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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ROCKY FLATS PLANT WORK GROUP

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WEDNESDAY
OCTOBER 28, 2015

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The Work Group convened via teleconference at 10:30 a.m. Eastern Daylight Time, David Kotelchuck, Chairman, presiding.

PRESENT:

DAVID KOTELCHUCK, Chairman
R. WILLIAM FIELD, Member
WANDA I. MUNN, Member
DAVID B. RICHARDSON, Member
PHILLIP SCHOFIELD, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
LAVON RJUTHERFORD, NOSH
TERRIE BARRIE, Petitioner
DANIEL W. MCKEEL
JUDY PADILLA

A-G-E-N-D-A

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

10:33 a.m.

MR. KATZ: Okay, well, why don't we get started with roll call since it's 10:30. I can circle back and ask for Bill again at the end of that. Since we're speaking of a specific site, when we're doing roll call, everybody speak to conflict of interest that's Agency-related, please.

And the agenda for the meeting and one document are posted on the NIOSH website for everybody's information under the Board section, under Meetings, today's date. So you can find the agenda and follow along.

So, let's begin.

(Roll Call)

MR. KATZ: Very good. Okay, so if everyone then would mute their phones. If you don't have a mute button, please press *6 except for whoever happens to be speaking at the time and press *6 again to come off of mute. And please nobody put the call on hold. Hang up and dial back

in if you need to leave for a piece.

And Dr. Kotelchuck, it's your meeting.

CHAIRMAN KOTELCHUCK: Okay. Well, actually, it's my meeting, but the first few reports are going to be by LaVon.

First, let's talk about CML update. We had a discussion with [identifying information redacted] the other day. I was on it. LaVon was on it. I don't know if anybody else was won the line. Well, some of the people, the staff people, excuse me, some of the SC&A people were on, and NIOSH. But I don't think any other members were on.

MEMBER MUNN: I don't believe I was aware of it.

CHAIRMAN KOTELCHUCK: Oh, well, hm.

MEMBER MUNN: I wasn't online.

CHAIRMAN KOTELCHUCK: Okay. Anyhow, LaVon, would you give us an update, a report? I know you don't have a formal written response because the meeting was just about a week ago, right?

MR. RUTHERFORD: Yeah, that's correct. And we have to go through a process with that interview where that interview will be sent to [identifying information redacted] to review to make sure that what we wrote down in the formal writings from the interview was what he intended or what he said.

We get agreement on that and then we'll actually issue the interview notes to the Work Group. So that does take a little while.

And basically what I'm going to be doing is giving an update on, okay, you know, get some background, giving a little briefing on the interview, what I can say about the interview. And then based on what we heard in the interview, where we're going to go from there.

As Dr. Kotelchuck and everyone else remembers, we did issue a report back in July on the Critical Mass Laboratory. We presented that paper. It addressed potential exposures to fission and activation products during the operations and D&D activities at the CML.

The paper modeled a buildup of fission and activation products. It focused on exposures from the post-1983 period. We focused that way because, as you remember, we're already in the SEC up through 1983.

SC&A reviewed the White Paper and everyone was basically in agreement with the modeled approach. The conclusion of that paper was that any external exposures would have been detected by the personal dosimeters. The bioassay program would have detected uranium and plutonium intakes, and the in vivo bioassay using gamma spec would have detected most fission and activation products, with the exception of strontium-90.

Our model concluded that no significant personal dose resulted from fission or activation products as a result of the criticality experiments conducted at CML.

After that presentation, [identifying information redacted], the associate research scientist at CML, spoke and had significant issues with the model that we developed. The main issues

with the model were the average power that we assumed, the 10 milliwatts, and the duration of the experiments. He had other issues, but those were the two main issues that were tied to our model.

Based on his comments, we committed to re-interview [identifying information redacted]. And as Dr. Kotelchuck mentioned, we had that interview on October 13.

I won't review the whole interview, but I will go over his main issues, or his main responses, because he provided those to us in an email before the meeting. We provided interview questions before the meeting and then [identifying information redacted] prepared responses ahead of time before the interview.

So, I will go over his main issues. Number one was no one can ever know the radiation levels at the CML. NIOSH cannot reconstruct radiation doses in Building 886.

Radionuclide intakes of workers at CML are likewise truly unknowable. And no one can even bound the neutron flux rates for the CML

experiment. And one watt is not an upper bound, nor is 10 milliwatts a lower bound to the power level.

So those four main issues, I mean, basically he was telling us that, in his opinion, that we could not, using our existing model, reconstruct the fission and activation products.

However, there were things that came out of the interview that we felt that we needed to pursue that may give us additional information to come to our final conclusion.

[identifying information redacted] indicated he sent 35 boxes of data information generated at the CML to Los Alamos National Lab. We have sent a data capture request to Los Alamos National Lab to retrieve those boxes.

We're hoping to find some more information on power levels, on anything that would help us to either make us feel comfortable with the model that we have provided, or give us additional information so that we can modify that model, if necessary. So we plan to look through those boxes

of supporting information.

Another thing is a number of workers -- through these interviews and through the discussions, we've been able to identify a number of workers who worked at the CML during the 1983 to 1989 period. We are working to retrieve their personal monitoring data to see what they were monitored for and their frequency.

Basically, we want to go back, look at their personal bioassay data, whole body counts -- or actually lung counts, I should say -- and other data to see if we have any indication of potential exposure that occurred there.

We are also attempting to retrieve data. If you all remember, the high-enriched uranium solutions were shipped offsite in the nineties. We are actually looking back to see if we can go to the site that the HEU had been shipped to to see if they had data from when it was received, you know, the activity concentrations for the solutions, or if they have any additional data from when it was processed at that facility.

An additional item that we are looking at is we're looking at criticality experiments conducted in the complex that may provide better information concerning fission and activation products.

Throughout the complex, there's a number of places that were doing criticality experiments. And so we're just looking at seeing if there's similarities that we can get from criticality experiments that were conducted at these other sites. Also, any fission and activation product levels that were generated by those experiments.

We did conduct an interview last week with a radiological control technician. And, again, I can't release the specifics of that interview, but I can say there is an issue that came out from that interview.

This individual worked in the post-1983 period up until pretty much facility closure. And if you remember, one of our premises that we had been working to is that there was little potential

for exposure to airborne contaminants and loose contamination based on the operations and routine monitoring that was occurring.

Basically, we had gone across the premise that there was little chance, based on how the operations were set up at the CML, there was little chance for internal exposures due to high airborne or contamination in the area.

This interview identified some issues with this. So, based on that interview, we're trying to retrieve -- we actually have some air monitoring data for the facility and we are looking at pulling in other area monitoring and air monitoring data to kind of validate what the individual had said, or bring that into question, whatever that may be.

And the individual provided some additional information, or some additional names for individuals, technicians, radiological control technicians that worked during that era. So we are also looking to interview those individuals.

So, I believe that the long pole in the tent for coming to a conclusion on this is pulling the 35 boxes at Los Alamos National Lab. I will be out at Los Alamos National Lab next week and kind of get a feel in-person of how quickly they think they'll be able to retrieve those boxes and give us a chance to take a look at them.

And obviously the Work Group and SC&A can attend when we review those boxes of information, as necessary.

So, once I get a better feel for when that data capture can occur, I can give you a better date on when we can have an updated report on the Critical Mass Laboratory. And that's about it on that issue.

CHAIRMAN KOTELCHUCK: Okay. I was listening to the conversation, the interview with [identifying information redacted] . He was suggesting that they never monitored the neutron flux as such, either inside where the criticality experiment was going on, or behind the protective wall. And I was curious about that.

First, am I correct in saying that, LaVon? Is that your understanding as well?

MR. RUTHERFORD: I think what he was saying was they had the log paper that could potentially identify the neutron flux -- could potentially be used. But, again, he had thought that -- he felt that that paper had been destroyed. And that was one of the things we want to look at when we go to look at those 35 boxes.

I think one of his other issues was that you couldn't estimate the radiation levels, both gamma and neutron, inside 886. But I think his point was it was inside the area because -- and, again, I don't want to get too much into the interview because he's got to make sure he's in agreement with what we're saying.

CHAIRMAN KOTELCHUCK: Okay. I mean, I assume that -- and, again, just correct me if this is your impression, okay? So let's not say what did [identifying information redacted] say, but what was your impression participating in the interview.

I mean, he did, I assume -- or put it this way, I assume that the folks were wearing badges who were working behind the protective wall. I mean, there was an area that was presumably hot near the criticality measurements.

But I got the impression that somehow people behind the wall were not -- were they wearing their badges? And don't we have them?

MR. RUTHERFORD: We do have some of them. And that's actually one of the things that we are going back to do a little more validation to. A number of individuals that we have their names that worked in the area, that worked at the CML during that period, we're actually going back to try to retrieve their personal monitoring data, both internal and external, to verify that they were monitored.

CHAIRMAN KOTELCHUCK: Okay. [identifying information redacted] suggested, though, that the log paper, running the straight line on the log paper, was a measure of relative neutron flux, but not of neutron flux itself. That

is, that suggested that they were moving toward criticality. That was my understanding, at least.

Again, we'll read more in the interview after the interview notes. And I'm actually glad. I was not aware that when we have an interview like this, not only is there a transcript, but that transcript is reviewed by [identifying information redacted] so we can make sure that he agrees this is what he said. And we agree.

MR. RUTHERFORD: Yes, that's lessons learned over a long period of time.

CHAIRMAN KOTELCHUCK: Yeah, yeah. No, that's very important.

I mean, you know, when you're dealing with criticality there are lots of -- I wouldn't say incidents -- well, lots of occurrences happen where you have, I assume, large flashes of neutron doses as things get hot or get near criticality.

It does seem to me it will be rather difficult to assess the neutron exposures there.

But let's wait. Certainly, we'll wait until we have the transcript, and then all of us

will be able to go over it, including [identifying information redacted], and we'll go on from there.

One last question. You said it'll take a while, of course, for the transcript to be typed out and sent to him for review. Do you have any sense of how long that might take? Are we talking about a few months?

MR. RUTHERFORD: I would definitely say it would be done within that time period.

Again, I think the thing that's going to take the longest is getting the boxes from Los Alamos National Lab and reviewing those.

CHAIRMAN KOTELCHUCK: You're right. Thirty-five boxes.

MR. RUTHERFORD: Yes. I don't suspect, because [identifying information redacted] provided a written response to the questions ahead of time, I don't suspect we'll have that much difficulty getting his interview notes squared away.

CHAIRMAN KOTELCHUCK: Right, right. I don't recall having seen his notes on the --

MR. RUTHERFORD: I forwarded them to you right before the meeting. The petitioner, Terrie Barrie, had sent them to us and I forwarded them to you to make sure that you'd gotten them. I think I sent it to your CDC.

CHAIRMAN KOTELCHUCK: Right, right. That's right. Well, I guess I remember now. You did indicate you had sent it. I had not seen it yet, given that it was sent relatively soon before the interview.

And I was a listener in the interview, not the interviewer, so I may not have gone back and found those and read them, and I will do that.

Okay. Any other questions about the Critical Mass Lab and the update by any of our Subcommittee members?

MEMBER MUNN: Not at this time, no.

CHAIRMAN KOTELCHUCK: Okay.

MEMBER SCHOFIELD: This is Phil. I've got a question.

MR. RUTHERFORD: Okay.

CHAIRMAN KOTELCHUCK: Good.

MEMBER SCHOFIELD: The Critical Mass Lab, do we know where and how these sources in particular were stored? You know, I mean, and particularly if they were missing the neutron exposure, I would assume their film badges would pick that up.

MR. RUTHERFORD: Yeah, you are correct, the badges we suspect would measure the neutron exposure inside the Critical Mass Laboratory.

We have a pretty good history of when material was brought into the Critical Mass Laboratory. And during the '83 to '89 period, or '87 when they actually stopped operations, we know what was stored inside the facility at that time.

CHAIRMAN KOTELCHUCK: Okay, good. Any other questions, or any of the NIOSH or SC&A folks? Okay.

So, next, LaVon, again, we're going to ask for you to talk to us about your response to the petitioner's paper on data falsification.

And those are, let me see. There was

a letter, a fairly detailed letter by Terrie Barrie, who's on the phone, and also [identifying information redacted]. And there was perhaps another one from Ms. Padilla.

MR. RUTHERFORD: Actually, Ms. Padilla is the petitioner on a different Rocky Flats petition. That's SEC-227.

CHAIRMAN KOTELCHUCK: Okay.

MR. RUTHERFORD: Now, I can talk about Ms. Barrie's and [identifying information redacted] White Paper.

CHAIRMAN KOTELCHUCK: Okay.

MR. RUTHERFORD: Alright. And what I had really wanted to do was actually have a formal response written, but we haven't finished that yet. And I didn't want to send that out, you know, two days before the Work Group meeting and not give people time enough to review it.

CHAIRMAN KOTELCHUCK: Right.

MR. RUTHERFORD: So again, Terrie, on September 19th, the petitioners provided a formal response to our White Paper on data falsification

and validation. The response was sent to the Work Group, NIOSH and others.

The petitioner's paper identified a number of concerns with NIOSH's paper and conclusion. And we assumed -- since it was sent to the Work Group and others, we assumed that we were expected to respond to that. And so we are working on that formal response, as I mentioned.

It is in internal review at this time. However, I couldn't get it out. I kind of set a deadline of at least a week before the Work Group meeting to get it out. And if I couldn't meet that I wasn't going to send it out.

CHAIRMAN KOTELCHUCK: Well, I appreciate that, because we have had problems before sending out materials at the last minute. And people were rightfully upset that they didn't have a chance to review things before.

MR. RUTHERFORD: Right. I can say, though, I want to say that -- I can generally say that our conclusion from the paper is the same. That paper will be out very soon, next week I hope,

or shortly thereafter.

But we didn't feel that there was new information that would change our current prediction that there's personnel monitoring data for the time period of concern to allow for dose reconstruction.

So, I know we'll discuss this at a later Work Group meeting once the paper is out, but I will say, in general, I don't feel our position is going to change.

CHAIRMAN KOTELCHUCK: Okay. Well, the petitioners who -- at least Terrie Barrie, who's on the line, will have time for comment later at the end of the session. But will there be any revision of the White Paper that has already gone out? On data falsification.

MR. RUTHERFORD: I'm glad you brought that up. Yes, there will. We are going to there were some general conclusions that we made in that paper. We corrected one of those general conclusions.

We made that conclusion based on -- it

wasn't a conclusion that we had hard facts to come to, and came to a conclusion. However, it kind of looked like that it was a biased conclusion. So we removed one of those. And then everyone will remember that one of the interviewees identified the destruction of personnel monitoring records.

CHAIRMAN KOTELCHUCK: Right.

MR. RUTHERFORD: We made a conclusion, based on our other interviews, our information we had, the fact that we had personnel monitoring data.

However, that conclusion -- we shouldn't have made that conclusion. We shouldn’t have made the conclusion that it was field surveys and not personnel monitoring data. We weren't there when that interviewee destroyed those records so we can't make that conclusion.

CHAIRMAN KOTELCHUCK: Very good. I strongly agree with you that the comment about field surveys in the paper, on page 14 actually, I didn't believe there was evidence for that.

That may have been, but it may not have

been. And there now appears to be, based on the [identifying information redacted]-Barrie letter, some additional information about materials that were destroyed, or records that were destroyed.

But, anyway, you'll address that in both the revised White Paper and the paper that's coming out soon.

MR. RUTHERFORD: Correct.

CHAIRMAN KOTELCHUCK: Okay, that's good. I'm very glad to hear that.

Okay. Well, do other people have any comments, other Working Group members or staff? Since this is a Working Group meeting.

MEMBER MUNN: No, not until the investigation is complete.

CHAIRMAN KOTELCHUCK: Okay. Moving right along rather rapidly, but that's fine. Onto Item 3, response to petitioner's concern with cobalt-60 sources. And LaVon, again I'm turning to you.

MR. RUTHERFORD: Okay. As Dr. Kotelchuck had mentioned, the petitioner did have

a concern with cobalt-60 sources. The petitioner provided us a file with over 287 pages of information that was retrieved from a FOIA request.

A little background. As most of you know, a cobalt-60 source is typically used for industrial radiography, calibration, leveling, thickness, and to check sources for instruments.

Cobalt-60 releases two high-energy gammas when it decays. Because these high-energy gammas -- when you have a higher curie content of cobalt-60, because of these high-energy gammas you have a higher radiation field. And so they typically are contained within a shielding device.

And as with other sealed sources, they are not an internal exposure concern unless they leak.

So, typically, sites that have sealed sources, or sources inside of lead containers, or different containing devices, shielding devices, they will do leak checks on those.

A leak check is done with a smear, with these little dip smear where they'll smear the area

around it, and then they'll take those smears to a low-background area. Because if they're smearing for beta gamma, looking for a leak of the beta gamma source, if there's a high beta gamma background exposure you can't read those smears in that area. So you will take it to a low-background area to read it.

So, that's just giving you a little feel on that. So, typically, a source in that manner is not an internal exposure hazard. However, they do do leak checks to look for that.

So as the petitioner notes, there were two sources. The first source was stored inside a cabinet in Room 125. The room did contain other sources, based on our review of the other documents. So it could have been a check source, but there's not enough information to conclude what --

CHAIRMAN KOTELCHUCK: Excuse me just a second. You said Room 125.

MR. RUTHERFORD: Correct.

CHAIRMAN KOTELCHUCK: In what

building?

MR. RUTHERFORD: Shoot, I can't remember now. I don't have that written down.

CHAIRMAN KOTELCHUCK: Okay.

MR. RUTHERFORD: Yeah, I can get that information for you.

CHAIRMAN KOTELCHUCK: If you would, yeah.

MR. RUTHERFORD: So, anyway, so we don't know the exact size of that source. But the source was found in Room 125.

The other source was a 600-curie, very large source. It was inside a Gammacell 220 irradiator. And the documentation that was sent to us, most of it was a work package that was put together to remove this large cobalt-60 source and all the steps that were going to take place to remove it.

So, the petitioner's concern was a statement dated 7/6/1999 and found on page 196. Direct readings were not taken due to very high background from the presence of a 60-curie

cobalt-60 source located inside the Gammacell 220.

So, as I noted earlier, direct beta gamma readings for contamination in the presence of high-background radiation cannot be performed. High-background radiation will interfere with the ability to directly measure contamination levels for beta gamma.

So, if we were going to look for loose and fixed contamination, which is typically what a lot of surveys will incur, you're doing a fixed contamination survey. That would mean you would have to measure whatever you're doing the survey on directly.

And in this case you cannot measure it directly because the background is too high, it gives you too much interference.

So, looking for the loose contamination, we can look for that. We can measure that through smears. And what they would do is, as I mentioned, they'd take a smear and then take it to a low-background area and count the smear.

Now, if you look at the survey that was taken, it indicated that the readings were less than 130 dpm per 100 centimeters squared.

And the concern was, well, okay, and the petitioner had mentioned, that it appeared to be that there was detectable contamination.

But less than 130 dpm per 100 centimeters squared, that meant that there was -- the 130 dpm per 100 centimeters squared is the minimum detectable level for that instrument that they were using.

So, there was no detectable contamination actually found in the survey taken. But when they record the data, they record it based on the actual detection level of the instrument. So that's why it indicated that it was less than 130 dpm per 100 centimeters squared. And it also appeared that that survey was actually a leak check survey on that irradiator and source.

The petitioner further pointed out that a large job review narrative dated August 11th, 1999, had preliminary contamination surveys

outside the source cask of less than 20 dpm per 100 centimeters squared removable, and less than 45 dpm per 100 centimeters squared.

So, petitioner was concerned with the difference in the contamination levels between the two surveys.

So, those measurements, the less than 20 dpm per 100 centimeters squared and the less than 45 dpm per 100 centimeters squared, those are alpha contamination, not beta gamma. So those were completely different surveys that were taken.

The other contamination survey, like I said, was beta gamma. This one was alpha. You know it's alpha because of the alpha symbol that's on the top of the table of the survey.

And, again, by saying less than that level, that is less than 20, 20 is the minimum detectable activity that they can see by the method that they were using. So that's how you would record that.

So there was actually no detectable alpha activity. And in reviewing that survey,

that survey was actually a room survey that was taken in preparation for removing the source.

So, what they were looking for in that case, they weren't necessarily looking for the leak from the cobalt-60 source. They were looking at any residual plutonium or uranium that may have been in the area that had caused the area to become a contamination area, or that when they removed that source it could generate a high airborne.

So, again, they did not detect any activity on that survey. So in our review of the documents, we don't see any unusual exposure concern, or any potential exposure from removing that cobalt-60 source, or any indication that that source was leaking. And our review of other documentation in our Site Research Database has given us no concern as well.

And that's all I've got on that.

CHAIRMAN KOTELCHUCK: Okay. I have no comment. That's helpful and clear to me, at least. Are there other folks wanting to comment? Again, staff or Working Group members?

MEMBER MUNN: No. LaVon's explanation is quite clear and extremely reasonable. Those sources are a thing about which any worker that works anywhere near them is certainly aware. There was a reasonable amount of attention paid in all cases to any movement of those capsules. So certainly everything that has been related so far is in accordance with activities surrounding those sources as we know them.

CHAIRMAN KOTELCHUCK: Okay, good, good. Thanks. So, any other? Well, we were asked by Dr. Melius to give a presentation at the November Board meeting. Excuse me, first, the Working Group discussion toward recommendation. I was thinking, as we made this up, that we would be moving toward a decision more quickly than will be the case.

If it will take us a period of weeks to months to finish the transcript and get approval for that with [identifying information redacted] and the CML concern will remain, I don't see that it's reasonable to move toward a recommendation or

discussion for a recommendation at this point.

I believe that when that is finished, I believe the group should be able to move toward making a recommendation to put forth before the Board. This means, clearly, that we're not going to make a recommendation for the November meeting, which actually I guess I did suspect before we wouldn't finish. I thought there was a possibility of completing the discussion today, but that's not the case.

And so I was asked, on Item 5, to give a presentation at the November Board meeting, which I plan to do. And I think what I will do, if folks are open, is I will prepare something and send it to the Working Group members for your input and advice.

This is the end of October, toward the end of October, so I'll have to do that in the next week or two, give you folks at least a week. So I will have something to you certainly, I guess, by the end of the first week in November. And I'll send that around to you and make a presentation at

the Board meeting.

But I don't see that there's any useful discussion of 4 and 5 at this point. But I would wonder if other Working Group members had thoughts about that, or about a path forward and presentations. Are there suggestions, or concerns, or issues?

MEMBER MUNN: Not here, Dave. This is the dilemma that we always find ourselves facing. We want to be thorough, but in order to be thorough time passes. And there's always more time passing than usual.

And, of course, we will be pilloried in the press for that, but that's to be expected. It's been the course of action for the last 10 years, and so it seems to me to be the side on which we have chosen to err, and I think appropriately so.

I can't see that your report would need to be particularly lengthy, but it certainly is advisable, from my perspective, to follow through on the comments that LaVon has made and the

information we've received today. I think it's reasonable to update that, but I can't see that we could actually propose anything else to the Board at this time.

CHAIRMAN KOTELCHUCK: Yeah, I agree on that. We can't make a proposal.

Actually, it was at our last Working Group meeting that for the first time I was aware of [identifying information redacted] presence and concerns. And so that was not something that several meetings ago I was aware that would be an important issue, but it is and we have to be thorough.

And that's just going to take a little bit more time. But certainly important issues were raised there. And Lavon and others have moved promptly to have an interview with him, and then of course we now have 35 boxes of records to consider. So, those certainly need to be gone over. And that will take a lot of time.

So, things are delayed somewhat, but in an important area.

MR. KATZ: Dave, this is Ted. Just to give you a hard deadline, we need the presentations by no later than, I would say, the 12th.

CHAIRMAN KOTELCHUCK: Good. Okay. So noted.

MR. KATZ: And if you would copy me and then I'll make sure that the staff on both SC&A and NIOSH staff can see your draft presentation too.

CHAIRMAN KOTELCHUCK: Excellent. Okay, very good. I will do that.

MR. RUTHERFORD: Dr. Kotelchuck? This is LaVon. I can also provide you just a history of some of the background for the issues that we've worked over the period of time, if you want to use that in your presentation.

CHAIRMAN KOTELCHUCK: That would be most helpful and I would appreciate that. So, this will be my first presentation certainly as Chair of this Work Group.

Okay. Thanks. And now Item 6, petitioner's comments. And Ms. Barrie is on the line, Dr. McKeel, and Ms. Padilla. Do any of you

wish to speak now? You're most welcome.

MS. BARRIE: Hi, Doctor. This is Terrie Barrie. And I really don't have a whole lot to say. I appreciate the update.

I would like to give just a little bit of background on the cobalt. This has been an issue that I've heard from a former worker who was there when the unit was removed. And she said that there was a very high reading and she wasn't badged for it.

And I was wondering if NIOSH could maybe take another look through their records possibly to see, besides what I have. I mean, it took me years to get this information to see if there's any other readings on that. Because she was told to stand back because the readings were so high. That's her words.

And I do appreciate the thoroughness. My position and [identifying information redacted] position is that NIOSH cannot reconstruct dose. And we've laid out all the various reasons.

But I do appreciate, and I'm not

faulting how long it's taking. I'd much rather have a thorough investigation, and hopefully the conclusion that there's issues that are questionable and that the SEC be expanded. So, that's all I have to say for now.

CHAIRMAN KOTELCHUCK: Okay. If you have concerns that a person was not badged, I assume that that cannot be checked without LaVon certainly knowing who was supposed to be badged. Or put it this way. You'll be talking with LaVon if you have any information more detailed. Obviously, you can't check for badges if you don't know the person or persons.

Although maybe there are a group, if you can give a time on that, when it was actually -- we probably -- or LaVon probably knows the time when the cobalt-60 source was removed.

MS. BARRIE: Yes.

CHAIRMAN KOTELCHUCK: So, if you send him a note, just to say when that was, and he will certainly look at it.

MS. BARRIE: Okay, and I also know the

worker's name and I'll ask if she wants to be interviewed. If that's okay.

CHAIRMAN KOTELCHUCK: Well, in a sense, I'll leave it to LaVon and the staff there to decide whether they want to actually hold a formal interview or kind of how to proceed on that.

So, I don't want to say yes or no because I really don't -- I would say that the administrative responsibility on that is LaVon's. Is that not right, LaVon?

MR. RUTHERFORD: Yes. Terrie, you can get in touch with me and we'll work out a path forward.

MS. BARRIE: Okay, I will.

CHAIRMAN KOTELCHUCK: Good. So, any other comments from the other folks? Dr. McKeel and Ms. Padilla?

DR. MCKEEL: This is Dan McKeel. I was just listening about the cobalt-60. And I guess my only comment on LaVon's report is, you know, it seems to me if you're investigating a 600-curie source my question about all such sources is -- it's

maybe a little bit of an extension of the petitioner's concern -- but is there any record kept of that particular source and the series of leak tests?

You know, that would be more convincing and persuasive if that source had never leaked. And I believe that for all those sources there's a requirement in OCAS-IG-003 to actually measure and record the output of those devices for the external gamma and include that in the dose reconstruction process.

And I understand that you make the blanket statement that everybody exposed to that source has a film badge and so forth, but I wonder if you really can identify those individuals. And if not, you need to identify the source term certainly more conclusively than what I just heard.

And, you know, I'm talking about were there any accidents, were there any incidents with that, and so forth.

So, as far as it goes, it sounds like at some time point there was no leakage and no

exposure at some time point when it was being removed. But I'm sure that source, that huge source, was there and in use for probably years.

So, it seems to me that this is one of those investigations that's certainly directed at the petitioner's concern, but it's not very extensive, exhaustive, or conclusive overall as far as what exposure there was from a 600-curie source.

CHAIRMAN KOTELCHUCK: Well, there of course will be a transcript of this discussion. And that will be on the record. I don't know if --

DR. MCKEEL: I do have a question about that; that actually is a question. You use the term there will be a transcript of the interview.

CHAIRMAN KOTELCHUCK: Yes.

DR. MCKEEL: And my idea of a transcript is a verbatim transcript. And I am not aware of any interview that I've ever seen, at least in the sites that I'm familiar with, where there's an actual verbatim transcript.

Most of the time what gets released is what I would call an interview summary. And that's really quite a different thing. That's somebody else's rendition of what was asked and answered.

MR. RUTHERFORD: Dr. McKeel, that is correct. It is a summary, but that summary is sent to the interviewee. It's reviewed by the interviewee to verify that they agree with what was said.

DR. MCKEEL: That's correct, but it's not, technically speaking, a verbatim transcript, right?

MR. RUTHERFORD: Technically speaking, it is definitely not a verbatim transcript, but don't ad lib on what it is.

CHAIRMAN KOTELCHUCK: You're talking now about --

DR. MCKEEL: I said it was a summary and you agreed it was a summary.

CHAIRMAN KOTELCHUCK: You are talking about not the discussion that we're having right

now for the Working Group meeting, but you're talking about the interview with [identifying information redacted]. Is that correct?

DR. MCKEEL: Correct.

CHAIRMAN KOTELCHUCK: I see. And that is a summary. Okay. Then LaVon certainly knows.

LaVon, that summary, I assume after it is reviewed by [identifying information redacted] to make sure that he agrees that that is what he said, that will then be a public document, will it not?

MR. RUTHERFORD: It is maintained in our records. Obviously, anything that's released has to be gone through Privacy Act to ensure that any Privacy Act information is not released.

CHAIRMAN KOTELCHUCK: Oh, yes. And certainly for that Critical Mass Lab privacy and confidentiality issues are certainly important. So, that is to be determined based on the transcript that's agreed upon. Right? The summary that's agreed upon, mutually agreed upon.

MR. RUTHERFORD: Correct.

CHAIRMAN KOTELCHUCK: Okay. Alright. Have you finished, Dr. McKeel?

DR. MCKEEL: Yes, I am. Thank you very much.

CHAIRMAN KOTELCHUCK: Okay. Alright. And Ms. Padilla, since you are on the phone, and I certainly saw the material that you recently sent us and was sent out to the Board as you requested. But do you have any comments you wish to make now?

MS. PADILLA: No, I don't have any comments to make at this time. I don't agree with everything you said, but I also don't agree that you have the right to say them. I'll reserve my comments now for the Board meeting in November.

CHAIRMAN KOTELCHUCK: Okay. Right, okay. Okay, thank you.

MEMBER SCHOFIELD: Dave, this is Schofield. I've just got one comment on those sources. I would assume that we have some kind of documentation that talks about how they were manufactured, were they double- or triple-encapsulated and stuff?

Point being, that gives you a little more confidence about whether they're leaking or not based upon their age and time when they were manufactured and, you know, whether they were encapsulated in stainless steel. You know, that would be a concern of leakage. But if they're like triple-encapsulated and they're only five years old then you probably wouldn't be -- any contamination on it was probably picked up from somewhere else in the lab. That's something we need to also know.

MR. RUTHERFORD: Well, we do have detailed drawings on the 600-curie cobalt source and the irradiator that it was enclosed in.

MEMBER SCHOFIELD: Okay, that answers my question.

CHAIRMAN KOTELCHUCK: Yeah, good, good. And, of course, presumably there is documentation on the leakage, on the check for leakage.

MR. RUTHERFORD: I'm going to see if we have additional leak check surveys that were done

in the past on this. It is a routine frequency item that's done, as Dr. McKeel knows.

And we will see if we can generate some of those, or see if we can come up with some of those, if those records were maintained, or if we have them on file.

CHAIRMAN KOTELCHUCK: Okay, good, good. I think this is perhaps a little shorter meeting than we sometimes have, but we've dealt with the matters before us. And we have a little bit longer timeframe now to look at before we make recommendations, but we are certainly moving toward that in a while.

Then I think we are finished at this point. Is there any -- let's see. Ted, do we need to think about another Working Group meeting after the Board meeting? Or maybe I should be in touch with Lavon as his materials come out and then make a determination in the next couple of weeks.

MR. KATZ: Yes, Dave, I think we need to get a schedule from LaVon first to when he'll have wrapped up that follow-up work that he

discussed.

CHAIRMAN KOTELCHUCK: Right. Okay.

MR. RUTHERFORD: I should be able to come up with a pretty good schedule on that next week when I'm out in Los Alamos.

CHAIRMAN KOTELCHUCK: Well, very good. And actually we'll have a chance to talk, Board members, I hope all of us will be there at the Berkeley meeting, or at least on the conference call. And so we might have a chance to find out a mutual date for an upcoming meeting there.

Okay. Then I believe we are concluded and I want to thank everyone who was on the phone.

Thank you, LaVon, for being the lead speaker on most of the items on today's agenda. And thank you all for participating.

(Whereupon, the above-entitled matter went off the record at 11:29 a.m.)

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