all in one place now and they are all  
6 considered Appendix BB issues, which means  
7 that we would deal with them together.

8 Now I'm also trying to think about  
9 what the impact would be if the Board were to  
10 vote to approve the SEC petition, I mean we  
11 have recommendation but that doesn't mean the  
12 Board will follow it. I think all of these  
13 issues would still remain because we would,  
14 even if this became an SEC, we would still  
15 have to do dose reconstructions on people who  
16 didn't meet the requirements, like less than  
17 250 days or one of the other cancers. So I  
18 think all of these issues would remain to be  
19 dealt with in any event.

20 MR. ALLEN: In that BB, some of  
21 them may go away --

22 CHAIRMAN ZIEMER: They may go away

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1 if they're --

2 DR. NETON: Based on the reasons  
3 we're adding the Class.

4 MR. ALLEN: Yes.

5 CHAIRMAN ZIEMER: Right, right.

6 DR. NETON: Or if the reason is  
7 because you can't reconstruct external dose.

8 CHAIRMAN ZIEMER: Right, then  
9 those go away, right. So I'm sort of  
10 reluctant, since we have a Board Meeting  
11 coming up, I'm sort of reluctant to spend a  
12 lot of time on this today until we see what  
13 the Board's action is on the petition. And  
14 then based on that, we'd move forward.

15 Otherwise we could spend a lot of time on  
16 issues which would turn out to be moot points.  
17 So, unless somebody feels an urgency to deal  
18 with anything on the findings issues today,  
19 but are you all clear now what was done on  
20 this? Any questions on that? Bob, would --

21 MEMBER BEACH: My only question  
22 would be on the matrix, the 105. Would we

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1 just go ahead and close that out, update it,  
2 and we're done with that?

3 CHAIRMAN ZIEMER: I think the  
4 final thing would show, let me pull the June  
5 1st one, doesn't show the, yes, it does show  
6 the transfers. So I think that's the final  
7 one.

8 DR. ANIGSTEIN: Yes, there was no  
9 need to --

10 CHAIRMAN ZIEMER: Except we need  
11 to update that, we need to modify that.

12 MR. KATZ: Helen talked about  
13 that, right?

14 CHAIRMAN ZIEMER: You're going to  
15 modify the comments so that we're going --

16 DR. ANIGSTEIN: Okay, now that's  
17 in the SEC matrix.

18 CHAIRMAN ZIEMER: Yes, just so we  
19 --

20 DR. ANIGSTEIN: Okay.

21 CHAIRMAN ZIEMER: -- that's more  
22 of a correction I think, I would regard that.

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1 So that just a revision of this update.

2 DR. ANIGSTEIN: Right.

3 CHAIRMAN ZIEMER: It's a revision

4 --

5 DR. ANIGSTEIN: Okay.

6 CHAIRMAN ZIEMER: -- just to  
7 expand, because I think that's very confusing  
8 there.

9 DR. ANIGSTEIN: Because it's not,  
10 I think it's not in the BB matrix, I think  
11 that's there --

12 CHAIRMAN ZIEMER: No, but --

13 DR. ANIGSTEIN: -- there it's --

14 CHAIRMAN ZIEMER: -- I think  
15 Josie's asking, you know --

16 DR. ANIGSTEIN: Yes, okay, I'll  
17 fix that.

18 CHAIRMAN ZIEMER: -- the final  
19 version of this will just be a revision that  
20 will have that correction in there.

21 DR. ANIGSTEIN: Of the SEC matrix.

22 CHAIRMAN ZIEMER: Right.

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1 MR. KATZ: Yes.

2 DR. ANIGSTEIN: Okay, will do,  
3 will do.

4 CHAIRMAN ZIEMER: Otherwise  
5 everything else I think shows it's either  
6 closed or transferred.

7 MEMBER MUNN: May we please have a  
8 distribution of it when that correction is  
9 made so that we can stop carrying around all  
10 the other papers?

11 CHAIRMAN ZIEMER: Right.

12 MR. KATZ: Yes, yes.

13 DR. ANIGSTEIN: You may.

14 MEMBER MUNN: Thank you very much.

15 CHAIRMAN ZIEMER: Your laptop's  
16 getting heavy with all these megabytes on it.

17 MEMBER MUNN: It is, it is, it is,  
18 far too many.

19 MR. KATZ: Electrons, extra  
20 electrons.

21 MEMBER MUNN: Far too many --

22 CHAIRMAN ZIEMER: I'm going to

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1 move along here. Plans for the full Board  
2 presentation on December 11th, I will  
3 summarize what we did here on the surrogate  
4 data issue and then proceed to summarize the  
5 recommendation of the group, indicating that  
6 we broke it into these three parts and  
7 indicating what the vote was so that they  
8 understand that we're not fully unanimous on  
9 everything. Also, I guess we need to have  
10 Dave and Bob stand by for questions. I don't  
11 know if they need to be there physically, but  
12 one way or the other either --

13 MR. ALLEN: I plan on being there  
14 physically.

15 CHAIRMAN ZIEMER: Yes, the social  
16 aspect.

17 MR. KATZ: Yes, and Bob, I think  
18 it's a good idea that you be there --

19 CHAIRMAN ZIEMER: In person?

20 DR. ANIGSTEIN: In person?

21 MR. KATZ: -- because you're hard  
22 to understand sometimes on the phone and this

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1 is again, the whole Board is dealing --

2 DR. ANIGSTEIN: Oh wait a minute,  
3 so I should go to Oak Ridge?

4 MR. KATZ: I think it's a good  
5 idea.

6 DR. ANIGSTEIN: Oh, I hadn't  
7 planned to, but okay.

8 CHAIRMAN ZIEMER: Knoxville.

9 MR. KATZ: It's in Knoxville.

10 CHAIRMAN ZIEMER: Not Oak Ridge,  
11 it's in Knoxville.

12 DR. ANIGSTEIN: Oh, I'm sorry,  
13 Knoxville. Close enough.

14 CHAIRMAN ZIEMER: And then --

15 DR. ANIGSTEIN: Okay now let's  
16 see, there is an agenda on that so I will be  
17 at the thing, okay, fine.

18 CHAIRMAN ZIEMER: And then also,  
19 on the agenda, and it's not clear to me  
20 whether Dr. McKeel will be there either by  
21 phone or in person to represent the  
22 petitioners because I don't understand the

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1 letter --

2 DR. ANIGSTEIN: Since he resigned.

3 CHAIRMAN ZIEMER: Well, I think  
4 he's only talking about the Work Group I  
5 think.

6 MR. KATZ: The Work Group, only  
7 the Work Group.

8 CHAIRMAN ZIEMER: So we need to  
9 allow time on that for --

10 MR. KATZ: Yes, there will be time  
11 on the agenda, of course --

12 CHAIRMAN ZIEMER: -- for  
13 petitioners.

14 MR. KATZ: -- for the petitioners,  
15 there always will be.

16 CHAIRMAN ZIEMER: Right, right.  
17 So that would be the plan for the full Board  
18 presentation in December.

19 DR. ANIGSTEIN: So I will not make  
20 a presentation though, just be available.

21 MR. KATZ: Right. Do we need Dave  
22 to make a presentation on the update or not?

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1 He's --

2 CHAIRMAN ZIEMER: Well, I think a  
3 brief description of what the final, because  
4 we were focusing on this surrogate data thing.

5 MR. KATZ: Yes.

6 CHAIRMAN ZIEMER: So Dave, I think  
7 we need a brief summary because really, the  
8 Board, it was the full Board that asked you to  
9 go back and do this so I think we have to  
10 report that out. So I'll kick it off and then  
11 I'll ask you to make your presentation. SC&A  
12 may want to indicate something about their  
13 review also.

14 MR. KATZ: Well, I think Dave  
15 could just encapsulate it all because you had  
16 discussion here and you came to some agreement  
17 in here about some of what SC&A reviewed. I  
18 think you could do it all in one shot.

19 MR. ALLEN: Now are we talking  
20 about for this surrogate thing that we just  
21 did this morning or overall?

22 CHAIRMAN ZIEMER: Yes, just the

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1 surrogate thing.

2 MR. KATZ: Yes, just the  
3 surrogate.

4 CHAIRMAN ZIEMER: You need to be  
5 prepared to answer questions on the other  
6 things, but we went through those all before.

7 MR. ALLEN: Yes, yes, I'm just  
8 talking about the presentation.

9 CHAIRMAN ZIEMER: Right, yes,  
10 because the Board had asked you to go back and  
11 do that. I think we need a report because the  
12 Board asked for that surrogate data thing.

13 MEMBER BEACH: And will you be  
14 updating your White Paper to incorporate some  
15 of the changes and removing some of the items  
16 that we discussed?

17 MR. ALLEN: I certainly can, I  
18 think I can do it quickly.

19 DR. NETON: I don't know if we  
20 need to have the final product.

21 MEMBER BEACH: Well generally,  
22 final products are put out there so the Board

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1 Members can review them, especially on the  
2 surrogate data issue.

3 DR. NETON: Right, but I was  
4 thinking that this could just be the same  
5 thing we've done here, which is to say SC&A  
6 has commented and we agree with some of the  
7 comments and they're going to be incorporated  
8 because it's --

9 MEMBER BEACH: Yes, and that's  
10 fine, I was just --

11 DR. NETON: -- frankly where he's  
12 getting real close.

13 MR. KATZ: So the Board will have  
14 Dave's paper, the Board will have Bob's paper,  
15 and then Dave in his presentation, he can talk  
16 about the resolution that was addressed in  
17 this meeting, how that worked out. And I  
18 think that would take care of it. And Bob, if  
19 you're they're for questions, I think we'll be  
20 in good shape.

21 DR. ANIGSTEIN: Sure.

22 MEMBER BEACH: And some Board

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1 Members, not all, but some may want to see the  
2 data. And if it was easier, because when I  
3 looked for it, some of those documents are 157  
4 pages and to pinpoint the pages that were  
5 used, it would be helpful because I know I'd  
6 like to go back and review that again.

7 DR. ANIGSTEIN: Okay.

8 MR. ALLEN: I think our best bet  
9 on that maybe would be for me to go like that  
10 150-some page document, pull the two pages out  
11 that we used.

12 DR. NETON: Put them out there on  
13 the drive.

14 MEMBER BEACH: That would be  
15 great.

16 MR. ALLEN: Put them on the drive  
17 separately as --

18 MEMBER BEACH: Yes, if you  
19 wouldn't mind doing that.

20 MR. ALLEN: -- that's easy, I can  
21 do that and I think Steve might have a problem  
22 if I try to just print it out and post it.

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1                   MEMBER BEACH:     No, no, I don't  
2     expect that.    Just the Board Members.

3                   CHAIRMAN ZIEMER:   No, it's got to  
4     be on the O: drive.

5                   DR. NETON:        It's getting pretty  
6     close to the meeting to start --

7                   MR. KATZ:        Well yes, right.    If  
8     you send it to me I can also distribute those  
9     at least by email, to the Board Members and  
10    their CDC.    That's all internal.

11                  MR. ALLEN:        Well, I think the  
12    issue was that DOE needed to review some of  
13    this stuff before it got --

14                  MR. KATZ:        Oh I see, okay, sorry.  
15    So I can't even email them.

16                  MR. ALLEN:        You should be able to  
17    post it on --

18                  MEMBER BEACH:     Can I make a  
19    suggestion?    In the Advisory Board documents  
20    where you posted them for me, can you just  
21    make a file that says these are the pages?    I  
22    mean that is simple and it's still on the --

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1                   MR. ALLEN:    I think the easiest  
2                   and the most above-board way would be for me  
3                   to make a subfolder there, toss the full  
4                   document in that, and then put the subpages  
5                   only right where I got them right now for you.  
6                   And then if somebody wants to see the full  
7                   document they can, if they want to just zero  
8                   in on the particular ones they can.

9                   MEMBER BEACH:       That would be  
10                  helpful.

11                  MR. KATZ:     Okay, so if you just  
12                  send me then the link, that would be great.

13                  MR. ALLEN:    Yes, right.

14                  DR. ANIGSTEIN:    I already put  
15                  together, just for my own use during, you  
16                  know, while I was working on this, and I have  
17                  an excerpt of all the pages, all the relevant  
18                  pages, in addition to a couple of the things  
19                  that Dave didn't include, on the same sites I  
20                  found other --

21                  MEMBER BEACH:    Well here's the  
22                  deal. I used that, but going through it, it

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1 was --

2 DR. ANIGSTEIN: No, I'm saying is,  
3 for instance, right now, I could put together  
4 --

5 MEMBER BEACH: Oh, you printed it  
6 out.

7 DR. ANIGSTEIN: -- about a 20-page  
8 file, with just the thing that you saw, I  
9 mean, you saw a couple of my excerpts, the  
10 actual data sheet, but also like the memo. In  
11 some cases, for whatever reason, the SRDB put  
12 together, there's a lot of stuff from  
13 different places.

14 And what I did was I printed out  
15 for myself and I put it in a separate file,  
16 the memo written by the field operative to his  
17 boss saying here's what we did, here's what we  
18 found, and then the data sheets are post, so  
19 typically it's two or three pages, you know,  
20 we went there, we visited, this is what they  
21 were doing. And then attached to that are the  
22 actual sheets from the -- from what I can

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1 remember. All they do was they go in with  
2 something with a paper filter and a pump and  
3 take air sample. Then they send the filters  
4 to the laboratory which then prepares a report  
5 on what they measured. So that's why you have  
6 these data sheets. So if, I mean, I don't  
7 want, you know, if Dave is doing it, I don't  
8 want to duplicate or supplant what he's doing  
9 but --

10 MEMBER BEACH: Well, you have that  
11 electronically, right?

12 DR. ANIGSTEIN: Yes, of course I  
13 have it electronically.

14 MEMBER BEACH: So you could just  
15 send that to Ted also and Ted could decide if  
16 --

17 MR. KATZ: Well, I'm not clear on  
18 what can be released, so I think he needs to  
19 provide it to Dave and Dave can give me a  
20 single --

21 CHAIRMAN ZIEMER: Yes, let Dave do  
22 it so that it doesn't mess up with the DOE

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1 stuff.

2 MR. ALLEN: Yes if you send it to  
3 me then I'll try to decide what's out there  
4 and what you got --

5 MR. KATZ: Yes, just send it to  
6 Dave.

7 DR. ANIGSTEIN: Okay.

8 MR. ALLEN: -- one way or another  
9 we'll make it clear. And if anybody has a  
10 better suggestion after you see it and you  
11 want it tweaked, just email me and I'll tweak  
12 it however you want.

13 MEMBER BEACH: And that will be  
14 perfect.

15 MR. KATZ: We'll let you handle  
16 that.

17 MR. ALLEN: Okay.

18 DR. ANIGSTEIN: I'll send it to  
19 Dave, with a copy to you. No?

20 MR. KATZ: Just go ahead, send it  
21 to Dave.

22 DR. ANIGSTEIN: Very good, okay.

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1 MR. KATZ: That would be perfect.

2 CHAIRMAN ZIEMER: Okay, are there  
3 other items that we need to discuss today?  
4 Ted?

5 MR. KATZ: Not unless you want to  
6 schedule the next Work Group meeting for  
7 beyond the Board Meeting.

8 CHAIRMAN ZIEMER: Well, that would  
9 be the next step. But any other items that we  
10 need to discuss today?

11 MR. KATZ: No.

12 CHAIRMAN ZIEMER: Okay, we're  
13 going to have to go through the matrix, the  
14 findings matrix, also we have some other  
15 things on the horizon that we need to deal  
16 with.

17 MEMBER BEACH: I didn't know if  
18 you wanted to check with petitioners again for  
19 final comments or --

20 CHAIRMAN ZIEMER: Yes, well, we  
21 can do that, but where do we stand on the  
22 Simonds Saw, or not Simonds Saw, the one that

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1 was transferred?

2 MR. KATZ: I think it is Simonds  
3 Saw, I thought we were calling right now. I  
4 couldn't tell you where we are right now, but  
5 I think we're at a point where the Work Group  
6 needs to take it up, whatever it is, I think  
7 it may be Simonds Saw.

8 DR. NETON: What's going on with  
9 Simonds?

10 MR. KATZ: The TBD review, profile  
11 review. We have a Site Profile review from  
12 SC&A, I think.

13 CHAIRMAN ZIEMER: It somehow ended  
14 up with us.

15 MR. KATZ: So it's a timing issue.  
16 It should be, yes, and we have a timing issue.  
17 I think I communicated with Dave about timing,  
18 I think.

19 MR. ALLEN: Really?

20 MR. KATZ: Yes, well, I've  
21 communicated with DCAS. I don't recall the  
22 status, but I think I'm supposed to be told at

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1 some point, not you, what's her name?

2 MR. ALLEN: Sam?

3 MR. KATZ: Or is Laura involved  
4 perhaps? Laura or Sam.

5 CHAIRMAN ZIEMER: Well, Laura's  
6 doing Lawrence Berkeley.

7 DR. NETON: It would have been  
8 Sam, if anybody.

9 MR. KATZ: Okay. I communicated  
10 with someone at DCAS, and I think it's in the  
11 works.

12 MR. ALLEN: For some reason, I  
13 think it's an SEC petition, and I think it was  
14 a recommended add and I think it was --

15 MR. KATZ: Well that's all taken  
16 care of. That's done, this is a TBD, Site  
17 Profile.

18 MR. ALLEN: -- Work Group has ever  
19 seen any of it or --

20 MR. KATZ: No, so the Work Group  
21 hasn't dealt with it before.

22 MR. ALLEN: Okay.

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1                   CHAIRMAN ZIEMER:     But SC&A has  
2 reviewed this.

3                   MR. KATZ:     SC&A has done a review  
4 and we need the Work Group to review the  
5 review and come to conclusions about the Site  
6 Profile.

7                   DR. NETON:    Before you do that, it  
8 sounds like DCAS needs to review the review.

9                   MR. KATZ:     And yes, and that's  
10 what I've communicated about with someone at  
11 DCAS, whoever was appropriate, I can't tell  
12 you.

13                  CHAIRMAN ZIEMER:   Yes, once that's  
14 done then the Work Group needs to address that  
15 also.

16                  MR. KATZ:     Exactly.     And I've  
17 asked about timing.   I'm not sure, I don't  
18 recall what the timing is there in getting a  
19 DCAS response, which is what we need for the  
20 Work Group --

21                  CHAIRMAN ZIEMER:   Okay, now are  
22 there any other Work Groups scheduled after

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1 mid-January that we can piggyback so we can  
2 conserve time for people?

3 MEMBER BEACH: There's one in  
4 February 5th.

5 MR. KATZ: There's February, we  
6 have two Subcommittee Meetings. We have the  
7 Dose Reconstruction on the 4th and we have  
8 Procedures on the 5th.

9 MEMBER MUNN: Do we still have a  
10 teleconference scheduled on the 7th?

11 MR. KATZ: Yes, that's a full  
12 Board teleconference, right.

13 CHAIRMAN ZIEMER: But actually, if  
14 we did the 6th, that wouldn't work, Wanda,  
15 because you would be traveling on the 7th.

16 MEMBER MUNN: No, I'm trying to --

17 MR. KATZ: Right.

18 MEMBER MUNN: -- I'm not going to  
19 be very flexible.

20 MR. KATZ: And it gets to be  
21 difficult anyway once you have three days  
22 together, that's a lot.

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1                   CHAIRMAN ZIEMER:       Right, yes,  
2       that's too much.

3                   MR. KATZ:     So we should probably  
4       look --

5                   MS. LIN:     Spending the whole week  
6       together would be too much?

7                   MR. KATZ:     All that love.

8                   MEMBER MUNN:   It really would.

9                   CHAIRMAN ZIEMER:   January going to  
10      be too early though.

11                  MEMBER    MUNN:        I    won't    be  
12      traveling, I can probably get in on that.

13                  MR. KATZ:    Yes, Wanda, January is  
14      very difficult for Wanda.

15                  MEMBER MUNN:   But I can be on the  
16      phone after middle of the month, I guess.

17                  CHAIRMAN ZIEMER:   What about late  
18      February?

19                  MEMBER MUNN:   It's doable.

20                  DR. NETON:     That NCRP Meeting is  
21      the end of February.

22                  CHAIRMAN ZIEMER:   What?

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1 DR. NETON: 22nd.

2 CHAIRMAN ZIEMER: 22nd?

3 DR. NETON: That is a Friday?

4 That doesn't seem right.

5 CHAIRMAN ZIEMER: That is a

6 Friday.

7 DR. NETON: Oh no, that's my  
8 presentation to do, I think.

9 MR. KATZ: Okay, that was  
10 important to get on the record.

11 CHAIRMAN ZIEMER: What about like  
12 the 27th of February?

13 MEMBER MUNN: That's probably  
14 going to be okay for me.

15 CHAIRMAN ZIEMER: Josie?

16 MEMBER BEACH: What did you say,  
17 the 27th?

18 CHAIRMAN ZIEMER: Yes.

19 MEMBER BEACH: I'm actually tied  
20 up that week.

21 CHAIRMAN ZIEMER: Okay.

22 MR. KATZ: Is previously no good,

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1 in February, is that the --

2 CHAIRMAN ZIEMER: 20th?

3 MR. KATZ: -- the week of the  
4 20th?

5 CHAIRMAN ZIEMER: 18th, 19th,  
6 20th, 21st, I can do any day.

7 MEMBER BEACH: 18th is a holiday.

8 CHAIRMAN ZIEMER: It is?

9 MEMBER BEACH: President's Day.

10 DR. NETON: 18th of February?

11 MR. KATZ: That makes sense,  
12 right.

13 CHAIRMAN ZIEMER: For some who are  
14 retired, every day's a holiday.

15 MR. KATZ: I didn't want to say  
16 that, but --

17 MEMBER BEACH: I'm good with the  
18 end of the week that week if that --

19 CHAIRMAN ZIEMER: 21st?

20 MEMBER BEACH: 21st, 22nd.

21 CHAIRMAN ZIEMER: How's the 21st,  
22 Wanda?

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1 MR. KATZ: 21st of February?

2 MEMBER MUNN: Let's see, that was  
3 the 22nd? Yes, that would be okay.

4 CHAIRMAN ZIEMER: 21st?

5 MEMBER MUNN: Yes.

6 MR. KATZ: Okay, so next Work  
7 Group meeting will be February 21st?

8 CHAIRMAN ZIEMER: Yes.

9 MR. KATZ: John Poston, is that  
10 good for you?

11 MEMBER POSTON: Yes, I think so.  
12 I'll have to make some arrangements. I'm sure  
13 I have class on that day.

14 MEMBER MUNN: On Thursday.

15 CHAIRMAN ZIEMER: Okay, 21st. It  
16 can always be changed if -- that's still  
17 subject to getting the documents.

18 MR. KATZ: Yes. But that's  
19 helpful actually to --

20 CHAIRMAN ZIEMER: Yes, to have a  
21 target date.

22 MR. KATZ: -- move the rest

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1 forward, so --

2 CHAIRMAN ZIEMER: And that's okay  
3 with you, Bob?

4 DR. ANIGSTEIN: When is --

5 MR. KATZ: Well it may not be Bob,  
6 oh, you'll need him for this.

7 DR. ANIGSTEIN: When is okay?

8 MR. KATZ: February 21st.

9 DR. ANIGSTEIN: I guess so.

10 MR. KATZ: Okay.

11 DR. ANIGSTEIN: I have a calendar  
12 on my computer at home, I don't have it here.

13 CHAIRMAN ZIEMER: Oh, okay, well  
14 check it when you get home.

15 DR. ANIGSTEIN: As far as I know  
16 it's okay.

17 MR. KATZ: Okay.

18 MEMBER BEACH: So is Simonds Saw  
19 our only other site for this Work Group,  
20 besides GSI? I thought we had another one.

21 MR. KATZ: There may be something

22 --

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1 MS. LIN: Lawrence Berkeley?

2 MR. KATZ: No, not --

3 CHAIRMAN ZIEMER: No that's  
4 different --

5 MR. KATZ: Bliss and Laughlin's  
6 the other site. I don't recall where we are  
7 with Bliss and Laughlin, but that may be --

8 CHAIRMAN ZIEMER: I think we're  
9 done with Bliss and Laughlin.

10 MR. KATZ: Okay, so then it would  
11 be I think.

12 CHAIRMAN ZIEMER: Then we had some  
13 transferred over to 6001.

14 MR. KATZ: Okay, so for the agenda  
15 for that meeting, in any event, we would have  
16 plenty to do on it.

17 CHAIRMAN ZIEMER: Well, we'll  
18 certainly do what we can on the matrix --

19 MR. KATZ: Right.

20 CHAIRMAN ZIEMER: -- depending on  
21 the outcome of the next meeting of the Board.

22 MR. KATZ: Right and then Simonds

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1 Saw.

2 CHAIRMAN ZIEMER: And start on the  
3 Simonds Saw.

4 DR. ANIGSTEIN: Was that February,  
5 what day of the week?

6 MR. KATZ: 21.

7 DR. ANIGSTEIN: Pardon?

8 MR. KATZ: It's a Thursday.

9 DR. ANIGSTEIN: Thursday, February  
10 21, okay.

11 CHAIRMAN ZIEMER: Okay, I think  
12 we're ready to adjourn then. Thank you,  
13 everybody. Oh wait, hang on --

14 DR. ANIGSTEIN: We're going home?

15 CHAIRMAN ZIEMER: Well, we will in  
16 a minute. Let's see, John Ramspott, are you  
17 still on the line?

18 MR. RAMSPOTT: Yes, I'm on the  
19 line.

20 CHAIRMAN ZIEMER: Yes, do you have  
21 any other comments for us, John, today?  
22 You've heard the outcome but, you know --

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1                   MR. RAMSPOTT:        I heard the  
2 outcome, yes.

3                   CHAIRMAN ZIEMER:    -- we're still  
4 going through, we still have to go through --

5                   MR. RAMSPOTT:        I'm going to wait  
6 now, but I'll get a chance in front of the  
7 full Board.

8                   CHAIRMAN ZIEMER:    Right, right.

9                   MR. RAMSPOTT:        But a couple items  
10 that definitely got my attention, I guess, you  
11 guys totally skipped a '53 to '58 period where  
12 you have no information. I guess I just found  
13 that pretty unusual. And I guess the reason  
14 for that, according to SC&A was there was an  
15 individual that was there, I guess, the whole  
16 time, that was a safety officer and he kind of  
17 knew everything and said everything was fine.  
18 And I find that unusual too just because no  
19 one's every interviewed that person, I mean, I  
20 know that firsthand. No one's ever talked to  
21 him.

22                   And I guess just the fact that you

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1 can work with no information for a time frame,  
2 even though it was only five years, is pretty  
3 incredible. In my old business, I mean, I was  
4 in business for 40 years, I could never do  
5 that with a major account and hold any  
6 credibility with them. So I guess that's  
7 really all I had to say and I, disappointed to  
8 say the least, but that just kind of got  
9 buzzed by real quick, that real important time  
10 frame there where you have no information.  
11 That was amazing.

12 CHAIRMAN ZIEMER: Okay, and John,  
13 again, remember the full Board is meeting and  
14 I don't know if, I'm assuming Dr. McKeel will  
15 be on board for that meeting, but you can fill  
16 him in on this one in the meantime.

17 MR. RAMSPOTT: Yes, well he's his  
18 own guy, he makes his own decisions on that so  
19 --

20 CHAIRMAN ZIEMER: Right, yes,  
21 right. Okay, good.

22 MR. RAMSPOTT: -- that's where

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1 we'll have to leave it, I guess.

2 CHAIRMAN ZIEMER: Okay, John,  
3 thank you.

4 MR. RAMSPOTT: Thank you.

5 CHAIRMAN ZIEMER: Okay, any other  
6 items to come before us today? If not, we are  
7 adjourned. Thank you very much.

8 MR. KATZ: Thank you everyone on  
9 the line. Goodbye, John Poston.

10 (Whereupon, the above-entitled  
11 matter went off the record at 12:16 p.m.)

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