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

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ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH  

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TBD-6000 WORK GROUP  

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WEDNESDAY  
NOVEMBER 28, 2012  

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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*
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*

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

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

CHAIRMAN ZIEMER: Well, good morning everyone. The agenda for the meeting was distributed to the Work Group Members, I believe to the petitioners as well, and also is on the website if you don't have a copy.
going to focus initially here on the issue of
the use of surrogate data for the active and
residual periods. And we have in that regard,
we have a report from NIOSH, we have a review
of that report by SC&A. And we also have, I
actually have three sets of comments from the
petitioner relating to that issue as well.

And then, so we'll hear initially
from NIOSH and SC&A and then have an
opportunity for the petitioner to make
comments. And then after we complete that
part, we want to take a look at where we stand
on open issues on TBD-6000, Appendix BB, on
the issues resolution. You may recall that a
number of the SEC issues we had previously
transferred to be resolved under TBD-6000
Appendix BB, so those become part of that
issues matrix and Bob has prepared a, sort of
a merger of those two documents. We actually
have the up to date version of both of those,
but the transfer puts them all under TBD-6000,
Appendix BB.
But let's begin now with the document that is submitted to us by Dave Allen. It's called Evaluation of Additional Air Sample Data Applicable to GSI. And I know you've all had a chance to read it. What we'll do is just ask Dave Allen if he has any additional comments or if anything that you want to highlight on the paper itself, and then we'll ask if the Board Members have any questions, and then we'll go on to the SC&A review.

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

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

MR. ALLEN: Yes, I would like to point out, you know, just to make sure it's on the record there, it was not a systemic
search. I didn't go through every document in
our Site Research Database. That would have
taken a few lifetimes.

CHAIRMAN ZIEMER: Right.

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

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

The one thing in the analysis I
would like to point out, and I notice it's in
there and I'm sure you've seen it, but when I
first started putting this together, I was really thinking that the airborne concentrations as far as different forms of uranium would be more related to the surface area of the shapes than the mass.

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

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

MEMBER BEACH: Can I ask one
thing?

CHAIRMAN ZIEMER: Sure.

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

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

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

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

MEMBER BEACH: But it would be for an external possibly?
MR. ALLEN: From an external standpoint it can be.

CHAIRMAN ZIEMER: Bob?

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

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

CHAIRMAN ZIEMER: Okay, thank you.

Any other questions or comments? Okay, well,
let's just emphasize your bottom line then, sort of two bottom lines. One is the activity that you associate with the handling. And the other is the surrogate data issue, so just recap your conclusions on that, put it on our record here.

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

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

And then from that data set, I put
through the Board's surrogate data, surrogate
data criteria to decide whether or not it is
applicable to GSI per the Board's criteria.
And I decided it was anyway, and then
obviously that's reviewed.

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

CHAIRMAN ZIEMER: Right, I noticed
on the site or process similarities where, or
no, in exclusivity I think it was, where the
justification is called for. You indicated
you would put that in Appendix BB. My
suggestion is that you include all of the
surrogate data issues in the Appendix, just as
discussion points as to why this data set or
some version of it at least, is used.

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

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

DR. ANIGSTEIN: Yes.

CHAIRMAN ZIEMER: And then I'd like to hear response from NIOSH on whether you have some concerns about those issues or agree with them and so on. So why don't you
highlight where you found, or where you're suggesting some differences. And do you have overheads you're planning to use?

DR. ANIGSTEIN: Yes I do.

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

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

(Off record discussion.)

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

CHAIRMAN ZIEMER: So, and Dr. McKeel is not online I gather?
MR. KATZ: No. No, I don't expect Dr. McKeel, I have a letter from Dr. McKeel to read later.

CHAIRMAN ZIEMER: Okay.

(Off record discussion)

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

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

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

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

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

CHAIRMAN ZIEMER: And John Mauro is clear.

MR. KATZ: And John Mauro's clear.
I just wanted to make certain it was still that it wasn't a problem with the phone, okay.

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

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

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

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

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

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

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

MR. KATZ: Okay, we hear you
clearly. Thank you.

MS. JESKE: Okay, great.

(Off record discussion)

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

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

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

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

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

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

DR. ANIGSTEIN: Pardon?

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

DR. ANIGSTEIN: Yes. Yes, right, right, that was a test to see whether they in fact were using, there we had in the past cast hollow billets, and it wasn't working out too well, so they were investigating the boring machine. So the first six were completely applicable to what was going on at SC&A, at GSI, excuse me. I can't even think, I work for that company.
However, in looking over the data set, we found six more that seemed to be quite applicable, that were in the same range of concentrations and that they were just like here with the operator actually hooking the billet up and removing the billet. He was working the controls of the boring machine, and it may sound well, but that's not comparable, well it is because the boring machine was working, but a constant flow of coolant, so there was really no airborne activity from the boring itself.

There was this coolant, which was probably some kind of an oil, that was flowing right into the drill bit and all the chips were being washed out down there, you know, into a collection area. So the fact that the operator was nearby, this was a perfectly good example of concentration we wanted to, and the reason we wanted to add to the data set, I mean, because there was some other things that we thought was not applicable.
The next one was a place called Chambersburg. And we disagreed with Chambersburg, and I indicate why, this is actually LeBlond where I show the additional samples, the operating, BZ stand for breathing zone operator, operating controls of the machine, no visible dust or fumes or oil spatters for that, again, shouldn't have much of an impact. However, and then there was six more at LeBlond, same as 967, said that 967 was this one.

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

However, they also had a lot of other samples that were much, much higher and there was really no basis for selecting those particular ones. This is again the same, these are these that were selected by NIOSH.
However, if they're going to select these, why not select the operator impactor who was ten feet away, twice as far?

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

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

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

And since the whole operation was punching holes, was they were taking these
washers and punching holes in them with the impactor, and then there were those removing the washers and putting the slugs into the furnace, this was not an applicable operation.

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

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

And there were two campaigns, one in, no sorry, I didn't get a picture of those.
And they were about six months apart, and the
first campaign, there were two readings which
were loading uranium slugs in preparation for
heating them, and those are perfectly
legitimate.

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

So to be conservative and
claimant-favorable, I took each of these
concentrations that was listed in dpm per
cubic meter, and said what if this had been
normal and not depleted uranium? And the
result is, you multiply by the ratio of specific activity between depleted and normal uranium and you end up at about a factor of 1.8 I think is higher. So I took each of these readings that was in the NIOSH report and simply multiply it by this factor to come up with a higher reading. And this continues on to the next page here.

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

A derby is not, this is, it's called a derby because it looks like a hat when it comes out of the, when they reduce the uranium tetrafluoride to uranium metal, and you get this shape. And then later on, they remelt it, they melt it and make it into an ingot. So we felt that these should not really have been used.
Then you get to Weldon Spring, there were a couple of handling dingots that was exactly, probably similar to the dingot that was sent to GSI, so this was very applicable. However, what was then here was they took, the first two were fine, but then they took the installation removal of dingot in lathe. What they gave was only, they didn't give the raw data sheet, they gave a summary report and the raw data sheet wasn't available. And there were three numbers, they're actually in different units but, you know, microcuries and then we can get them down to dpm, and they gave high, low, and average, that were considered routine of all their report.

But the high and the low were given and the average was given in terms of, not in terms of activity unit, but in terms of mass loading, so it's a microgram per cubic meter. And when you work it out, it comes out exactly between these two readings and it
would be very safe to say that it simply is
the average of these two and not a third data
point. So our opinion is that this should be
deleted, this one average should be deleted.

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

However, there was another one
that there was a single breathing zone sample
from the same operation, that does belong
there. So with that we pick up these three,
included this one, and then there were three
more setting of dingot which is applicable,
it's labeled Weldon Spring. Actually, that
facility was at Mallinckrodt. In other words,
it was operating at Mallinckrodt but this was
actually in the, I looked up the Mallinckrodt,
St. Louis facility. So it doesn't change the data, it's just a explanatory point.

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

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

DR. ANIGSTEIN: Yes, Figure 1.

CHAIRMAN ZIEMER: It's Figure 1.

DR. ANIGSTEIN: All right, okay.

So we see that there is a reasonable fit, our square root of 0.878, with a number of points being well below that. So however, when we took this review status act of, we reduced it,
in other words, we added some, deleted others, adjusted others, we ended up with 28 points. Now not all of them are plotted because there were eight non-detects, so they enter into this calculation but they don't show up on the plot.

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

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

If you take the 95th percentile, simply using the log normal formula, and you get 103, they bound it up to 104. But if you do the empirical interpolation, you get 83. So it's significantly lower, whereas on this adjusted data set, it really looks very much
like a log normal, the first three are the same, your two techniques, 66.43 and 66.92. So we think that this might be a better value, it happens to be a little lower but we think it's more consistent with the data, more consistent with the operation.

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

And then the other part of criteria is that there should be -- appropriate surrogate data could be used on four different memory now, only after appropriate adjustments have been made. Well,
taking the 95th percentile, which it was an appropriate adjustment, because you're saying we don't really know how this conforms to GSI, so we take the upper end to be conservative and claimant-favorable, which is something that we agree with at SC&A.

Second, exclusivity constraints, now with this data, do we get the right data and did we not exclude anything? This is the exclusive data set? We feel that it is. NIOSH, the 37 measurements, at seven sites or seven operations, some of them were more than one operation at the same site, and we reduced it to 28 measurements, five sites.

But in either case, this is a fairly exhaustive search and I'm sure Dave would agree, we were talking offline about this, that probably if they search more they would come up with still additional, but it most likely would not change the picture since we got a distribution that fits this, you know, the fact that it does look log normal
means that it's, you know, that it pretty much
covers the spectrum of likely results, that
you could get more but it wouldn't change the
picture.

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

And then the process, so the
material was similar, the process, handling of
traditional uranium objects was very similar,
using a chain hoist, which is what they used
at GSI, for instance. For the slugs there was
weighed a few pounds, they were handed by
hand. But basically, it's as good as you get.
Then there's the temporal consideration, were they the same time period? Well, the surrogate data spanned 1956 to 1968, operations at GSI were '53 to '66, so there's a lot of overlap. And even though at GSI they started a couple of years earlier, there's no reason there would be any difference then because it wasn't as if oh gee, you know, suddenly in the middle of the period people got more safety conscious and started doing things differently. With what we know there was no concern about the uranium dust at GSI and there was no difference in the practice over those years, that we know of.

And then finally, there is plausibility, and the criteria is a little able to be interpreted, we talked about models. And it mentions for the models side that has it, what they mean by the model I'm trying to realize is any models that was used to calculate, this would go more into dosimetry calculations, the workers aren't
really -- it doesn't really apply here.

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

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

So even though we feel we would recommend some adjustment to the actual numbers used to make them more consistent, more scientifically correct, that's an issue that could be worked out in the Appendix BB in
the second version, but there is no
showstopper here, there is no reason to
believe that NIOSH cannot, well let me put it
more positive. We believe that NIOSH can, in
fact, reconstruct doses from inhalation of
uranium.

CHAIRMAN ZIEMER: Okay --

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

CHAIRMAN ZIEMER: Check with John
again, too.

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

MR. RAMSPOTT: Can you hear me
now?

MR. KATZ: Yes! Thank you, John.

That's much better, thank you.

MR. RAMSPOTT: And I did have a
comment on those SC&A report about a part of
it, when there's time.

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

MR. RAMSPOTT: Okay, thank you.

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

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

MR. ALLEN: By and large, I agree with the suggestions on, you know, some of the data that should not have been included or should have been included. I think I wrote down about three things that it's minor
disagreement on, I don't know if you want to
go through detail on this at this point or --

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

MR. ALLEN: Yes, I think --

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

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

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

CHAIRMAN ZIEMER: Yes, sure.

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

MR. ALLEN: It would take five
minutes.

CHAIRMAN ZIEMER: Yes, at least
tell us, you know, respond then, yes.

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

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

CHAIRMAN ZIEMER: Okay, I --

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

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

MR. ALLEN: Okay, yes, you did add some for LeBlond, I got the wrong reason there. But there was some added for LeBlond while the billet was being bored, while a hole
was being bored in the billet. I didn't add
those originally just because, as Bob said, it
was cooled with some type of oil and I thought
that acted as an agent that would hold down
any airborne, which is not similar to handling
the dry, cold uranium metal. I mean it's --

DR. ANIGSTEIN: It's a moot point

though. It's a minor point.

CHAIRMAN ZIEME: Yes, okay.

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

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

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

DR. ANIGSTEIN: No, not at all.

MR. ALLEN: Chambersburg, Bob
thought was not applicable enough to be
included, and I don't think I disagree there.
It was, I had to stretch to get some more
somewhat applicable data, so I don't disagree
with --
MEMBER BEACH: Were you looking because of the dates also? Those were done in '57, that's what I thought might have been why you added them?

MR. ALLEN: Honestly, no --

MEMBER BEACH: No?

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

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

MR. ALLEN: I didn't honestly --

MEMBER BEACH: Didn't look --

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

DR. ANIGSTEIN: Chambersburg was 1957, so it's right in the middle of a --
MR. ALLEN: Yes, that's what they --

MEMBER BEACH: Yes.

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

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

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

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

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

DR. ANIGSTEIN: I was using data originally from Fernald, from the Fernald site
where they had the, I mean, you know, we all agree what's natural uranium. Depleted is not, you know, they give you more than one type of depleted uranium to arrive on something on the Fernald site.

MR. ALLEN: That could be true.

DR. ANIGSTEIN: All right.

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

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

MR. ALLEN: As far as Fernald getting, eliminating those, I don't disagree. I even put in my White Paper that it could be elevated because of the more aggressive removing of the crust and stuff, but I included them to try to get more samples that were at least somewhat representative, even though that one would have been slightly
elevated. Bob thought it should be removed I don't, like I said, don't really disagree.

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

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

Yes, from the description of the process, it's steel baskets loaded with 60 slugs. Then a crane hoists the baskets into a boat, which they said is, did I miss...
something? Which they slide into the coffins, says the boat is merely a flat plate with sides, which slides into a long cylinder tube called a coffin. And then the whole assembly is hoisted up into a furnace.

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

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

MR. ALLEN: No, I realize that. I
just, similar to what you were saying with
LeBlond, I thought it was a localized enough
area so even if they labeled it GA --

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

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

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

MR. KATZ: So do you think that's
reasonable, Bob?

DR. ANIGSTEIN: Pardon?

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

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

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

DR. ANIGSTEIN: I see. Oh, I
thought, pardon my ignorance, I thought that
they actually were wearing little collectors.
MR. ALLEN: Not at that time.

DR. NETON: Not in that time period.

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

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

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

MR. ALLEN: Yes, the lapel?

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

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

DR. ANIGSTEIN: Right. And I had 0.23.

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

MR. ALLEN: I agree with him, he
kept the two, that was a summary that had the minimum, maximum, and the average. Bob pointed out that that average falls exactly between those two, he thinks it's an average of two and I don't disagree with him, so it would be --

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

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

CHAIRMAN ZIEMER: Right, two data points, right.

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

MEMBER BEACH: In the middle, that makes sense.

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

CHAIRMAN ZIEMER: And then was
MR. ALLEN: That was it, I'm sorry.

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

MR. ALLEN: I wouldn't.

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

MR. ALLEN: Yes.

CHAIRMAN ZIEMER: You'll delete Fernald --

MR. ALLEN: Yes.

CHAIRMAN ZIEMER: -- and keep the Weldon Spring?

MR. ALLEN: Yes.

MEMBER BEACH: What about the last one he makes on the second page of his table, the slugs, the positioning and bolting of the flange, would you add that one then, too? the
one that's in red?

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

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

CHAIRMAN ZIEMER: The Weldon Spring?

MEMBER BEACH: It's another Weldon Spring.

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

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

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

MEMBER BEACH: Well, that's that positioning and then bolting, so you'd be
actually putting it in and then bolting it down maybe?

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

MEMBER BEACH: It's not.

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

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

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

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

MEMBER MUNN: No.

CHAIRMAN ZIEMER: Okay, so SC&A and NIOSH with those changes, would be in
agreement on how we handle the residual internal dose. This is for the period up to the residual period. This is for the operational period.

MR. ALLEN: Yes.

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

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

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

MR. ALLEN: The current --

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

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

CHAIRMAN ZIEMER: Right.

MR. ALLEN: And so I haven't seen
anything that would require us to change that
approach.

CHAIRMAN ZIEMER: Right.

MR. ALLEN: The number would
change --

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

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

CHAIRMAN ZIEMER: Right. Yes, I'm

--

DR. ANIGSTEIN: It doesn't mean
that when it comes down to actually doing the
dose calculations, there's going to be some
differences. I mean, we had, the last, you
know, from last summer, just our review of
surrogate data, really conflated two issues.
One was the data that was used and the other
one was the actual model that was used to
calculate the airborne activity outside of the
time of the handling of the metal and also the
contamination on the floor and how it goes on. So those two issues were conflated all into one. And that was a problem.

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

CHAIRMAN ZIEMER: Right.

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

CHAIRMAN ZIEMER: Well --

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

DR. ANIGSTEIN: Right, right.

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

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

CHAIRMAN ZIEMER: Oh, yes, no, this is a component in the operational period.
DR. ANIGSTEIN: Right, yes.

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

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

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

MEMBER BEACH: Well, and that
affects the operation period also, '53 to '66, correct? That issue you just brought up, what was on the floor, what was resuspended?

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

They're in the room with the uranium, then they leave the room going into the control room and set up, you know, the betatron shot, and make the betatron shot, come back in. And there's even some disagreement as to what fraction of the time, we know how many hours the betatron operators
are employed in handling the uranium. That's
the number of hours that Mallinckrodt paid
for.

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

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

And then that same picture, that
during the in between times, continues on into
a residual period where they continued using that room and the continued stirring of the dust that had been deposited. And there, that matter is not being addressed today, or at least I have not addressed that matter here, that's a different matter and all the issues that were raised, that we raised in the report that came out I believe in June, are still there. They're still on the table. They have not been resolved.

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

MEMBER BEACH: The residual period, yes.

DR. ANIGSTEIN: Right, but that may be the origin --
CHAIRMAN ZIEMER: And then we said, yes but then that has to go back into the operational period.

DR. ANIGSTEIN: Right, yes.

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

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

We have this airborne value, which we say comes from the handling. Now is there some other component that's added to that to start the residual period? Now Jim, I thought
you had a model --

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

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

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

CHAIRMAN ZIEMER: Yes, right.

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

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

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

DR. ANIGSTEIN: Well, there two --

DR. NETON: And then you end up with a surface contamination level that would
be the starting point for the residual period.

CHAIRMAN ZIEMER: Right.

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

DR. ANIGSTEIN: Yes.

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

DR. ANIGSTEIN: I agree, I agree.

It doesn't mean we're --

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

CHAIRMAN ZIEMER: Yes, yes.

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

MR. ALLEN: And I think there,
just to add a little bit, Appendix BB was written before TIB-70 and I think there may be some inconsistencies in what was done there versus TIB-70, so there will be some adjustment to make it --

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

CHAIRMAN ZIEMER: Right.

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

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

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

CHAIRMAN ZIEMER: Right, right.

MR. ALLEN: Right.

CHAIRMAN ZIEMER: Yes, but I want to pin down then on the record that that's
what you would be doing --

DR. NETON: Exactly.

CHAIRMAN ZIEMER: -- the case number.

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

CHAIRMAN ZIEMER: Right.

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

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

CHAIRMAN ZIEMER: Yes.

DR. ANIGSTEIN: I agree.

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

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

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

CHAIRMAN ZIEMER: No, we want to
MEMBER BEACH: -- and I had some questions that --

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

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

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

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

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

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

CHAIRMAN ZIEMER: Sure, yes.

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

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

The dose reconstruction which really concerns me came back at a ten to 20 percent range, PoC, they couldn't give me the
exact. And I questioned that and basically I
was told that nothing's going to change unless
Appendix BB is revised. And at that time,
everything would be reopened for everyone,
they don't have to reopen it themselves.

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

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

I find it to be very incompetent
to come back with a number like that with two
primary cancers being what they are. And I
have no idea why I'm not getting any answers. [Identifying information redacted], under duress, but I accompanied that with a letter that I definitely don't agree with it. But she was told that if she doesn't sign it by November 22nd, her case would close.

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

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

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

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

CHAIRMAN ZIEMER: -- the general --
MR. KATZ: The general situation.

CHAIRMAN ZIEMER: -- situation.

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

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

MR. ALLEN: Okay, that was the other thing I wanted to address is it is true that a leukemia, every case is different with the demographics as far as latency, et cetera, but in general terms, leukemias often will result in a higher PoC, not too, for compensation, often, not every time by any means.
Most of these other sites, or many other sites, you get a considerable amount of internal exposure, airborne activity, et cetera. GSI is very different in that case. There was no manipulation of radioactive material other than moving a chunk of uranium metal in and moving it back out.

MS. JESKE: He was a welder.

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

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

MR. ALLEN: I think that's the way the --
MS. JESKE: Because I think that's an error, at least I hope it is.

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

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

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

CHAIRMAN ZIEMER: Yes, okay.

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

CHAIRMAN ZIEMER: Okay, thank you.
MS. JESKE: Just see how many others are being treated this way.

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

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

And in the reading I've done, and I did look at Broomfield, or Westbrook and Bloom, the reference that Dr. Bob uses, those are all down the road activities. Matter of fact, I need to reread that document again, but if I'm not mistaken, they don't even
mention the non-destructive testing that was
done on the uranium prior to any of these
other things happening, in that article. Now
the documents that I base my assumption on, I
don't know think it's an assumption, I think
it's a fact now, the one in particular, I'm
going to quote this so that nobody's mistaken.
And I have provided this in the past.

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

And for the record, I'm going to
read this so that nobody misunderstands it.
And I have provided it and you probably have
it there now, "The amount of metal to be, to
be removed, by cropping in order to produce
sound material for rolling, is determined by
the use of high energy X-rays."

That's early in the game. That's
the first step in the game. All of the
surrogate data that everybody's using for
their analysis is with down the road items.
Now the other big factor that goes along with
that now, and we've got pictures of it. I
mean, it's definitely published information.

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

So slugs, billets, derbies, that
he talked about, and the pictures I've sent
you, you know, from Mallinckrodt operation
Weldon Spring, shows those dingots, you can
see a different color at the top, which is
eventually cropped. You can see the shaggy
sides. There's not a little bit of crust on
there. And I'm not talking about, you know,
that when they ultimately start in the bomb, that's 4,500 pounds according to Mallinckrodt's document that I actually received out of Weldon Spring, which was authored by their Chairman, but I assume he's pretty knowledgeable.

They start out at 4,700 pounds.

And then when they break them out, everybody used the term breakout, I have a picture of it, about 700 pounds of that or more, is taken out. Thirty-three hundred pounds is exactly what they say a dingot is after you take your magnesium fluoride, I guess, out of it, or break it off.

Now no one seems to account for it. That's a lot of crust. Now here's the other thing that none of these other sites have. I'll guarantee you those slugs may be non-destructive tested after they're essentially machined and canned, but GSI's dingots and ingots and slices, were betatron tested.
None of these other products from any other surrogate site that I've seen here, that you guys have discussed, have gone through fission, like everybody admits has happened at GSI. So all the fission products that everybody's talked about, and I don't know enough about them, you guys are the experts, you tell me if I'm wrong, I don't hear anybody talking about any of that.

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

It's almost like everybody has put a nice wrapping on this and is ignoring this fact, that the material that we should be looking at is what really went to GSI, not what slugs, billets, they've all been
machined, they been through presses, they've been canned, they've been, you know, I heard drill it, I heard the one where you drill through the thing and pour oil down while you're, that's not what happened at GSI, that's not surrogate data. If anything, the oil would make it much safer.

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

And the guideline out of this symposium attests to that. And again, like I
said, the Chairman, or the top executive at Mallinckrodt, this is out of his brochure that he issued, which I was given out at the visitor site, chemical analysis and betatron examination of early dingots confirmed the expectation that the inner core of the dingot, under, and I'm going to quote this, "Under a contaminated surface layer, was sound metal."

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

MR. KATZ: John, thanks. John --

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

MR. KATZ: John, I think folks here are ready to respond to that if you'd --
MR. RAMSPOTT: Yes, that would be great, go ahead.

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

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

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

That material is then chipped off, it's cleaned out at the breakout, either chipped off, often with an air chisel or a needle gun, et cetera. That is what Bob, or I'm sorry, that's what John was mentioning and confusing with the second part of this, that
when you remelt uranium, you produce these 
impurities that will float to the top, kind of 
like a slag when you're welding, that material 
is sawed off, top cropped, and that is what 
John is saying was X-rayed to decide where the 
metal was good and how far you'd have to saw 
it.

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

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

MR. ALLEN: No doubt about, it 
would be taken off before it went to GSI, 
number one. Number two, it is mag fluoride 
with a very low uranium content, we already 
know it's around the one percent uranium 
range. So even chipping that stuff off is not 
the highest airborne causing operation in the 
world. Number three, the air samples that I
did give to this include air chiseling of
derbies, which is the exact same process and
exactly what you're talking about. So yes, it
was considered --

MR. RAMSPOTT: Dave, I disagree --

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

MR. RAMSPOTT: All right.

MR. ALLEN: -- it was in my data, it's not a significantly different number, okay? Number two, the dingots, if you look at the data, part of that is hoisting these dingots and putting them on a lathe. The lathe is what was used to finish the surface, take that rough surface and finish it to a smooth surface. Obviously, these air samples are taken before it was finished. It is still the rough surface. If there was any crust, any mag fluoride crust that was not cleaned off, it would be there in those air samples. Now how, in the world, are these not representative of what you're talking about?
MR. RAMSPOTT: I, am I, are you done now?

MR. ALLEN: Yes.

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

MR. ALLEN: Your interpretation is incorrect.

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

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

MR. RAMSPOTT: You have what?

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

MR. RAMSPOTT: Yes, but the product, I have a still photograph of that as well. And what they're doing there, if you look at it very closely, when they air
chiseled the slag, I think they called it --

    MR. ALLEN: Yes.

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

    MR. ALLEN: Yes there is.

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

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

    MR. RAMSPOTT: -- according to
this document.

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

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

    MR. ALLEN: No, they're exactly
the same process. The difference is the size.
MR. RAMSPOTT: They're the same item.

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

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

MR. ALLEN: Yes.

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

And then someone got the idea, why go through a two step process? We can make the ingot directly from the uranium tetrafluoride just the way we make the derby, just make it bigger. So they skipped that one
remelting step. But as Dave said, it's exactly the same process. It's just that instead of having a bunch of small shapes and you melt them together to make a big one, you start off and make, you just scale the process up and make the big one directly.

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

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

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

MR. RAMSPOTT: That's right.
DR. ANIGSTEIN: -- similar processes.

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

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

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

DR. ANIGSTEIN: Yes.

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

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

CHAIRMAN ZIEMER: It's not radioactively contaminated.

DR. ANIGSTEIN: No.

CHAIRMAN ZIEMER: The magnesium is a contaminant that they're removing.
MR. RAMSPOTT: Wasn't the cropping material uranium, the cropped material?

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

DR. ANIGSTEIN: Right.

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

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

MR. ALLEN: No, not really, as Josie asked previously, the main thing as far as radioactivity in that top crop is the thorium-234 and protactinium-234m, doesn't
show up so much in a dingot because it's directly from this process. But in the remelted ingots it will show up, but the top crop, as far as radioactivity, you get rid of that because of all the other impurities, and you also end up concentrating those things.

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

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

MR. RAMSPOTT: Okay.

DR. ANIGSTEIN: -- and there is a
detailed analysis of the, that if you inhale a
milligram of the activated uranium, I would
say the uranium immediately after betatron
exposure like for several hours or repeated
exposure, the difference between the dose,
radiation dose, inhaled radiation dose of all
of these fission activation products and the
dose you would get just from natural uranium
is like the difference in one to a million.
In other words, if you took the dose from
natural uranium and you wanted to add the
other, the addition would be maybe one
thousandth of one percent.

Now NIOSH just did a quicky, quick
solution to this, and they simply added one
percent, in the original Appendix BB. They
said well, whatever the dose from the uranium
inhalation is, we'll add one percent to
account for the activation product. But
having done a very more detailed analysis, we
came up with not one percent, one thousandth
of one percent. So it's a total non-issue. It
was taken and considered, so I mean I'm just
taking a little, I know you mean well, John,
and I'm taking a little umbrage saying that,
you know, it was carelessly overlooked.
It was very carefully considered.

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

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

MR. RAMSPOTT: But I guess I'm
just looking at it, it's a third stage down
the road versus what really went to GSI, those
products, in whatever shape they're in or, you
know, I don't, I have a feeling I'm not going
to win this argument about the cropping, even
though I've got documents that say that's how
it was, so I'm not going to beat a dead horse
there. But I guess the point is, what
everybody's analyzing is not what was at GSI,
that's the bottom line.
CHAIRMAN ZIEMER: Well, I think, John, I think we're disagreeing with that. I think we're doing our best to analyze exactly what was at GSI. And this is why we've gone through, trying to get samples that are comparable in terms of handling of uranium where the products that produce internal dose or other organ dose are, in fact, similar to what you would have at GSI. That's really what this is all about. So --

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

CHAIRMAN ZIEMER: Right.

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

DR. ANIGSTEIN: That is correct.

MR. RAMSPOTT: Nobody knows the hours at GSI, that were spent pre-'58. Now we know, with some new FOIA material, through
'52. There is no information on the hours.
You can guess, you really can't back
extrapolate because up until a week ago,
obody even knew there was work going on in
'52 so, I mean that's proven now. And I think
it brings out a very important point. Nobody
really knows anything that happened at GSI
from '52 to '58. And this last document that
[identifying information redacted] just
located proves that.

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

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

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

MR. RAMSPOTT: I pat you on the
back, sir. I agreed with you before, and you
were right. And that proves my point. Things
were happening from '52 to '58, and they're
talking about non-destructive testing and
uranium shields, and Bob, you were 100 percent correct. And everybody said oh, well, sorry. I salute you, sir.

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

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

CHAIRMAN ZIEMER: Okay.

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

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

MR. KATZ: Sure.

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

MR. KATZ: It's a letter, it's a letter from Dr. McKeel and he asked that I
read it into the record and then I distribute it then to the Work Group Members and to the Board Members after reading it into the record. So that's what I'd like to do now.

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

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

In particular, GSI claimants have been denied statutory due process under
EEOICPA 2000 by not having Appendix BB to Battelle TBD-6000 revised in a timely and factually accurate manner since it was released in June 2007. McKeel personal contributions have included A, in 2006, being the first person to alert the ABRWH, DCAS, and SC&A, to the existence of Landauer film badges for a limited number of GSI radiographers 1963 to 1973.

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

And C, most recently via DOE, ORO, FOIA, 2013-00013, I have shown that during November and December 1952, an active collaboration was ongoing among MCW AEC Oak Ridge Office, and GSI personnel in developing betatron radiography, uranium imaging techniques that were applied to thin slices of MCW ingots. A special uranium shield
fabricated at MCW, was used to contain scattered radiation fields from the 24 MeV betatron X-ray beam. The stated purpose was to provide higher quality X-ray images of AEC, MCW, uranium products.

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

For example, obtaining a single copy of Harris Kingsley 1958 from the CDC ATSDR FOIA office took over two and a half months. Many of my email requests to the TBD-6000 Work Group Chairman go unanswered by him except through a surrogate, the DFO, or at
NIOSH, SEC Counselor, neither of whom are the Board or Work Group Secretary per se.

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

SC&A is no longer acting as an effective oversight agent for the Board, at least in the case of GSI. Rather it and its Work Group Chair have become stalwart, scientific allies and collaborators with DCAS. The SC&A review paper released to me on November 26, 2012 at 12:30 p.m. is a prime example of the close collaboration between SC&A and DCAS. Whereas in their August 2012 paper, SC&A found that these uranium slug facility and TBD-6000 failed to pass the five Board surrogate data criteria, now SC&A finds that David Allen's slug facilities meet all Board surrogate data criteria. Four Allen
August-November 2005 White Paper, AWE sites have only 14 claims and 13 dose reconstructions between them and no one has been compensated. Those AWE sites and the Weldon Spring DOE site are judged by SC&A and DCAS as to be stringently justified as being comparable to GSI. This is scientifically ludicrous and offensive. It is definitely scientifically indefensible in my opinion.

Also, the authors of the November 25th, 2012 SC&A review of Allen 11-6-2012, continue to insist that uranium ingots and dingots sent to MCW from MCW to GSI had only a few uranium oxide flakes on their pure uranium surfaces that were easily rubbed off. The petitioners and site experts have proven beyond a reasonable doubt using technical publications and photographs, that MCW, Destrehan Street, and Weldon Spring site uranium dingots of the type sent to GSI from NDT radiography were rough surface and taller than they were wide before cropping.
SC&A ignores the proven fact that the adherent magnesium fluoride slag or crust of MCW uranium ingots and dingots sent to GSI 1953 to 1966 contained radioactive daughter products of uranium and betatron activation products. The DCAS cold -- term "cold uranium" is inappropriate.

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

CHAIRMAN ZIEMER: Okay, that's
been read into the record.

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

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

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

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

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

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

And let me just check on the line and see if...
Dr. Poston has joined us.

MEMBER POSTON: I'm here.

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

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

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

MEMBER POSTON: Yes.

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

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

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

MEMBER POSTON: Oh, I thought Paul acknowledged me.

MR. KATZ: No.
CHAIRMAN ZIEMER: No.

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

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

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

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

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

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

CHAIRMAN ZIEMER: Okay, now just before the break, Ted Katz read a letter from Dr. McKeel, and I think it will be appropriate if we prepare a response. I'll work on that with Ted on drafting that and we'll get a copy
out to the Work Group to respond to Dr. McKeel's comments and concerns.

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

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

CHAIRMAN ZIEMER: Oh, okay.
MEMBER BEACH: So I'll leave it at that because I know there's still more to be discussed.

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

We need to have a formal recommendation on this portion, that is the use of the surrogate data for internal dose for the residual period and the operational period. And I can ask for Work Group, if you have a formal recommendation you wish to make to the Board on the use of this methodology that's been described by Dave and will be slightly modified using the changes that were described to characterize the internal dose from the handling of the uranium during the operational period and to use that information together with the TBD-70 modeling for the
residual period in the manner described. And
we can take those separately if you wish, but
a motion would be in order.

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

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

We have agreement on what is
reasonable to pursue and what material is available to us that's applicable to our issues. It seems only reasonable that we accept the basic recommendations and agreements that have come to us from the Agency and from our contractor.

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

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

MEMBER MUNN: Please, please --

CHAIRMAN ZIEMER: -- could we have agreement that we should, your motion, if I can interpret it, would be to accept the use
of surrogate data as described by NIOSH and as, with the modifications that they will incorporate from SC&A for a determination of internal dose during the operational and the residual periods.

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

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

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

CHAIRMAN ZIEMER: Okay.

MEMBER BEACH: But I think the inconsistencies --

CHAIRMAN ZIEMER: Now what --

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

CHAIRMAN ZIEMER: I'm only talking about the two --
MEMBER BEACH: Right, you're talking --

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

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

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

MEMBER BEACH: I would say leave it as one.

CHAIRMAN ZIEMER: Are you seconding?

MEMBER BEACH: No.

CHAIRMAN ZIEMER: No. Okay --

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

CHAIRMAN ZIEMER: John?

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

CHAIRMAN ZIEMER: Okay.

MEMBER BEACH: There you go.
to accept the recommendation on the use of the surrogate data for internal dose calculations for the operational and residual periods.

Okay, all in favor, aye?

MEMBER MUNN: Are we going to have discussion?

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

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

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

Okay, this is just for the internal dose components.

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

CHAIRMAN ZIEMER: Right.

MEMBER BEACH: Where does the other material that's on the floor, loose
contamination coming in on the products, where does that fit in? Because that's an internal component.

CHAIRMAN ZIEMER: Right.

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

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

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

MEMBER BEACH: Understand.

MR. ALLEN: That stuff is still on the table, how we would use this air sample value as far as to estimate the dose and that's a tractable, as Jim would say, a
tractable TBD issue. I think this motion, and you guys can direct me if I'm wrong, I'm thinking this motion is we don't have air samples, do we have the equivalent in surrogate data, as equivalent to an air sample at GSI?

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

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

DR. NETON: Right. And that is dealt with in TIB-70. TIB-70 is a prescriptive approach so when you have air sample data during an operational period, how much of that material deposits on the ground over time, and then what fraction of that
material goes back up into the air?

MEMBER BEACH: Right.

DR. NETON: The only thing in question at this point is, since it's not a continuous operation, we wouldn't say that that air concentration existed eight hours a day, you know, five days a week, 2,000 hours a year. We would have to come up with some amount of time, some duration of time that that material was depositing on the ground. And that would have to be decided. And that's what I would consider a Site Profile issue, not can it be bounded at all? It can be bounded by saying it happened the full 2,000 hours.

MR. ALLEN: All the time, yes.

DR. NETON: But the question is, what incremental, you know, what decrement of it would it be, 1,000 hours, 1,500, that's really what's up in the air. So it's a solvable problem using a standard approach that we used in TIB-70 that's an approved
document for doing these type of estimates.

MR. ALLEN: Based on air sample.

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

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

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

CHAIRMAN ZIEMER: Right so it --

DR. ANIGSTEIN: The data itself,
surrogate data itself, does not --
CHAIRMAN ZIEMER:  Well insofar as it establishes the air activity for the --

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

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

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

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

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

MR. KATZ:  But that's because it is indirectly involved in that --
CHAIRMAN ZIEMER: Well --

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

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

MEMBER BEACH: I'm not sure.

MS. LIN: Okay.

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

MS. LIN: Okay.

CHAIRMAN ZIEMER: Well --

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

MEMBER BEACH: Oh, I just thought it was for clarity's sake. If it's clear to everybody then it doesn't need to be. But see, I still have some questions on the surrogate data which --
DR. NETON: Well, maybe we need to talk about that. Because if you agree that we have, if it's agreed that surrogate data, the 95th percentile, the distribution that we're going to generate is representative to be used for inhalation exposures at GSI, then it sort of implies we have knowledge of what the air concentrations were in the plant. And once we have that, the rest sort of falls in place. I mean, that's what we do all the time in residual contamination. It's a standard, there's nothing unique about that other than the non-continuous nature of the operation. That's the only difference in my opinion.

MR. ALLEN: Maybe I can try to just say this motion should be more or less agreement that the data we have collected can be used to estimate intakes at GSI, not necessarily agreement with what the intake estimate is at this point, just that it can be used, is kind of where we're at I think. Isn't that your question, is how we use that
MEMBER BEACH: Well, my question goes back just to the fundamental of the surrogate data and how it fits the criteria. Because I don't agree 100 percent that it does fit the criteria.

MR. ALLEN: Oh, okay.

MEMBER BEACH: But that's just my opinion.

MR. KATZ: Well you should discuss that then.

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

MEMBER BEACH: Well I guess my question is, what I've gotten here is the differences between the operations at GSI, one of them on Bob's report on Page 11, the last, does the surrogate data reflect the type of
operations and work practices used at the facilities?

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

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

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

MEMBER BEACH: Right, but when I
was reading all these reports, that was one of
the questions I had in looking at the
surrogate data.

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

MEMBER BEACH: Right.

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

MEMBER BEACH: Right.

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

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

MR. ALLEN: Well, I mean, part of
what that White Paper I put together, because
in all honesty, I didn't know how much of a
difference there would be. But part of that,
and one of the reasons I included those
derbies originally, that's a rough surface right out of the reduction area. The slugs, obviously, have been through quite a bit of processing, you know, to get to the point of being a slug. The billets are intermediate process between ingot and rods.

I think the different forms represent pretty much every phase of the process, you know, at one point or another. And the air sample values were fairly consistent, you know, through each part of it to where the result of that Paper essentially said that it doesn't matter what step of the process it's in or what size or shape it's in, you know, the air samples seem to be consistent as far as airborne you get from handling this --

CHAIRMAN ZIEMER: For handling.

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

CHAIRMAN ZIEMER: And the rough surface typically represents, probably a lower
amount of uranium on the surface. If it's mainly magnesium compounds --

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

CHAIRMAN ZIEMER: If we know that, okay.

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

CHAIRMAN ZIEMER: Right.

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

CHAIRMAN ZIEMER: Yes.

MEMBER MUNN: Yes, but you've just hit on a major point I think, Paul. It seems obvious from what we've heard and what we've read here today that in the claimant population there's a very clear implication that exclusions on the outside of any of the
material that we have may be more pernicious
in terms of exposure than the raw material
itself.

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

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

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

CHAIRMAN ZIEMER: Speak loud

enough so that --

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

DR. ANIGSTEIN: Pardon?
MR. KATZ: You're hard to hear, speak up.

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

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

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

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

And these would be not the surface kind, the surface kind is those you see, you see, you could see, hey, this is magnesium fluoride, this isn't uranium, you took it off but it has a totally different physical property and you keep chipping it off with a
hammer until it's all gone. You don't take an X-ray for that.

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

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

DR. ANIGSTEIN: But the material inside would behave pretty much like uranium.
And if there were any of these short-lived daughter products, you know, later I said I did the analysis of you get something like two to the minus four sieverts per milligram from inhaling natural uranium and an additional ten to the minus nine in the activation product. So it doesn't affect the, biologically it has no effect and physically it's no different. It would be, you know, it would be no greater or lesser dust from that than the other. So it's a, you know, do we have, you know, that's why it's called surrogate data. It's not perfect, identical.

MEMBER BEACH: Right, right.

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

DR. NETON: The thing that strikes me about this analysis is that you have to look at the magnitude of the exposure that we're talking about. I mean they've looked at 37 air samples of various movements of
dingots, slugs, derbies, dingots --

MEMBER BEACH: Right.

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

MEMBER BEACH: Right.

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

MEMBER BEACH: Right, I understand that.

DR. NETON: That -- kind of what
strikes me is it's, and we talked about it a little bit at the Board Meeting last time, there is uncertainty there. But when you have such a low level of exposure, you almost have to allow for more uncertainty because it's so low, you know, it's different to have a factor or two difference from such a small exposure like this than if you had big exposures.

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

So in my mind, the surrogate is finding the same process, in this case the process that we're talking about is the handling of the uranium. It's not radiographing; those doses are handled separately by the external exposure and the
other thing. So this is just the handling part. That's how I see the surrogate part.

MEMBER BEACH: Okay.

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

MEMBER BEACH: No, I'm good.

Thank you.

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

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

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

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

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

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

    MEMBER MUNN: Aye.

    MEMBER POSTON: Aye.

    MEMBER BEACH: Aye.

    CHAIRMAN ZIEMER: Four ayes.

    MR. KATZ: Four ayes.

    CHAIRMAN ZIEMER: Motion carries.

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

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

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

MEMBER BEACH: You're talking external.

CHAIRMAN ZIEMER: I'm talking about everything now.

MEMBER BEACH: The whole thing, okay.

CHAIRMAN ZIEMER: The whole thing. We have done the pieces but I know that, Josie, I know you had concerns about the first early period and I think in fairness we need to be able to tell the Board that or, you know, I don't want to prejudge how you vote
but I think unless somebody wants to do the whole thing in one motion I think it's quite -

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

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

DR. ANIGSTEIN: '62, '62?

CHAIRMAN ZIEMER: '62.

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

CHAIRMAN ZIEMER: Well the license was granted April 18th '62, so we could go to
that period.

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

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

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

CHAIRMAN ZIEMER: Okay.

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

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

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

CHAIRMAN ZIEMER: Okay, Josie
MEMBER BEACH: I didn't expect to, but I thought I would just throw it out there.

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

MEMBER BEACH: Yes.

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

MEMBER MUNN: Yes, so moved.

CHAIRMAN ZIEMER: Wanda?

MEMBER MUNN: Yes, please.

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

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

MR. KATZ: Yes, we can hear you.

MEMBER POSTON: Can you hear me?

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

MEMBER POSTON: Okay.

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

MEMBER POSTON: Okay, well I'm thinking.

MR. KATZ: Oh, okay.

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

MR. KATZ: '53.

MEMBER BEACH: '53.

CHAIRMAN ZIEMER: '53, I'm sorry.

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

MR. KATZ: Yes.

CHAIRMAN ZIEMER: Everything.

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

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

MEMBER BEACH: But if you go back
to the first issue that we closed and moved it, actually we just closed it without moving it. We basically closed it and the last action from SC&A was due to scarce data and no firsthand accounts for 1953 to 1956 period. It is not clear that bounding exposures can be assigned during this period. And that's how we left it.

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

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

CHAIRMAN ZIEMER: On which one, Josie?

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

DR. ANIGSTEIN: The final SC&A position, after studying the records the, you
know, the AEC records, was that we came to
the, SC&A came to the conclusion that there
was no reason to believe that the operations,
in terms of external exposure from 1953 to
1956 were any different than from '56 to '62.
From '56 to '62 we had some data, some records
and firsthand testimony as to the methodology,
the procedures, the safety factors used, using
radium for radiography.

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

And so SC&A's position was that if
they go with a much higher annual exposure
than was previously assumed by NIOSH, this
would constitute a reasonable upper bound to
the exposures and that there was several, you know, I won't go through it all now but there were like three different methods based on the regulations, based on an actual hypothetical, you know, modeling of the time and motion study based on the testimony of this one worker and also based on his own film badge records. You put them all together, we feel yes, that this can be, that if you can do it from '56 to '62, going back to '52 or '53, or now it may very well be '52, there really should be no substantial difference.

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

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

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

DR. ANIGSTEIN: I'm sorry. That
was an oversight.

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

MEMBER BEACH: Right.

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

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

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

DR. ANIGSTEIN: Yes.

CHAIRMAN ZIEMER: -- you had a slightly different number because it had to
do, well, I'd have to go back to the minutes but --

DR. ANIGSTEIN: Right.

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

DR. ANIGSTEIN: Yes, I failed --

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

DR. ANIGSTEIN: Yes.

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

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

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

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

DR. ANIGSTEIN: Will do.
MR. KATZ: -- as soon as you can --

DR. ANIGSTEIN: Will do.

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

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

MR. KATZ: Yes, no absolutely.

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

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

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

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

CHAIRMAN ZIEMER: Right.

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

CHAIRMAN ZIEMER: And right, the
closing wasn't unanimous.

MEMBER BEACH: Right.

DR. ANIGSTEIN: I'll get it out by

the end of the week.

MR. ALLEN: Well, if I remember

right, that closing was based on the idea that

there was no more information to be gathered

or analyzed --

MEMBER BEACH: Yes.

CHAIRMAN ZIEMER: Yes, we had what

we had and you work with it based on --

MEMBER BEACH: It said the Members

of the Work Group as well as NIOSH and SC&A

staff members present at the meeting agreed

that further research or fact-finding would

not produce any useful information so.

CHAIRMAN ZIEMER: Yes, but you had

what you had and you would bound it based on

that.

MEMBER BEACH: Exactly, exactly.

CHAIRMAN ZIEMER: Yes, okay.

Okay, John, did you have additional questions?
We're still trying to generate a motion here on the early period.

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

CHAIRMAN ZIEMER: Okay.

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

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

MEMBER POSTON: Okay.

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

MR. KATZ: Right.

MEMBER POSTON: And that was what NIOSH said they could do.
MR. KATZ: Right.

MEMBER POSTON: Yes, okay.

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

MR. KATZ: Concur.

CHAIRMAN ZIEMER: -- is in agreement with that.

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

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

DR. ANIGSTEIN: Yes.

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

CHAIRMAN ZIEMER: Right.

MR. KATZ: -- issue.

MEMBER POSTON: Okay.

CHAIRMAN ZIEMER: Any further discussion?

MR. RAMSPOTT: Dr. Ziemer?
CHAIRMAN ZIEMER: Yes.

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

MR. KATZ: Not at this point.

This is a Board process at this point, John.

MR. RAMSPOTT: Okay.

MR. KATZ: Thank you.

CHAIRMAN ZIEMER: Other comments?

Are you ready to vote?

MEMBER BEACH: Yes.

CHAIRMAN ZIEMER: John, you ready to vote?

MEMBER POSTON: Yes.

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

MEMBER MUNN: Aye.

MEMBER POSTON: Aye.

MEMBER BEACH: Nay.

CHAIRMAN ZIEMER: And nays, okay, we've got one nay and three ayes on the early period. Okay, next I'm looking for a motion on the rest of the operational period, which
would then be from April 18 to the end of the operational period which is June 30th, '66.

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

CHAIRMAN ZIEMER: Okay, April 19, the next day, yes, to June 1966, June 30th.

Motion?

MEMBER MUNN: Yes.

CHAIRMAN ZIEMER: Wanda, you're moving --

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

CHAIRMAN ZIEMER: Accept NIOSH's proposal.

MEMBER MUNN: -- accept NIOSH recommendation --

CHAIRMAN ZIEMER: Okay.

MEMBER MUNN: -- for that period.

CHAIRMAN ZIEMER: Second?

MEMBER POSTON: I'll second it.

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

CHAIRMAN ZIEMER: For which --

MEMBER BEACH: -- on the Petition 105.

CHAIRMAN ZIEMER: Yes.

MEMBER BEACH: This one shows --

CHAIRMAN ZIEMER: Which item is it?

MEMBER BEACH: It's Item Number 2, oh I'm sorry, Item Number 2, which talks about the year in question, which they're a little bit skewed but, and I'm only bringing this up for clarification because it says it's possible to reconstruct dose from the period of 1964 to 1966 following the suggestion by Dave Allen and James Neton of NIOSH with Robert Anigstein's concurrence. It doesn't
really give you a whole lot of information so I guess I want to refresh why we decided we could, just briefly, not huge.

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

MR. KATZ: Yes.

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

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

MEMBER BEACH: So we have 89 Landauer badges.

DR. ANIGSTEIN: -- we have the actual film badge reports starting from January 1st, '64. However, the film badge reports are cumulative so they say there were six prior weeks before that where we did happen to retrieve the record. But they show no significant, you know, everybody got minimal dose meaning below the readable level.
So there were no, there was nothing in those first six weeks, that part meaning the last six weeks of 1963. So that's the basis for that.

MEMBER BEACH: Okay.

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

Those film badges we've not been able to obtain because there was, I actually interviewed the president of that company and he, you know, 50 years later could not recollect who he bought the film badges from. So we don't have the real, but he simply made
the statement that they seemed to have their
act together. He does not remember any
unusual occurrences, any excessive exposures.
And we do have, for the same period, film
badge records of one worker, who was a
radiographer. So, you know --

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

DR. ANIGSTEIN: Yes, yes, right.

We actually have his record and we have the
statement of his previous exposure, which
Nuclear Consulting Corporation put together
based on, they simply say records. So they
presumably looked at some earlier records and
they assessed his exposure from the time,
beginning of his employment which was about in
'56.

So we have, from one person we
have that, so we have some, you know, evidence
and information. And again, modeling of the
actual exposure, say, based on this man's
testimony. He sat in this little room, he
walked out, set up the radium exposure, came back, it took him, he carried the radium shots at the end of the stick and I calculated what would be the dose to his body. And there were three different things that just came to, unusually, three different and totally independent approaches which came together or overlapped that we feel there is, well we're comfortable in saying there is a number there. And sometime they --

CHAIRMAN ZIEMER: I have a note here also.

DR. ANIGSTEIN: Pardon?

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

DR. ANIGSTEIN: Yes.

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

DR. ANIGSTEIN: Right, sure, sure.

CHAIRMAN ZIEMER: -- November of
DR. ANIGSTEIN: And they looked at the film badges of the Nuclear Consulting, right.

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

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

MEMBER BEACH: Right.

CHAIRMAN ZIEMER: What did you say, Wanda?

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

DR. ANIGSTEIN: Yes.

MEMBER MUNN: -- consistently low exposures.

DR. ANIGSTEIN: And those are
MEMBER MUNN: Yes.

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

CHAIRMAN ZIEMER: Which was higher.

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

DR. ANIGSTEIN: There was a big
difference.

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

MR. KATZ: John?

CHAIRMAN ZIEMER: -- John,
questions?

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

MEMBER POSTON: Can you hear me?

MR. KATZ: Now we can, yes.

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

MR. KATZ: Okay, thanks.

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

MEMBER MUNN: Yes.

CHAIRMAN ZIEMER: -- operational
period, the second part of the operational
period. All in favor, aye?
MEMBER MUNN: Aye.

MEMBER POSTON: Aye.

CHAIRMAN ZIEMER: Opposed?

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

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

DR. NETON: Yes, it --

CHAIRMAN ZIEMER: -- I don't recall.

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

CHAIRMAN ZIEMER: Yes.

DR. ANIGSTEIN: They based the, yes --
DR. NETON: TIB-70.

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

DR. NETON: That's right.

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

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

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

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

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

DR. ANIGSTEIN: I think they did look at it and said it was a lower -- that the
groundshine, or I guess you can call it, was
dlower than from that vacuum cleaner, so that
was the more limiting.

DR. NETON: Right.

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

MEMBER MUNN: Yes.

CHAIRMAN ZIEMER: Wanda?

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

CHAIRMAN ZIEMER: Is there a
second?

MEMBER POSTON: I'll second.

CHAIRMAN ZIEMER: Discussion?

MS. LIN: Dr. Ziemer?

CHAIRMAN ZIEMER: Yes?

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

CHAIRMAN ZIEMER: July 1st '66 --

MS. LIN: July 1st --

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

CHAIRMAN ZIEMER: 1966 --


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

MR. KATZ: DOE?

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

MR. KATZ: Was '93 a DOE?

MR. ALLEN: Yes.

CHAIRMAN ZIEMER: There's FUSRAP site remediation occurred in '93 but that's after --

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

MR. ALLEN: Yes, I think that was what was petitioned for and that's been a
source of uncertainty here with that '93 being a remediation because, I mean, if you worked there in '93, you weren't covered.

MS. LIN: Thank you.

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

DR. NETON: '92.

MEMBER BEACH: '92.

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

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

CHAIRMAN ZIEMER: Yes, yes.

MS. LIN: Thank you.

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

MEMBER MUNN: Aye.

MEMBER BEACH: Aye.

CHAIRMAN ZIEMER: John?

MR. KATZ: Dr. Poston, you may have put yourself on mute.
MEMBER POSTON: Can you hear me?

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

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

CHAIRMAN ZIEMER: Okay.

MR. KATZ: Okay, thank you.

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

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

CHAIRMAN ZIEMER: -- and what we did subsequently, remember that we took actions on, we closed a number of the items on the SEC petition and we transferred the others to Appendix BB. And so what I asked Bob to do, and I did a preliminary review of these
and gave him my comments and then he has gone ahead with that, specifically on the Issue 2, Issue 3, Issue 6, Issue 7, Issue 8, and Issue 9, those were transferred. There's six of them. And I tried to identify to him where I thought that they overlapped strongly with existing issues. And Bob went through and came up with, I think he just distributed it --

MEMBER MUNN: Yes he did.

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

And we had some where at the time, when we transferred them, we thought they were pretty close to closure but probably a little more discussion was needed. And I don't know that we're necessarily prepared to deal with these individually today, but I wanted to make sure, because we just got this document
yesterday. And we can actually go through it if you want and see if there's any of them that we wish to deal with right away or we can wait until the next meeting, but at least they're all in one place now and they are all considered Appendix BB issues, which means that we would deal with them together.

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

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

CHAIRMAN ZIEMER: They may go away
if they're --

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

MR. ALLEN: Yes.

CHAIRMAN ZIEMER: Right, right.

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

CHAIRMAN ZIEMER: Right, then those go away, right. So I'm sort of reluctant, since we have a Board Meeting coming up, I'm sort of reluctant to spend a lot of time on this today until we see what the Board's action is on the petition. And then based on that, we'd move forward. Otherwise we could spend a lot of time on issues which would turn out to be moot points. So, unless somebody feels an urgency to deal with anything on the findings issues today, but are you all clear now what was done on this? Any questions on that? Bob, would --

MEMBER BEACH: My only question would be on the matrix, the 105. Would we
just go ahead and close that out, update it, and we're done with that?

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

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

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

MR. KATZ: Helen talked about that, right?

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

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

CHAIRMAN ZIEMER: Yes, just so we --

DR. ANIGSTEIN: Okay.

CHAIRMAN ZIEMER: -- that's more of a correction I think, I would regard that.
So that just a revision of this update.

DR. ANIGSTEIN: Right.

CHAIRMAN ZIEMER: It's a revision

---

DR. ANIGSTEIN: Okay.

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

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

CHAIRMAN ZIEMER: No, but --

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

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

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

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

DR. ANIGSTEIN: Of the SEC matrix.

CHAIRMAN ZIEMER: Right.
MR. KATZ: Yes.

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

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

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

CHAIRMAN ZIEMER: Right.

MR. KATZ: Yes, yes.

DR. ANIGSTEIN: You may.

MEMBER MUNN: Thank you very much.

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

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

MR. KATZ: Electrons, extra electrons.

MEMBER MUNN: Far too many --

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

    MR. ALLEN: I plan on being there physically.

    CHAIRMAN ZIEMER: Yes, the social aspect.

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

    CHAIRMAN ZIEMER: In person?

    DR. ANIGSTEIN: In person?

    MR. KATZ: -- because you're hard to understand sometimes on the phone and this
is again, the whole Board is dealing --

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

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

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

   CHAIRMAN ZIEMER: Knoxville.

   MR. KATZ: It's in Knoxville.

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

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

   CHAIRMAN ZIEMER: And then --

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

   CHAIRMAN ZIEMER: And then also, on the agenda, and it's not clear to me whether Dr. McKeel will be there either by phone or in person to represent the petitioners because I don't understand the
DR. ANIGSTEIN: Since he resigned.

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

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

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

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

CHAIRMAN ZIEMER: -- for petitioners.

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

CHAIRMAN ZIEMER: Right, right.

So that would be the plan for the full Board presentation in December.

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

MR. KATZ: Right. Do we need Dave to make a presentation on the update or not?
CHAIRMAN ZIEMER: Well, I think a brief description of what the final, because we were focusing on this surrogate data thing.

MR. KATZ: Yes.

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

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

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

CHAIRMAN ZIEMER: Yes, just the
surrogate thing.

MR. KATZ: Yes, just the surrogate.

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

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

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

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

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

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

MEMBER BEACH: Well generally, final products are put out there so the Board
Members can review them, especially on the surrogate data issue.

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

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

DR. NETON: -- frankly where he's getting real close.

MR. KATZ: So the Board will have Dave's paper, the Board will have Bob's paper, and then Dave in his presentation, he can talk about the resolution that was addressed in this meeting, how that worked out. And I think that would take care of it. And Bob, if you're they're for questions, I think we'll be in good shape.

DR. ANIGSTEIN: Sure.

MEMBER BEACH: And some Board
Members, not all, but some may want to see the data. And if it was easier, because when I looked for it, some of those documents are 157 pages and to pinpoint the pages that were used, it would be helpful because I know I'd like to go back and review that again.

DR. ANIGSTEIN: Okay.

MR. ALLEN: I think our best bet on that maybe would be for me to go like that 150-some page document, pull the two pages out that we used.

DR. NETON: Put them out there on the drive.

MEMBER BEACH: That would be great.

MR. ALLEN: Put them on the drive separately as --

MEMBER BEACH: Yes, if you wouldn't mind doing that.

MR. ALLEN: -- that's easy, I can do that and I think Steve might have a problem if I try to just print it out and post it.
MEMBER BEACH: No, no, I don't expect that. Just the Board Members.

CHAIRMAN ZIEMER: No, it's got to be on the O: drive.

DR. NETON: It's getting pretty close to the meeting to start --

MR. KATZ: Well yes, right. If you send it to me I can also distribute those at least by email, to the Board Members and their CDC. That's all internal.

MR. ALLEN: Well, I think the issue was that DOE needed to review some of this stuff before it got --

MR. KATZ: Oh I see, okay, sorry. So I can't even email them.

MR. ALLEN: You should be able to post it on --

MEMBER BEACH: Can I make a suggestion? In the Advisory Board documents where you posted them for me, can you just make a file that says these are the pages? I mean that is simple and it's still on the --
MR. ALLEN: I think the easiest and the most above-board way would be for me to make a subfolder there, toss the full document in that, and then put the subpages only right where I got them right now for you. And then if somebody wants to see the full document they can, if they want to just zero in on the particular ones they can.

MEMBER BEACH: That would be helpful.

MR. KATZ: Okay, so if you just send me then the link, that would be great.

MR. ALLEN: Yes, right.

DR. ANIGSTEIN: I already put together, just for my own use during, you know, while I was working on this, and I have an excerpt of all the pages, all the relevant pages, in addition to a couple of the things that Dave didn't include, on the same sites I found other --

MEMBER BEACH: Well here's the deal. I used that, but going through it, it
was --

DR. ANIGSTEIN: No, I'm saying is, for instance, right now, I could put together --

MEMBER BEACH: Oh, you printed it out.

DR. ANIGSTEIN: -- about a 20-page file, with just the thing that you saw, I mean, you saw a couple of my excerpts, the actual data sheet, but also like the memo. In some cases, for whatever reason, the SRDB put together, there's a lot of stuff from different places.

And what I did was I printed out for myself and I put it in a separate file, the memo written by the field operative to his boss saying here's what we did, here's what we found, and then the data sheets are post, so typically it's two or three pages, you know, we went there, we visited, this is what they were doing. And then attached to that are the actual sheets from the -- from what I can
remember. All they do was they go in with something with a paper filter and a pump and take air sample. Then they send the filters to the laboratory which then prepares a report on what they measured. So that's why you have these data sheets. So if, I mean, I don't want, you know, if Dave is doing it, I don't want to duplicate or supplant what he's doing but --

MEMBER BEACH: Well, you have that electronically, right?

DR. ANIGSTEIN: Yes, of course I have it electronically.

MEMBER BEACH: So you could just send that to Ted also and Ted could decide if --

MR. KATZ: Well, I'm not clear on what can be released, so I think he needs to provide it to Dave and Dave can give me a single --

CHAIRMAN ZIEMER: Yes, let Dave do it so that it doesn't mess up with the DOE
MR. ALLEN: Yes, just send it to Dave.

DR. ANIGSTEIN: Okay.

MR. ALLEN: -- one way or another we'll make it clear. And if anybody has a better suggestion after you see it and you want it tweaked, just email me and I'll tweak it however you want.

MEMBER BEACH: And that will be perfect.

MR. KATZ: We'll let you handle that.

MR. ALLEN: Okay.

DR. ANIGSTEIN: I'll send it to Dave, with a copy to you. No?

MR. KATZ: Just go ahead, send it to Dave.

DR. ANIGSTEIN: Very good, okay.
MR. KATZ: That would be perfect.

CHAIRMAN ZIEMER: Okay, are there other items that we need to discuss today? Ted?

MR. KATZ: Not unless you want to schedule the next Work Group meeting for beyond the Board Meeting.

CHAIRMAN ZIEMER: Well, that would be the next step. But any other items that we need to discuss today?

MR. KATZ: No.

CHAIRMAN ZIEMER: Okay, we're going to have to go through the matrix, the findings matrix, also we have some other things on the horizon that we need to deal with.

MEMBER BEACH: I didn't know if you wanted to check with petitioners again for final comments or --

CHAIRMAN ZIEMER: Yes, well, we can do that, but where do we stand on the Simonds Saw, or not Simonds Saw, the one that
was transferred?

MR. KATZ: I think it is Simonds Saw, I thought we were calling right now. I couldn't tell you where we are right now, but I think we're at a point where the Work Group needs to take it up, whatever it is, I think it may be Simonds Saw.

DR. NETON: What's going on with Simonds?

MR. KATZ: The TBD review, profile review. We have a Site Profile review from SC&A, I think.

CHAIRMAN ZIEMER: It somehow ended up with us.

MR. KATZ: So it's a timing issue. It should be, yes, and we have a timing issue. I think I communicated with Dave about timing, I think.

MR. ALLEN: Really?

MR. KATZ: Yes, well, I've communicated with DCAS. I don't recall the status, but I think I'm supposed to be told at
some point, not you, what's her name?

MR. ALLEN: Sam?

MR. KATZ: Or is Laura involved perhaps? Laura or Sam.

CHAIRMAN ZIEMER: Well, Laura's doing Lawrence Berkeley.

DR. NETON: It would have been Sam, if anybody.

MR. KATZ: Okay. I communicated with someone at DCAS, and I think it's in the works.

MR. ALLEN: For some reason, I think it's an SEC petition, and I think it was a recommended add and I think it was --

MR. KATZ: Well that's all taken care of. That's done, this is a TBD, Site Profile.

MR. ALLEN: -- Work Group has ever seen any of it or --

MR. KATZ: No, so the Work Group hasn't dealt with it before.

MR. ALLEN: Okay.
CHAIRMAN ZIEMER: But SC&A has reviewed this.

MR. KATZ: SC&A has done a review and we need the Work Group to review the review and come to conclusions about the Site Profile.

DR. NETON: Before you do that, it sounds like DCAS needs to review the review.

MR. KATZ: And yes, and that's what I've communicated about with someone at DCAS, whoever was appropriate, I can't tell you.

CHAIRMAN ZIEMER: Yes, once that's done then the Work Group needs to address that also.

MR. KATZ: Exactly. And I've asked about timing. I'm not sure, I don't recall what the timing is there in getting a DCAS response, which is what we need for the Work Group --

CHAIRMAN ZIEMER: Okay, now are there any other Work Groups scheduled after
mid-January that we can piggyback so we can conserve time for people?

MEMBER BEACH: There's one in February 5th.

MR. KATZ: There's February, we have two Subcommittee Meetings. We have the Dose Reconstruction on the 4th and we have Procedures on the 5th.

MEMBER MUNN: Do we still have a teleconference scheduled on the 7th?

MR. KATZ: Yes, that's a full Board teleconference, right.

CHAIRMAN ZIEMER: But actually, if we did the 6th, that wouldn't work, Wanda, because you would be traveling on the 7th.

MEMBER MUNN: No, I'm trying to --

MR. KATZ: Right.

MEMBER MUNN: -- I'm not going to be very flexible.

MR. KATZ: And it gets to be difficult anyway once you have three days together, that's a lot.
CHAIRMAN ZIEMER: Right, yes, that's too much.

MR. KATZ: So we should probably look --

MS. LIN: Spending the whole week together would be too much?

MR. KATZ: All that love.

MEMBER MUNN: It really would.

CHAIRMAN ZIEMER: January going to be too early though.

MEMBER MUNN: I won't be traveling, I can probably get in on that.

MR. KATZ: Yes, Wanda, January is very difficult for Wanda.

MEMBER MUNN: But I can be on the phone after middle of the month, I guess.

CHAIRMAN ZIEMER: What about late February?

MEMBER MUNN: It's doable.

DR. NETON: That NCRP Meeting is the end of February.

CHAIRMAN ZIEMER: What?
DR. NETON: 22nd.

CHAIRMAN ZIEMER: 22nd?

DR. NETON: That is a Friday?

That doesn't seem right.

CHAIRMAN ZIEMER: That is a Friday.

DR. NETON: Oh no, that's my presentation to do, I think.

MR. KATZ: Okay, that was important to get on the record.

CHAIRMAN ZIEMER: What about like the 27th of February?

MEMBER MUNN: That's probably going to be okay for me.

CHAIRMAN ZIEMER: Josie?

MEMBER BEACH: What did you say, the 27th?

CHAIRMAN ZIEMER: Yes.

MEMBER BEACH: I'm actually tied up that week.

CHAIRMAN ZIEMER: Okay.

MR. KATZ: Is previously no good,
in February, is that the --

CHAIRMAN ZIEMER: 20th?

MR. KATZ: -- the week of the 20th?

CHAIRMAN ZIEMER: 18th, 19th, 20th, 21st, I can do any day.

MEMBER BEACH: 18th is a holiday.

CHAIRMAN ZIEMER: It is?

MEMBER BEACH: President's Day.

DR. NETON: 18th of February?

MR. KATZ: That makes sense, right.

CHAIRMAN ZIEMER: For some who are retired, every day's a holiday.

MR. KATZ: I didn't want to say that, but --

MEMBER BEACH: I'm good with the end of the week that week if that --

CHAIRMAN ZIEMER: 21st?

MEMBER BEACH: 21st, 22nd.

CHAIRMAN ZIEMER: How's the 21st, Wanda?
MR. KATZ: 21st of February?

MEMBER MUNN: Let's see, that was the 22nd? Yes, that would be okay.

CHAIRMAN ZIEMER: 21st?

MEMBER MUNN: Yes.

MR. KATZ: Okay, so next Work Group meeting will be February 21st?

CHAIRMAN ZIEMER: Yes.

MR. KATZ: John Poston, is that good for you?

MEMBER POSTON: Yes, I think so.

I'll have to make some arrangements. I'm sure I have class on that day.

MEMBER MUNN: On Thursday.

CHAIRMAN ZIEMER: Okay, 21st. It can always be changed if -- that's still subject to getting the documents.

MR. KATZ: Yes. But that's helpful actually to --

CHAIRMAN ZIEMER: Yes, to have a target date.

MR. KATZ: -- move the rest
forward, so --

CHAIRMAN ZIEMER: And that's okay with you, Bob?

DR. ANIGSTEIN: When is --

MR. KATZ: Well it may not be Bob,

oh, you'll need him for this.

DR. ANIGSTEIN: When is okay?

MR. KATZ: February 21st.

DR. ANIGSTEIN: I guess so.

MR. KATZ: Okay.

DR. ANIGSTEIN: I have a calendar on my computer at home, I don't have it here.

CHAIRMAN ZIEMER: Oh, okay, well check it when you get home.

DR. ANIGSTEIN: As far as I know it's okay.

MR. KATZ: Okay.

MEMBER BEACH: So is Simonds Saw our only other site for this Work Group, besides GSI? I thought we had another one.

MR. KATZ: There may be something --
MS. LIN: Lawrence Berkeley?

MR. KATZ: No, not --

CHAIRMAN ZIEMER: No that's different --

MR. KATZ: Bliss and Laughlin's the other site. I don't recall where we are with Bliss and Laughlin, but that may be --

CHAIRMAN ZIEMER: I think we're done with Bliss and Laughlin.

MR. KATZ: Okay, so then it would be I think.

CHAIRMAN ZIEMER: Then we had some transferred over to 6001.

MR. KATZ: Okay, so for the agenda for that meeting, in any event, we would have plenty to do on it.

CHAIRMAN ZIEMER: Well, we'll certainly do what we can on the matrix --

MR. KATZ: Right.

CHAIRMAN ZIEMER: -- depending on the outcome of the next meeting of the Board.

MR. KATZ: Right and then Simonds
CHAIRMAN ZIEMER: And start on the Simonds Saw.

DR. ANIGSTEIN: Was that February, what day of the week?

MR. KATZ: 21.

DR. ANIGSTEIN: Pardon?

MR. KATZ: It's a Thursday.

DR. ANIGSTEIN: Thursday, February 21, okay.

CHAIRMAN ZIEMER: Okay, I think we're ready to adjourn then. Thank you, everybody. Oh wait, hang on --

DR. ANIGSTEIN: We're going home?

CHAIRMAN ZIEMER: Well, we will in a minute. Let's see, John Ramspott, are you still on the line?

MR. RAMSPOTT: Yes, I'm on the line.

CHAIRMAN ZIEMER: Yes, do you have any other comments for us, John, today?

You've heard the outcome but, you know --
MR. RAMSPOTT: I heard the outcome, yes.

CHAIRMAN ZIEMER: -- we're still going through, we still have to go through --

MR. RAMSPOTT: I'm going to wait now, but I'll get a chance in front of the full Board.

CHAIRMAN ZIEMER: Right, right.

MR. RAMSPOTT: But a couple items that definitely got my attention, I guess, you guys totally skipped a '53 to '58 period where you have no information. I guess I just found that pretty unusual. And I guess the reason for that, according to SC&A was there was an individual that was there, I guess, the whole time, that was a safety officer and he kind of knew everything and said everything was fine. And I find that unusual too just because no one's every interviewed that person, I mean, I know that firsthand. No one's ever talked to him.

And I guess just the fact that you
can work with no information for a time frame, even though it was only five years, is pretty incredible. In my old business, I mean, I was in business for 40 years, I could never do that with a major account and hold any credibility with them. So I guess that's really all I had to say and I, disappointed to say the least, but that just kind of got buzzed by real quick, that real important time frame there where you have no information.

That was amazing.

CHAIRMAN ZIEMER: Okay, and John, again, remember the full Board is meeting and I don't know if, I'm assuming Dr. McKeel will be on board for that meeting, but you can fill him in on this one in the meantime.

MR. RAMSPOTT: Yes, well he's his own guy, he makes his own decisions on that so --

CHAIRMAN ZIEMER: Right, yes, right. Okay, good.

MR. RAMSPOTT: -- that's where
we'll have to leave it, I guess.

CHAIRMAN ZIEMER: Okay, John,

thank you.

MR. RAMSPOTT: Thank you.

CHAIRMAN ZIEMER: Okay, any other

items to come before us today? If not, we are

adjourned. Thank you very much.

MR. KATZ: Thank you everyone on

the line. Goodbye, John Poston.

(Whereupon, the above-entitled

matter went off the record at 12:16 p.m.)