

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

+ + + + +

MOUND WORK GROUP

+ + + + +

FRIDAY
AUGUST 31, 2012

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The Work Group convened telephonically at 1:30 p.m., Eastern Daylight Time, Josie Beach, Chair, presiding.

PRESENT:

JOSIE BEACH, Chair
BRADLEY P. CLAWSON, Member
PAUL L. ZIEMER, Member

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ALSO PRESENT:

TED KATZ, Designated Federal Official
ROBERT BARTON, SC&A
MEL CHEW, ORAU
JOE FITZGERALD, SC&A
KARIN JESSEN, ORAU
JOHN MAURO, SC&A
ROBERT MORRIS, ORAU
JIM NETON, DCAS
L. MICHAEL RAFKY, HHS
BILLY SMITH, ORAU
DON STEWART, ORAU
JOHN STIVER, SC&A

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

2 1:32 p.m.

3 MR. KATZ: This is the Advisory
4 Board on Radiation and Worker Health Mound
5 Work Group, and let's do roll call.

6 (Roll call.)

7 MR. KATZ: So, then, the agenda
8 for this meeting is posted up on the site
9 along with the one paper that is being
10 discussed, which is a paper prepared by NIOSH
11 in response to a set of issues prepared at the
12 last Mound Work Group meeting.

13 And, Josie, it's your call. Let
14 me just remind everyone when you are not
15 speaking, please mute your phones. If you
16 don't have a mute button, press *6 and then
17 press *6 again to come off of the mute. And
18 please don't put the call on hold at any
19 point, but dial back in if you need to leave.

20 Thank you.

21 And it's yours, Josie.

22 CHAIR BEACH: Thanks, Ted.

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1 So the main focus of this meeting
2 is the tritides and, of course, as Ted
3 mentioned, the tritides paper that came out on
4 August 22nd.

5 It's a two-hour call. If we have
6 time, NIOSH was just going to report out on
7 the 83.14 that will be discussed at the next
8 Board meeting and then just a quick status on
9 the profile issues that we discussed in our
10 June meeting.

11 Jim?

12 DR. NETON: Yes?

13 CHAIR BEACH: On the tritide
14 issue, if you remember, there were four items
15 --

16 DR. NETON: Yes.

17 CHAIR BEACH: -- covered under
18 tritides. And, Jim, I'll let you go ahead and
19 go over your paper, if you would.

20 DR. NETON: Sure. Yes. I will be
21 happy to provide a summary. Everyone should
22 have a copy of the paper that was issued, I

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1 think, August 22nd. It was fairly narrow
2 focused. It addressed the four issues that
3 were raised at the Working Group meeting on
4 June 5th.

5 I looked, and a copy of our
6 responses is also out on the website. If
7 people don't have access to them, they are
8 available under the Mound Working Group
9 meeting scheduled for today.

10 So the first issue was to address
11 the treatment of uncertainty in the tritide
12 model, which included a couple of things. One
13 was the use of the 50th percentile versus the
14 95th percentile in the distribution and also
15 to address some of the ranges of uncertainty
16 that SC&A put forth as possible issues to what
17 are the upper bounds of the exposures.

18 The first issue that I'll say, you
19 know, we have changed our position, as I
20 indicated at the last meeting, on how we're
21 going to use this tritide model. And the
22 intent now -- and I think it is fairly clearly

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1 indicated in the paper -- is to use the 95th
2 percentile of the distribution of the smear
3 samples.

4 So that's what we're doing. So we
5 don't have to worry about the discussion of
6 the 50th versus 95th. We're just going to use
7 the 95th. And, actually, we're going to use
8 the 95th because it takes care of some of the
9 issues regarding uncertainty.

10 There are some of these
11 uncertainties that we just can't get our
12 complete hands around. So that we'll just go
13 with the upper values.

14 I would say that if the model is
15 accepted. The uncertainty of what values are
16 actually used in the input model, in my
17 opinion at least, do become Site Profile
18 issues. I would like to talk about a couple
19 of the issues that SC&A raised regarding
20 uncertainty. That was their main conclusion,
21 that the two drivers in the dose calculation
22 that impact the upper limit were the choice of

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1 the resuspension factor that we chose and the
2 use of the dose conversion factor.

3 I went back and looked at the
4 NUREG/CR-5512, regarding the resuspension
5 factor. And at one point, SC&A was suggesting
6 that we increase the value of the resuspension
7 factor because it is not appropriate, increase
8 it by a factor of five, because it was not
9 based on removal data but on surface
10 contamination measurements.

11 In my review of that document,
12 though, the parameter was assumed to describe
13 loose contamination. And that's the 5 times
14 10⁻⁵ and that the licensee could use a factor
15 less than that if it's less than that at their
16 facility.

17 The other point I would like to
18 make regarding the resuspension factor is that
19 we are applying what I would call a chronic
20 resuspension factor versus an acute
21 resuspension factor. And, in doing so, we
22 will assume that a worker has been in an

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1 environment with that resuspended material for
2 their entire work year, not just the times
3 when they are there.

4 So the material is not only
5 resuspended on a continuous basis but that the
6 worker is continuously in that area. We think
7 that that justifies the use of the
8 resuspension factor, particularly considering
9 that we're using the 95th percentile value.

10 That briefly summarizes what we're
11 trying to say in response to 1). I don't know
12 if we want to stop after each point and
13 discuss.

14 CHAIR BEACH: Yes. Jim, this is
15 Josie again. Yes, let's stop after each point
16 and let SC&A weigh in and any questions from
17 the Board Members.

18 MR. FITZGERALD: Yes. You know,
19 this is Joe. I think John may want to comment
20 on the resuspension issue. That was one that
21 he spent some time thinking about.

22 But yes. I think the Work Group

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1 has to remember the context of the concern
2 that we raised when we raised the question of
3 uncertainties. You know, this was during the
4 almost year-long debate over exposure
5 potential, and certainly was some concern that
6 -- certainly it seemed like there was some
7 question about whether it was negligible or
8 not.

9 And the context of raising these
10 parameters is that the value that one can
11 derive is going to be variable to some extent.

12 And that was an argument for being careful
13 about ascribing negligibility to something
14 like that, but it has been made moot certainly
15 by the last Work Group meeting, where it was
16 pretty clear that, as Jim pointed out very
17 much in the last meeting, that this is clearly
18 a dose reconstruction methodology. There's no
19 question there's exposure potential. And
20 certainly one can take that as the context of
21 dealing with these uncertainties.

22 At the time, though, the concern

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1 was you had these uncertainties and
2 theoretical model, but, yet, we're questioning
3 the use of that model as a basis for whether
4 exposure took place.

5 So, anyway, I just wanted to make
6 sure that backdrop -- you know, we had a
7 yearlong discussion. And we arrived at this
8 discussion with certainties in that context.

9 John, you might want to say a few
10 words, I think, on the resuspension factor. I
11 know that was your specific --

12 DR. MAURO: Yes. I would be glad
13 to. I am fine with Jim's answer. The reason
14 I feel that his position is reasonable is
15 really, I brought up this question of
16 removable versus total.

17 Since you're taking swab samples,
18 in effect, what you are really measuring in
19 terms of dpm per meters squared is the
20 removable contamination and not the total
21 contamination.

22 So I mean, in principle, one could

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1 argue, well, since you're looking at the
2 removable contamination -- and all of the
3 literature on resuspension factors, well, is
4 primarily based on -- well, it's based on,
5 really, a lot of data, some of which was
6 removable and some of which wasn't. So I want
7 to just raise that as an area of possible
8 sensitivity.

9 However, in the grand scheme of
10 things, 5 times 10^{-5} is a great number. And,
11 as Jim pointed out, especially if you're going
12 to assume that it's operating at that level
13 continuously and you're working at the 95th
14 percentile on the smear data, so, as far as
15 I'm concerned, I withdraw that comment. And I
16 agree that the number of 5 times 10^{-5} , which I
17 believe is a value that has been adopted in
18 the new approach, is certainly adequately
19 claimant-favorable.

20 CHAIR BEACH: Okay. This is Josie
21 again. Thank you, John.

22 Board Members, any

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1 comments/questions?

2 MEMBER CLAWSON: Josie, this is
3 Brad. I just had one question. I was kind of
4 getting a little bit confused of who was going
5 to get this and who wasn't. In NIOSH's
6 proposal, is it everybody that is going to get
7 this or is it -- because I remember we were
8 cutting out certain individuals that -- the
9 so-called ones that we knew had gotten an
10 awful lot -- who is this going to be put
11 towards?

12 DR. NETON: Brad, this is Jim.
13 The idea, the concept, is that workers we know
14 were directly manipulating the source
15 material, their urinary bioassay results would
16 be treated as if they had inhaled highly
17 insoluble tritide, SMTs. And so they would be
18 provided a very high lung dose primarily.

19 MEMBER CLAWSON: Okay. So this
20 would be one that would have the tritium
21 bioassay or have you talked in just 11 or 12
22 that were working directly with this all of

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1 the time?

2 DR. NETON: No. The ones who were
3 working directly with material would be
4 assumed to have inhaled tritide, a stable
5 metal tritide.

6 The other workers, who were on
7 tritium bioassay because if you work in the R,
8 one-quarter of the R building or the SW
9 building, you were on a routine tritium
10 bioassay program, those workers who have
11 tritium bioassay would be assigned the dose.
12 We would use the resuspension model from the
13 smear data and assume they inhaled tritides
14 from that source term or we would look at the
15 bioassay data and see what the dose would be
16 if they just inhaled soluble material and
17 picked the higher of the two scenarios.

18 But the bottom line is anyone who
19 was monitored for tritium would be assigned a
20 dose depending on whether you worked directly
21 with material or you were what I would call a
22 support or ancillary worker.

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1 MEMBER CLAWSON: Okay. You know,
2 we have talked back and forth. And I
3 apologize, but we have been back and forth so
4 many different ways I wanted to make sure I
5 was completely understanding who was going to
6 receive this and how it was going to be done.
7 I appreciate it.

8 DR. NETON: Okay.

9 DR. MAURO: Jim, can I follow up
10 on that a little bit? I have to make sure I
11 understand. Let's assume we've got a worker,
12 he's not actually working with the tritides
13 and glove boxes and doing that kind of work,
14 but he is there after those activities are
15 completed.

16 DR. NETON: Right.

17 DR. MAURO: And he's working now
18 in an environment where there is tritiated
19 water, which is by far the dominant form of
20 tritium. We all understand that.

21 DR. NETON: Right.

22 DR. MAURO: But there could also

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1 be surfaces contaminated with tritides.

2 DR. NETON: Right.

3 DR. MAURO: Okay? And now he's
4 working there and you collect his urine sample
5 and you analyze it. And you see a certain
6 amount of tritium in his urine.

7 I guess what I was thinking -- and
8 correct me if I am wrong -- is that that
9 person then -- you could say, "All right. We
10 know what the tritium level is in his urine.
11 And we're going to assume that that's a result
12 of inhaling or absorbing tritiated water." And
13 reconstruct the doses to the organs of concern
14 on that basis.

15 But since he's working in an
16 environment where there is also potential for
17 residual levels of tritides, you should add
18 that; in other words, especially if it's a
19 respiratory tract.

20 DR. NETON: Yes. That was a
21 comment that was raised that Joe put over in
22 an email earlier in the week.

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1 DR. MAURO: Yes.

2 DR. NETON: I don't know if you
3 had a chance to look at my response.

4 DR. MAURO: I did, and I have to
5 say I didn't understand it.

6 DR. NETON: Well, the idea is that
7 the excretion of tritium in the urine --
8 anything that becomes systemic is going to --
9 anything that gets into the bloodstream will
10 become incorporated in systemic organs. So if
11 you have a chronic model that you're
12 estimating a certain level of tritium coming
13 out in the urine based on an equilibrium
14 situation, which is what the chronic model
15 would be, then the dose to systemic organs is
16 whatever is in the bloodstream and getting out
17 in the urine. It doesn't matter whether it
18 came from inhalation of soluble tritium or
19 it's contributed to that small fraction that's
20 just coming off of the tritides.

21 DR. MAURO: The place that I feel
22 that you might be selling this person short is

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1 if he has a respiratory tract cancer. Then --

2 DR. NETON: Oh, no. If you have a
3 respiratory tract cancer, then the tritide
4 model would give you, this SMT model, would
5 give you -- maximize the lung dose.

6 DR. MAURO: Stay with me. So if a
7 person has a respiratory tract cancer and, in
8 theory, he has tritium in the urine -- now,
9 any tritium in the urine that you see for this
10 person, as you said, it could be from two
11 sources: one from the tritiated water vapor
12 he inhaled; and also from any tritides he
13 inhaled that were broken up and, of course,
14 cleared. But we know that that contribution
15 to the tritium that's in the urine is going to
16 be minuscule. And so he may very well have
17 inhaled some tritides. And he's got a
18 respiratory tract cancer.

19 Now, if you assume all of the
20 tritium that is the exposure he experienced
21 was entirely from tritiated water, you look at
22 his urine, the reconstructed dose to his

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1 lungs, in this case because it's a lung cancer
2 and you get a lung dose from the inhalation of
3 tritiated water based on the bioassay samples.

4 But I'm saying, but wait a minute.

5 This very same person could have inhaled the
6 resuspended tritides, you know, from the
7 swipe. And he's getting both. That's what
8 I'm getting at. He is probably -- and the
9 bioassay sample is not going to give you any
10 information on what exposure he may have
11 experienced from inhaling tritides. It's not
12 going to help you with that.

13 The only thing that will help you
14 reconstruct his lung dose from any possible
15 tritides from resuspension that he might have
16 gone is by using your resuspension model for
17 tritides --

18 DR. NETON: Yes. Well --

19 DR. MAURO: -- unless I'm not
20 thinking about this right, but that is what
21 seems to make sense to me.

22 DR. NETON: Only for the case of

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1 lung cancer, which -- well, prior to 1980,
2 they're presumptives. It's a presumptive
3 cancer and it's covered already. But there
4 may be circumstances where a person with lung
5 cancer wouldn't qualify based on date of
6 employment or something like that.

7 But you have a point. I have a
8 feeling that the dose would be pretty small
9 for the lung from the tritium intake.

10 DR. MAURO: Yes, from the
11 tritiated water, absolutely.

12 DR. NETON: I mean it would be
13 very small. And I highly suspect that the
14 dose would be much larger from the tritide
15 intake.

16 But under that scenario, you are
17 right. And that is worth addressing. I agree
18 with you. I don't think that the suspended
19 organ doses should be added.

20 DR. MAURO: Oh, I agree. Yes.
21 This is --

22 DR. NETON: Okay.

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1 DR. MAURO: The only reason I
2 raised the question was specifically for the
3 respiratory tract cancer.

4 DR. NETON: I think you have a
5 point.

6 MR. FITZGERALD: And I think, you
7 know, as we all agree, you know, we see an
8 implementation detail. So it's certainly
9 something that can be considered but wouldn't
10 be necessarily holding up the SEC
11 consideration.

12 DR. NETON: Agreed.

13 COURT REPORTER: This is the Court
14 Reporter. Who was just speaking, please?

15 MR. FITZGERALD: Oh, I'm sorry.
16 This is Joe Fitzgerald.

17 Josie, I guess where we end up on
18 this thing is putting the -- you know, we did
19 express some concerns or at least I expressed
20 some concerns about the, if I can call it,
21 philosophical plausibility, you know, whether
22 one ought to adopt a model in the absence of

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1 actual site monitoring information for the
2 tritides and use this, certainly the tritium.

3 But we have gone through that in quite a bit
4 of detail. And, really, it's not germane to
5 what we are talking about here. That's
6 something for the Board to deal with as they
7 have dealt with in the past.

8 But beyond that, I think, as I
9 said earlier, this is no longer a test of
10 exposure potential, which was our biggest
11 concern about having reliance on a model with
12 these variables. I think certainly there is
13 no question these are proven variables. The
14 methodologies have been out there. And NIOSH
15 has adopted a conservative, you know, value
16 for these variables.

17 So I think we're fine with this as
18 it stands right now.

19 CHAIR BEACH: Okay. And, Paul, do
20 you have any comments? This is Josie.

21 MEMBER ZIEMER: I was getting off
22 of the mute button there.

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1 I do agree with John's comments on
2 the lung dose, but, as you say, that's kind of
3 a separate issue at this point, you know.

4 CHAIR BEACH: Okay. Thank you.
5 And, Brad, anything else?

6 MEMBER CLAWSON: No. I just want
7 to make sure with who's going to get this,
8 it's been a little bit confusing, but I
9 appreciate it. No more comments. Thanks.

10 CHAIR BEACH: Okay. And this is
11 Josie again. I do agree with this. I do want
12 to understand. Will this become a Site
13 Profile issue and something we will track in
14 our Site Profile discussions, the
15 implementation details like this?

16 DR. NETON: Of this model?

17 CHAIR BEACH: Yes.

18 DR. NETON: Yes, I think so.

19 CHAIR BEACH: Okay. I just wanted
20 to make sure of that.

21 So, with no other comments, Jim, I
22 think we can go on to 1B. And I think we all

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1 agree to accept that 1A is completed.

2 DR. NETON: Okay.

3 CHAIR BEACH: Thank you.

4 DR. NETON: Okay. 1B was to
5 ascertain the identity of the operators who
6 actually work with the materials and the scrap
7 recovery workers who worked on the material
8 post-1980. And we believe that we have the
9 names of all the workers who handled the
10 stable metal tritide, both the operators and
11 the scrap recovery workers.

12 I know that Joe earlier in the
13 week raised the question about how well we
14 knew the scrap recovery workers, but we have
15 gone through the documents that were cited in
16 the SRDB, Site Research Database. And it
17 seems clear to me that the folks who were
18 doing scrap recovery were named in those
19 documents. I think there were eight people.

20 CHAIR BEACH: Yes. And this is
21 Josie again. I looked. The one document, in
22 particular, was the 107797 that listed --

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1 DR. NETON: Exactly.

2 CHAIR BEACH: -- the eight names.

3 DR. NETON: Yes. It's a lot -- my
4 recollection, I think they're all there.

5 CHAIR BEACH: Well, there was
6 another time period referenced. That was in
7 R-108. And then there was another one
8 referenced in SW-8. That was prior to before
9 it was moved, but I didn't see any names
10 listed there. And I'm wondering if you're
11 assuming it's the same names or --

12 DR. NETON: Well, maybe Mel could
13 help me out with this, but my impression was
14 that the scrap recovery was all conducted in
15 that one room.

16 DR. CHEW: That is correct, Jim.

17 CHAIR BEACH: Well, based on the
18 documents you cited, there was one that
19 discussed that it had been moved.

20 MR. FITZGERALD: Well, you know --
21 go ahead.

22 CHAIR BEACH: No. Go ahead.

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1 MR. FITZGERALD: This is Joe
2 Fitzgerald again. I participated in two to
3 three interviews. And, you know, we had gone
4 through in some detail back in 2008, at the
5 beginning of this inquiry on tritides.

6 In the context of the interviews
7 and the discussion with the production side,
8 you know, this was before Brant and I did our
9 research down in Oak Ridge to nail down what
10 the circumstances and history were on the
11 scrap recovery.

12 So the focus -- and you recall
13 hearing Brant say at a number of Work Group
14 meetings, you know, I know the -- I guess it
15 was either 10 or 11 operators by name that
16 were involved in the production.

17 So the context was production.
18 And, as the interview notes suggest, these are
19 the production operators. When we got into
20 the recycle, you know, this was after those
21 interviews.

22 And then the discussion was who --

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1 you know, in my opinion, based on the
2 interviews, these earlier interviews, is that
3 it's some subset of those eight, no question.
4 They weren't additional people, but my
5 question for you, Jim, as I said in my
6 clarification note, was, other than the one
7 individual that's actually named in one of the
8 interviews; in fact, the SRDB that you
9 actually cited in your response to my note, as
10 having quote, "ran it" in R-108, it's just a
11 little ambiguous as to what subset. Was it
12 just that one individual? In other words, he
13 just didn't run it. What, did he manage it?
14 Did he have additional numbers? Or does it
15 matter?

16 Are you going to assume that those
17 eight were the individuals that would have
18 been exposed in the entire production process,
19 whether it's the front end or the back end.
20 They would be given credit for whatever doses
21 in R-108 occurred.

22 You know, it just wasn't clear how

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1 you were going to approach that, because I
2 think there is some ambiguity. There is not
3 as much precision on the named individuals in
4 the back end and in the 1980s as there were in
5 the production phase. I think they're the
6 same people, but I'm not sure if it's a small
7 subset, one person, a few people, or,
8 actually, all eight were equally involved in
9 the scrap recovery.

10 DR. NETON: I was not part of the
11 interview process. So I'm a little bit at a
12 disadvantage here, but our intent would be
13 that any of the named individuals would be
14 considered to have handled stable metal
15 tritides.

16 But my reading of the SRDB-107797,
17 if you go through it, it says, "Now let's move
18 on, and please describe to me scrap recovery."

19 And in part of that sequence, there is a
20 listing of, I think, eight names that were
21 provided.

22 It doesn't say anything about --

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1 it doesn't qualify any particular way, to my
2 recollection, in the --

3 DR. CHEW: Hey, Jim, this is Mel.

4 Let me just jump in for a second. Joe and
5 Working Group, there are two SRDBs you need to
6 look at, and they're in the report: 107797
7 and 55962.

8 The specific question was asked,
9 "Who worked in R-108 (scrap recovery)?" And
10 in total, there were nine technicians and
11 seven professionals who worked in development,
12 production, and scrap recovery. Quite a bit
13 of the technicians worked in scrap recovery.
14 And they were identified in one of the two
15 SRDBs I had mentioned. I think there are a
16 total of like six or seven in total.

17 MR. FITZGERALD: Okay.

18 DR. CHEW: So that's all clear.

19 MR. FITZGERALD: So Mel, I'm
20 looking at 797. And I see the reference to
21 the text. They're listed by name.

22 DR. CHEW: Right. And they said

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1 it's R-108, Joe. And I think you had
2 confirmed with Brant that the tritide of
3 interest only showed up in 1984.

4 MR. FITZGERALD: Right. And 797,
5 can you help me on where the operator,
6 operator or operators, are named for --

7 DR. CHEW: Well, the operators
8 were mentioned in 55962.

9 MR. FITZGERALD: Okay. But I'm
10 just saying that, really, what is in 797 is
11 the text.

12 DR. CHEW: Right.

13 MR. FITZGERALD: Okay.

14 DR. CHEW: You have to put the two
15 --

16 MR. FITZGERALD: Yes.

17 DR. CHEW: You have to put the two
18 together and then sort out because some of
19 them, technicians, also worked on the
20 development and production. And we sorted all
21 through, put all of the names together. There
22 are several people, not to be named, that

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1 worked both in development and the scrap
2 recovery, but the one that you're looking at
3 is the one that was clearly asked for and
4 identified in R-108 that worked on scrap
5 recovery. And those are the technical --

6 MR. FITZGERALD: Now, just for
7 clarity's sake -- and this was the reason I
8 had raised this as a clarification question.
9 In the 562 one, there was an explicit
10 statement that one individual ran it. Is that
11 the operator that you are referring to in that
12 one, in 962?

13 DR. CHEW: Yes. Yes.

14 MR. FITZGERALD: Okay.

15 DR. CHEW: That person was
16 responsible for running the operation along
17 with the technician. And I think there were
18 one or two professionals that also joined in
19 on the scrap recovery. But primarily, the
20 scrap recovery was run by technicians with the
21 person that you had mentioned as being the
22 person responsible.

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1 MR. FITZGERALD: Okay. That detail
2 isn't quite as clear in here, but certainly
3 you have the one operator in 562 in the SRDB.

4 And then you have lists of so-called
5 technicians.

6 But you're saying you went through
7 the list of technicians, married that up with
8 the other name, and between the two, you could
9 nail down who -- not the technicians or
10 support staff because those are covered under
11 the model, but the named, so-called named
12 operators, you can actually finger more than
13 that one individual who was named in 562.

14 DR. CHEW: Correct.

15 MR. SMITH: This is Billy Smith.
16 The SRDB number is 55962.

17 MR. FITZGERALD: 962, right, 962.

18 MR. SMITH: Right. It lists in
19 that particular document eight technicians
20 that worked in R-108. In 107797, it listed 8
21 people in that document, 7 of which are
22 professionals. There's one technician listed

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1 in that list that's not in the list shown on
2 55962.

3 MR. FITZGERALD: Well, not to get
4 this more confusing than it's becoming, but
5 962, the listing at the bottom of the first
6 page, where there's eight individuals listed,
7 those are sort of a combination of technicians
8 and chemists and other operators. So you've
9 got a mixed bag there.

10 And what is listed in 797 are
11 unequivocally the rad techs in 108. That's
12 pretty clear.

13 DR. CHEW: They were not
14 necessarily rad techs. They were chem techs.

15 MR. FITZGERALD: Or chem techs.
16 It's just the techs in 108.

17 DR. CHEW: Correct. Correct.

18 MR. FITZGERALD: So that's what
19 you have there.

20 DR. CHEW: Correct.

21 MR. FITZGERALD: All I was trying
22 to do is beyond the techs and the support

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1 folks, trying to figure out, other than the
2 one individual who is fingered in 962 as being
3 the one who ran it, were there any other
4 operators? And I guess what I hear, Mel, you
5 saying that yes, you went through this, even
6 though I don't quite -- I don't quite see it
7 in this collection of interviews, but you went
8 through this and figured out there were some
9 other non-techs, non-support people besides
10 this one individual, who would have been
11 involved with 108.

12 DR. CHEW: That is true.

13 MR. FITZGERALD: And you know him
14 by name?

15 DR. CHEW: Yes, sir.

16 MR. FITZGERALD: Okay. Because
17 that is not jumping out from these three
18 interview notes, but that is fine. That is
19 the question. As we have done, as Brant and
20 you had done on the production side, the front
21 end, have you done that on the back end?

22 And that was the original question

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1 that came out of the Work Group the last time.

2 And obviously we wouldn't have raised it, nor
3 would the Work Groups have spent time on it if
4 it were in these old interviews because we
5 certainly had access to them. So it wasn't
6 clear at that time.

7 So you're saying you do have that
8 information?

9 DR. CHEW: Yes, sir.

10 CHAIR BEACH: Okay. So this is
11 Josie. I have a question, probably for Mel.
12 Would it be any problem to contact the one
13 individual who is listed that ran the
14 operation just to verify names so that we are
15 not missing anyone, with a phone call
16 interview?

17 DR. CHEW: I will let Jim give me
18 the authority to do so.

19 CHAIR BEACH: Yes.

20 DR. NETON: I don't see any reason
21 why we couldn't do that.

22 CHAIR BEACH: Joe, what do you

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1 think?

2 MR. FITZGERALD: Well, I think
3 that would be fine. I think it would be very
4 quick. But, again, it's not so much the
5 technicians or the support people, but just
6 this one individual is very knowledgeable, I
7 think very credible. And if the confirmation
8 is that either that person was the only person
9 or there may have been one or two others, that
10 would be, I think, a very credible and useful
11 answer to inform how you assign those doses
12 for the back end, for that one year.

13 CHAIR BEACH: Right.

14 DR. CHEW: Let me add to that,
15 Joe. Not only -- there was a person or two,
16 but we need to make sure we have their names.

17 MR. FITZGERALD: Yes. Like I
18 said, I'm pretty sure it's within the
19 groupings that we're familiar with for the
20 production side, but this was, you know, a few
21 years later. So it's possible there might
22 have been an additional person that wasn't

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1 part of that original cohort. Since this
2 individual is still around, I think that is a
3 very helpful way to confirm this and put this
4 to bed.

5 But, you know, Josie, with that
6 confirmation, I think we're fine.

7 CHAIR BEACH: Okay. So offline
8 could we set up a conference call and involve
9 SC&A, NIOSH to confirm those names, hopefully
10 before the Board meeting?

11 DR. NETON: I don't know about
12 that.

13 CHAIR BEACH: I guess it doesn't
14 have to be done before, but it would be
15 helpful to have those names confirmed as early
16 as possible.

17 DR. NETON: Well, we can try. Put
18 it that way.

19 CHAIR BEACH: Okay.

20 MR. FITZGERALD: And even if it
21 can't be scheduled before the Board meeting, I
22 think Josie can report that there is every

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1 good reason to think that that can be
2 confirmed and this can be put to bed.

3 CHAIR BEACH: Okay. I agree with
4 that. Brad or Paul?

5 MEMBER CLAWSON: Yes, Josie, this
6 is Brad. I had a question for Mel. You were
7 talking about technicians, and then you were
8 talking about operators. And then you were
9 talking about professionals. Could you
10 clarify on what you are classifying as a
11 professional?

12 DR. CHEW: Well, I'll say this
13 correctly here, Brad. I don't want to
14 misquote. The professionals would be degreed
15 people who would be considered researchers or
16 principal investigators. And the technicians
17 would be the supporting role for them. I
18 think that is how Mound separates them, but I
19 don't know that for sure.

20 But I think we basically really
21 shouldn't -- an operator could be both a
22 professional and a technician, as you well

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1 know, Brad. And so I think that's the
2 separation.

3 MEMBER CLAWSON: Well, right.
4 Mel, that is what I was trying to get because
5 when we use the term "professional," you know,
6 I understand about the degreed people,
7 everything else like that.

8 My issue is sometimes when we are
9 talking about this and we say "professionals,"
10 it doesn't limit these people accurately
11 because some of the professionals were also
12 classified as technicians or so forth.

13 I always wanted to make sure that
14 when we set this up that -- because when I'm
15 thinking professionals I'm thinking more of
16 the scientists, researchers, or whatever else
17 like that. And I just wanted to make sure
18 that we're looking at the technicians and
19 operators and that we're separating this out,
20 that we've got the right people that were in
21 there.

22 My other question was, my

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1 understanding was, I understand that scrap
2 recovery was done in this room, but my
3 understanding is that in the earlier years,
4 that it went through a re-drumming process
5 before it got there because the drums were an
6 issue and were having problems. They used to
7 be stored out on a pad was my understanding at
8 Mound.

9 How long was this product actually
10 at Mound before it was processed or
11 repackaged?

12 DR. CHEW: I don't know that
13 answer.

14 MEMBER CLAWSON: The reason being
15 is that in these interviews, with this
16 interview we have been talking to, my
17 understanding was this stuff was kind of like
18 the wayward child nobody really wanted. And
19 it moved from one area to another area until
20 it got to be such a problem.

21 And then it went through 109 and
22 was eventually taken care of because I want to

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1 make sure that everybody here understands
2 these drums and so forth had problems. And
3 this is why they were going through this
4 process.

5 And I hope that we can -- you
6 know, I know that we're looking at just the
7 scrap recovery in this 109 room. And are we
8 looking at the whole history of where this was
9 at and how it got there and how long it was
10 around there?

11 DR. CHEW: I'll tell you what I
12 can share with you now, Brad. The main
13 production and development basically stopped
14 in about the 1974 time frame and that has been
15 clearly dated.

16 And you're right. It sat around
17 and the material was put in drums until the
18 scrap recovery was started in 1984 on the
19 material.

20 And based on that, if you look at
21 the model that we're putting together. Any
22 exposures to that -- I don't want to speak for

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1 Jim, but I'll let Jim jump in -- would be, any
2 potential would be given to the ancillary
3 workers, who might have been tertiarily
4 exposed. And we would use that model to bound
5 that dose for them.

6 MEMBER CLAWSON: Because Mel, you
7 know my understanding of this, right? You're
8 looking at, unfortunately, probably a
9 different standpoint than what you guys are,
10 but in our interviews and so forth with the
11 workers or technicians, whatever you want to
12 -- all of them knew of this product. Many of
13 them have dealt with this. And it was an
14 upcoming project to be able to take care of
15 this because it had become a problem child.

16 And I want to make sure that we've
17 got some way to be able to cover the other
18 people that handled it, dealt with it because
19 they would have troubles with the drums
20 deteriorating and going on to there.

21 I think that we have got a fairly
22 good handle on the 109 room.

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1 DR. CHEW: 108.

2 MEMBER CLAWSON: 108 room, sorry.

3 But, anyway, I just want to make sure that
4 we've got the other people that handled this
5 and how are we going to address them. And I

6 --

7 DR. CHEW: I just want to add a
8 point to you, Brad. On this particular case,
9 as you know, this particular material was
10 highly classified and highly valued by both
11 Mound and DOE. And so I think there was a
12 great interest in making sure that the drums
13 were not going to be misused and mishandled.

14 DR. NETON: Yes. And, Brad, I
15 just want to make a point here. Remember that
16 there is already a Class at Mound that covers
17 workers up through 1980.

18 MEMBER CLAWSON: Right.

19 DR. NETON: It effectively covers
20 all of those workers who had worked with
21 tritides because it's anyone who was monitored
22 for tritium, which by definition is all of

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1 those workers. So even though the Class was
2 not constructed to cover those workers
3 thereby, they're de facto in the Class
4 already.

5 MEMBER CLAWSON: And, Jim, I
6 appreciate that. I'll be right honest with
7 you. We have got so many different Classes
8 going there, sometimes I cannot keep track of
9 all the different Classes and who is being
10 covered. I just wanted --

11 DR. NETON: I have trouble myself,
12 but it really is sort of an odd situation that
13 before 1980, all of these workers are covered
14 already by the radon Class, because of the
15 radon Class by the way it was defined.

16 MEMBER CLAWSON: Okay. I know
17 that we have had a couple of interviews and
18 these people have dealt with these drums and
19 so forth before they were eventually taken
20 care of. I just wanted to make sure that we
21 did have them covered in this.

22 If this is the fact, then it won't

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1 be an issue. I just wanted to make sure and
2 kind of clarify that because truthfully -- and
3 I apologize for my ignorance, but I really
4 have -- especially with several different Site
5 Profiles, I have a hard time remembering who
6 was in where and how we were going to do this.

7 And Mound has been a particularly interesting
8 one from that standpoint.

9 Thank you.

10 MR. SMITH: This is Billy Smith.
11 I need to make a comment here. One of the
12 things that we're doing here I think is mixing
13 apples and oranges.

14 One of the things about the
15 tritium recovery system in Mound, Mound had
16 the tritium recovery for all of DOE. And so
17 they processed tritium coming from other sites
18 that were not necessarily tritides in the
19 recovery process. And, hence, most of that
20 would have been in the form of either HgO or
21 organically bound tritium, but they did all of
22 the tritium recovery there.

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1 In terms of the tritide recovery,
2 one of the critical people that we interviewed
3 indicated that at most -- and this term was
4 there was not more than a bucket full of
5 tritides that went through the recovery
6 operation.

7 CHAIR BEACH: Okay. Thank you,
8 Billy, for that clarification.

9 If there's nothing else on 1B,
10 Jim, we're ready for 1C, addressing the
11 identified gaps in the swipe data.

12 DR. NETON: Right. SC&A
13 determined there were gaps in the swipe data
14 that were used. And we embarked on trying to
15 figure out the significance of those gaps by
16 looking at a couple of different things.

17 One is that we interviewed a
18 couple of workers with knowledge of operations
19 at Mound and specifically were trying to
20 figure out, did they have any knowledge
21 related to unusual operations or cessation of
22 operations or increasing operations during

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1 those gap periods? And neither person
2 interviewed could come up with any reason why
3 the exposure would be different in those
4 periods. Nor could they determine why we
5 wouldn't have the smear data. They just
6 appear to be missing.

7 But, nonetheless, they didn't
8 recall any reason why production, for example,
9 would have increased dramatically during those
10 gap periods and thereby increasing the
11 potential for contamination exposure.

12 The second thing was we looked at
13 the urinalysis data. And what that told us
14 over time that we have a very complete
15 urinalysis record. If production quantities
16 did increase, then the urinary output would go
17 up concomitantly because tritide exposure is
18 also associated with just soluble tritium.
19 And, as we report in the write-up, there was
20 no evidence that there was anything like that
21 that occurred.

22 The third point that I would

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1 mention is that SC&A did point out a few
2 reports that could be relied on to fill in
3 some of the gaps so the gap period themselves,
4 if we take advantage of that information, will
5 be somewhat less than what was presented in
6 the first report.

7 So the bottom line is that we
8 don't really see any reason why we can't fill
9 in the gap period with the adjacent data and
10 proceed accordingly.

11 That's all I really have to say.

12 CHAIR BEACH: Okay. This is Josie
13 again. Thanks, Jim.

14 Joe, anything on the SC&A side?

15 MR. FITZGERALD: Well, I was going
16 to defer a bit to -- you know, Bob Barton has
17 spent a great deal of time looking at that
18 very question. Bob, I know you've looked at
19 the response. What do you think?

20 MR. BARTON: Well, thanks, Joe.
21 Yes, this is Bob Barton with SC&A.

22 As Jim mentioned, there are sort

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1 of three facets to this. I mean, one of them
2 is there are a few more reports in there that
3 kind of close the gaps a little bit, but there
4 will also be some data gaps.

5 The second one was the use of the
6 bioassay, which is sort of an indirect measure
7 because, you know, as we know, urinalysis
8 can't really directly reflect what kind of
9 tritide exposures there would be out there,
10 but I certainly appreciate the influence
11 because, you know, we at SC&A, we use that all
12 the time. There isn't really a quantitative
13 way to directly answer the question. So
14 that's good. I mean, it builds certainly a
15 weight of evidence argument.

16 The best one, though, in my mind
17 is the interviews which are talked about in
18 this latest report actually talking with the
19 people who were involved and saying, "Listen,
20 we have these gaps here, here, and here. Is
21 there any reason to think that we can't use,
22 you know, the data before and after to sort of

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1 reflect what was probably going on during
2 those gaps?"

3 My only comment there is it's not
4 really cited or I'm not familiar with the
5 interview. I guess it happened recently.

6 CHAIR BEACH: Yes.

7 MR. BARTON: The only thing I
8 would say there is it would really kind of put
9 this issue to bed if we could show which
10 interviews occurred and where they kind of
11 say, "Yes. There's no reason to think we
12 can't cover these data gaps with the swipe
13 data that happened before and afterwards."

14 I guess I would ask, Jim, these
15 were recent interviews?

16 DR. NETON: Yes. These were in
17 the last -- geez, I've lost track of time, but
18 in the last month or something.

19 MR. FITZGERALD: Yes. They might
20 not be summarized and through DOE yet. I
21 think that was the intent was, to get those
22 documented.

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1 DR. NETON: Right.

2 MR. FITZGERALD: So --

3 DR. NETON: Those certainly will be
4 available once they are all reviewed and
5 publishable.

6 MR. BARTON: Okay. And that's
7 really what we were looking for there, was
8 just some sort of confirmation that we don't
9 have any reason to worry about those periods
10 where we don't have swipe data. I think that
11 pretty much puts that issue to bed, at least
12 in my mind.

13 CHAIR BEACH: Okay. Thanks, Bob.

14 Paul, Brad, anything? Any
15 questions?

16 MEMBER CLAWSON: Josie, this is
17 Brad. Not at this time, I don't.

18 MEMBER ZIEMER: This is Ziemer. I
19 don't have any questions.

20 CHAIR BEACH: Paul, you cut out a
21 little bit there, but I think you said you --

22 MEMBER ZIEMER: I said I'm

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1 comfortable with the approach. I think it
2 makes sense and is a logical approach. And
3 once the interviews are confirmed, I think we
4 are okay.

5 CHAIR BEACH: Okay. Thank you.
6 And I agree with that.

7 I thought I read -- and I probably
8 did read. That latest one is out on SRDBs,
9 that you conducted with Jim and Joe. Well, I
10 don't know if you were there, Jim, but Joe?

11 DR. NETON: Yes. I was on the
12 phone.

13 CHAIR BEACH: Yes.

14 MR. FITZGERALD: I had not seen
15 it, but I could be there by now. It's been
16 about four weeks.

17 CHAIR BEACH: Okay. So --

18 DR. NETON: Oh, there is
19 "documented communication with" -- yes. It's
20 reference 2. I'm trying to see where.

21 CHAIR BEACH: I read so many of
22 these close together, but I'm pretty sure I

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1 thought I read those interview notes.

2 MR. FITZGERALD: Okay. Well, if
3 they're up, then that answers Bob's comment,
4 because that would provide those comments.

5 CHAIR BEACH: Okay. So let's move
6 on to the last one under tritides, D, the
7 reconstruction during D&D.

8 DR. NETON: Yes. Right. This has
9 to do with D&D coverage. I guess it sort of
10 depends on what you consider, you know, when
11 the D&D era started, but all indications are
12 that the active -- what was quote-unquote
13 "full-blown" D&D didn't occur until the late
14 '90s.

15 And by that time, the technology
16 shortfall for monitoring for tritides was
17 pretty well established. Mound embarked on a
18 fairly rigorous program of breathing zone air
19 samples followed up by scanning electron
20 microscopy and also used urine samples to
21 ascertain the soluble urine tritium intakes.

22 We feel in that time period the

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1 coverage was pretty good. I was even
2 surprised. The scanning microscopy I thought
3 was a little over the top, but if you look,
4 there's a procedure that we attached -- or not
5 a procedure but interoffice correspondence
6 that was issued in 1997 that outlined all of
7 the precautions that were taken and the
8 monitoring conditions that were in place for
9 monitoring tritides during this era. And they
10 indeed are pretty rigorous. So that's our
11 position for the D&D era.

12 CHAIR BEACH: Okay. Thanks, Jim.

13 Joe, anything on the SC&A side
14 there?

15 MR. FITZGERALD: Yes. Josie,
16 you'll recall that -- this goes back a few
17 years. Actually, it goes back to maybe some
18 of the Site Profile review that we did.

19 We did get -- and I agree with
20 Jim's recount of the history of this thing,
21 that we certainly established as well that
22 they were very careful from the operational

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1 standpoint to button up that particular
2 facility when it was no longer needed and used
3 operators to do a lot of the D&D back when
4 that was decommissioned. This was well before
5 the terminal D&D for the entire site. And it
6 was done very carefully.

7 Our issue really was more from
8 some interview feedback we had gotten about
9 the terminal D&D, where they seemed to have
10 picked up some reading that suggested the
11 tritides were not in the operational areas but
12 really in the ductwork, that kind of thing,
13 that they found.

14 I know there were some additional
15 interviews. We weren't involved in those, but
16 additional interviews where at least one
17 individual who had provided that perspective
18 had clarified that that was not what he had
19 meant.

20 Now, you know, that was pretty
21 much the source of our questions on that. And
22 we have not certainly had the opportunity to

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1 go back and satisfy ourselves from that
2 standpoint. Again, we weren't involved in
3 those interviews.

4 But I would not at this point see
5 this as essential for settling out the
6 question of the tritides during the operating
7 period of the plant. This is kind of
8 analogous to the residuals question that you
9 have at some of the AWEs. There is this sort
10 of lingering question. Even though the
11 program procedures and whatnot were pretty
12 stringent, and I think the RWP suggests that
13 as well, that one that was included was
14 implementation such that there was no real
15 exposure potential during the D&D phase.

16 We have not really gone back to
17 that question, really, since the Site Profile
18 in terms of the tritide question. That might
19 be something in the Site Profile context that,
20 as we look at some additional information, we
21 ought to see if there's anything else that
22 would stand as sort of operational

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1 information, experience, incidents. We
2 haven't seen any yet, but I wouldn't argue
3 this thing unless we do.

4 So that's kind of a little bit of
5 an open end, but not one that should hold this
6 up.

7 CHAIR BEACH: Okay, Joe. This is
8 Josie again. Thanks for that summary.

9 Paul or Brad, any comments?

10 MEMBER CLAWSON: This is Brad.
11 You know, I agree with Joe on this. I was
12 involved in some of those interviews. And I
13 think we'll -- you know, we really haven't
14 looked at it, as Joe has said, because we've
15 got these other issues taken care of.

16 I just want to make sure that we
17 don't lose it somewhere. and it sounds like
18 we're not. So I'm fine at this time.

19 MEMBER ZIEMER: Yes. And this is
20 Ziemer. I am fine at this time, too. I think
21 you are still going to track this, right?

22 CHAIR BEACH: Yes. This is Josie

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1 again. I put that down as a Site Profile
2 issue to track along with part of A.

3 MR. FITZGERALD: Yes. And just
4 again, this came from a health physicist
5 during the D&D phase that expressed the fact
6 that they surprisingly came upon what appeared
7 to be some tritide contamination in ductwork.

8 And, again, I think in a
9 re-interview, that was clarified as not to be
10 the case, but that's kind of all we've got at
11 this point. So there hasn't been any further
12 corroboration, but I think that's unsettled at
13 this point.

14
15 MEMBER ZIEMER: Joe, this is
16 Ziemer. Do you know how they identified that
17 as being tritide at that point?

18 MR. FITZGERALD: Well, what the
19 interview documentation -- and, again, this
20 goes back four or five years ago. So it was
21 an old one. They were using an alpha probe
22 and thought they were -- or alpha-beta probe.

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1 I guess it was both alpha and beta. They
2 were picking up what they thought was Pu,
3 polonium. I'm trying to remember which.

4 But it turned out not to be the
5 case. And it looked like it was, in fact, at
6 the energy level they were looking at perhaps
7 tritide because at that time there was a
8 consciousness on tritide, but that was it. It
9 was almost an anecdotal type of thing.

10 They didn't do any further
11 analysis. It was sort of left that way. And
12 we had not talked to this individual since to
13 do that. Brant, I think, did. And based on
14 Brant's questioning, he apparently -- I'm not
15 sure how he -- whether he recanted it or just
16 said that it was misunderstood. I don't know,
17 but certainly the response was that he no
18 longer felt that way.

19 So that's kind of where it is. It
20 really hasn't been pursued much further than
21 that. There isn't anything, any incident
22 information, any documentation that we have

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1 found that would corroborate that they were
2 picking up tritides in the ductwork or in
3 anything that was connected to those
4 facilities. So that's all we have, is really
5 the interview data. It's not a very strong
6 thing.

7 So that's what I'm saying. I
8 think it should be handled as a matter of
9 course. If there's anything, any new
10 documentation, anything that's substantial
11 that surfaces, that's something I think we
12 ought to bring back to the Work Group. But I
13 wouldn't certainly give it any more than what
14 we're doing for the remaining Site Profile
15 issues to see if there's any additional
16 documentation left, any records that we
17 haven't looked at. That would be about it.

18 DR. CHEW: Josie, this is Mel. I
19 would like to make a point of clarification.

20 CHAIR BEACH: Yes?

21 DR. CHEW: That discussion with
22 again, Joe, you are right on. We did go back

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1 and discuss it with another health physicist.

2 We want to make sure we bear in
3 mind that when they mention tritides, the
4 majority of the tritides at Mound were in the
5 soluble form. And so when you mentioned
6 tritides, you are saying all categories. The
7 ones that we are obviously focusing in is the
8 tritide of special interest here.

9 CHAIR BEACH: Okay. This is Josie
10 again. Thanks, Mel.

11 And, with that, I don't think we
12 need to do a formal vote. I think based on
13 what I have heard in the last hour
14 conversation, all three of the Board Members
15 present at this Work Group meeting agree that
16 the tritides issue is complete other than the
17 two items that we talked about tracking in a
18 Site Profile sense.

19 Ted, is that correct?

20 MR. KATZ: I'm sorry. I was on
21 mute.

22 Yes. You don't need to vote. I

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1 mean, everybody has spoken pretty clearly
2 about all of these issues.

3 CHAIR BEACH: Okay. Thank you.

4 And if there is nothing else on
5 tritides, I am going to say that that is
6 closed.

7 And if we could just take time to
8 have NIOSH report out on the next two issues
9 on our agenda? Start with the 83.14, just an
10 update of what is happening there.

11 DR. NETON: Okay. These will be
12 brief. The 83.14, to refresh your memory, is
13 to add a Class of workers for the couple of
14 years where we discovered that we didn't have
15 logbooks for tritium sampling.

16 Now we have a litmus case for that
17 83.14. The report had been drafted. And I
18 just received word that it has been sent out
19 for ADC review.

20 CHAIR BEACH: Okay.

21 DR. NETON: The report is done.
22 Once it comes back from ADC review, we will

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1 distribute it, hopefully early next month,
2 which starts tomorrow. And we should be good
3 to go there.

4 I will be presenting that at the
5 Advisory Board meeting in Denver.

6 CHAIR BEACH: Okay. Thank you.

7 DR. NETON: So expect that report
8 to come out as soon as -- I don't know what
9 turnaround time we're going to get for that
10 report, but I imagine it's pretty fast because
11 I can't imagine there's much in there that's
12 controversial.

13 CHAIR BEACH: Right.

14 DR. NETON: The second point.
15 What was I going to talk about the second --

16 CHAIR BEACH: The second point on
17 --

18 DR. NETON: Oh, Site Profile
19 issues. Yes. I'm sorry.

20 CHAIR BEACH: Yes.

21 DR. NETON: Late on a holiday,
22 preceding a holiday Friday.

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1 CHAIR BEACH: Yes.

2 DR. NETON: So my mind is
3 wandering.

4 The Site Profile issues, ORAU had
5 put together a completion schedule to get to
6 us draft responses by the end of September.
7 Once it goes through the various review
8 processes internally, we expect to be able to
9 start talking about all those responses
10 sometime later in October for the remaining
11 Site Profiles, which there are a number.

12 CHAIR BEACH: Right. Yes, there
13 --

14 DR. NETON: Now, I didn't get a
15 breakdown as to how each one might be
16 complete. I just sort of got a lump sum date.

17 If it's preferable, I could try to get a
18 little more fine-tuned breakdown of the
19 schedule, but right now I don't expect to be
20 done until later in October.

21 CHAIR BEACH: Okay. No. That's
22 fine, Jim. And possibly when you have more of

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1 a breakdown and know when you will be ready to
2 discuss it, we can plan a Work Group.

3 DR. NETON: Right. Because
4 honestly I don't think they're all going to
5 come due at exactly the same minute. You
6 know, there --

7 CHAIR BEACH: No.

8 DR. NETON: -- are a lot of varied
9 issues out there. I forgot how many, but
10 there's something like 20, I believe.

11 CHAIR BEACH: Yes. There are
12 quite a few. And I wouldn't expect them to
13 come due at the same time. But it would be
14 nice to have them all pretty much done and --

15 DR. NETON: Yes.

16 CHAIR BEACH: -- and just wait.

17 DR. NETON: Later in October.

18 CHAIR BEACH: Great. All right.
19 Any other questions for Jim, other Board
20 Members?

21 MEMBER CLAWSON: Josie, this is
22 Brad. I don't have any at this time.

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1 CHAIR BEACH: Okay. Paul, I think
2 you might have spoken.

3 MEMBER ZIEMER: I said I have no
4 questions.

5 CHAIR BEACH: Okay. So, with
6 that, Ted, I think we've completed our work
7 today and we can adjourn.

8 MR. KATZ: Let me just check with
9 you, Josie, about -- we have Mound on the
10 agenda for the Board meeting in Denver.

11 CHAIR BEACH: Right.

12 MR. KATZ: And I have it broken out
13 in two parts because we have the 83.14, for
14 which we're given a half an hour. It sounds
15 like that is easily enough to address that.

16 CHAIR BEACH: Yes.

17 MR. KATZ: Then immediately
18 following, I have a whole hour and a half
19 right now for the rest of the Mound SEC
20 petition. And that's where I need some
21 feedback from you and the Group with respect
22 to how much time do you actually think the

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1 Board will need to discuss the rest of
2 wrapping up Mound?

3 CHAIR BEACH: Well, I don't think
4 we would need more than a half hour, but that
5 depends on if I am just going to report out
6 and vote or if Jim would like to comment and
7 Joe would like to add for the tritides. I
8 guess that determines what the Group thinks.

9 MR. KATZ: Okay. And, just to let
10 you know more, what I have is, I have Jim on
11 the agenda because, just as he has reported to
12 you, I would think you would want him to
13 report to the full Board on the tritides.

14 CHAIR BEACH: Right. Okay.

15 MR. KATZ: So I have him on the
16 agenda before you. And then I have you.

17 It seems like -- you know, what
18 time is it now? It's 2:36. What time did we
19 start this call?

20 CHAIR BEACH: We started at 1:30.

21 MR. KATZ: 1:30?

22 CHAIR BEACH: About an hour.

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1 MR. KATZ: So it's probably going
2 to go a little quicker with the full Board
3 because you have done sort of the detailed
4 vetting. So I would say Jim's piece and back
5 and forth with the Board probably can get done
6 in half an hour, do you think, Jim?

7 DR. NETON: I'm not 100 percent
8 clear what you really want me to present. I
9 mean, I presented today our responses to the
10 SC&A comments.

11 MR. KATZ: Right.

12 DR. NETON: But it would seem
13 better to sort of go over our proposed model
14 for tritides, the swipe data, the whole thing,
15 and include how we're going to do it and that
16 sort of thing.

17 MR. KATZ: I agree, Jim. I agree.
18 I assume you will be putting to bed the issues
19 that the Board realized were open as well.

20 DR. NETON: Yes, yes. But I think
21 I need to take a step back and say, "Well,
22 here is our proposed model. And here is what

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1 we are going to do."

2 MR. KATZ: No, I totally agree.
3 They're going to need more context than the
4 Work Group does. So I'm just asking you, do
5 you think you want a half an hour for that,
6 including back and forth with the Board, or do
7 you think you'll need more?

8 DR. NETON: It's a fairly simple
9 model. I mean, it's not very complex.

10 MR. KATZ: Okay.

11 CHAIR BEACH: So 30 minutes, Jim,
12 you think that would cover it?

13 DR. NETON: Oh, absolutely plenty.

14 CHAIR BEACH: Yes. And mine won't
15 take very long either.

16 MR. KATZ: Okay. So do you think
17 maybe another 30 minutes for your piece and
18 back and forth with the Board will do it,
19 Josie?

20 CHAIR BEACH: Yes, yes.

21 MR. KATZ: Okay. So then I'll cut
22 the whole period down from an hour and a half

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1 to an hour, then.

2 CHAIR BEACH: Yes. And I would
3 even say 45 minutes, but that's based on --
4 it's hard to determine how many questions will
5 come out of that.

6 MR. KATZ: Yes. That's true.

7 CHAIR BEACH: Okay.

8 MR. KATZ: Okay.

9 CHAIR BEACH: That sounds good.
10 Okay. Anything else?

11 (No response.)

12 CHAIR BEACH: Then I think our
13 work is complete and we can adjourn. Thank
14 you, everyone.

15 (Whereupon, the above-entitled
16 matter was concluded at 2:38 p.m.)

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