

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

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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SAVANNAH RIVER SITE WORK GROUP

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MONDAY
SEPTEMBER 26, 2016

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The Work Group convened via teleconference at 10:00 a.m., Eastern Time, Bradley P. Clawson, Chairman, presiding.

PRESENT:

BRADLEY P. CLAWSON, Chairman
JAMES E. LOCKEY, Member
JAMES M. MELIUS, Member
PHILLIP SCHOFIELD, Member

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ALSO PRESENT:

TED KATZ, Designated Federal Official
MATT ARNO, ORAU Team
JOSH FESTER
JOE FITZGERALD, SC&A
WARREN JOHNSON
JENNY LIN, HHS
MIKE MAHATHY, ORAU Team
JIM NETON, DCAS
JOHN STIVER, SC&A
TIM TAULBEE, DCAS

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P R O C E E D I N G S

10:02 a.m.

Welcome and Roll Call

MR. KATZ: Why don't we go ahead. Let's start roll call. I'll circle back and ask for Dr. Richardson again after we're done with everyone else, but let's get started here.

First of all, welcome everyone on the line. This is the Advisory Board on Radiation and Worker Health, Savannah River Site Work Group.

We have an agenda today, which is posted on the NIOSH website under Schedule of Meetings, today's date. I'm not sure there are documents associated with the agenda. And just for protocol, for folks who are particularly not Agency folks, but really anyone, keep your phones muted except for when you're addressing the group. That will help with audio. And, please, at no point hang up -- I mean, at no point put the call on hold, but hang up and dial back in if you need to go for a piece.

1 So, first of all, let me just say up
2 front to cover -- so, we have Brad Clawson, he's
3 the Chair of the Work Group. Phil Schofield, Jim
4 Lockey, these are all Members of the Work Group.
5 And Dr. Melius, the Chair of the Board, is also
6 joining us for this meeting.

7 None of these individuals have
8 conflicts with respect to the Savannah River Site.
9 So, let me just say that to cover them, but everyone
10 else Agency-related should address conflicts as we
11 go through it.

12 And let's start with the NIOSH/ORAU
13 staff.

14 (Roll call.)

15 MR. KATZ: So, Brad, it's your call,
16 your agenda.

17 CHAIRMAN CLAWSON: Great. If I can
18 figure out how to unmute it. Well, I appreciate
19 everybody coming here. It's been quite a while
20 since you've got here.

21 Everybody, I believe, has got a copy of

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1 the agenda. And so, I guess, first of all, I'd
2 really like to start out with an update of where
3 we're at, where DCAS is at on the schedule for
4 completeness and just kind of get that out of the
5 way right off the bat.

6 So, Tim, I guess that's you.

7 **Update on Current DCAS SEC Work and Schedule for**
8 **Competition**

9 DR. TAULBEE: Okay. Thank you, Brad.
10 I'll go down kind of a rundown of all of the
11 deliverables that Steve talked about during the
12 Work Group meeting in September and give a status
13 of each one, if that's okay, Brad.

14 CHAIRMAN CLAWSON: Yes, that's fine.

15 DR. TAULBEE: Okay. With regards to
16 the coworkers model, the interim -- or the initial
17 or interim OTIB-81, is what we call it, this is the
18 Savannah River coworker model. It's going to be
19 covering tritium and the exotic radionuclides,
20 americium, curium, californium, and thorium.

21 That document cleared Savannah River

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1 ADC review on September 13th. It underwent
2 internal review here last week and it is currently
3 back with ORAU for comment resolution. And then
4 it will come back over to us for approval.

5 We're still anticipating the release in
6 October, at this time, to the Work Group. And
7 although I am not sure whether it goes to the SEC
8 Work Group or the Savannah River Work Group or both
9 -- I imagine it goes to both, but we'll cross that
10 bridge whenever we get the document completed.

11 The second part, which is the Rev. 4 of
12 the OTIB-81 for the coworker models, this would
13 have all of the models in it. Remember, the first
14 one, the initial one, is to give the various Work
15 Groups a chance to look at how we're implementing
16 the draft implementation coworker model -- or the
17 coworker implementation guide, how we are
18 following it and what our template is for producing
19 these coworker models.

20 The Rev. 4 of this will include all of
21 the coworker models. That is currently underway.

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1 It is going through the various stages of data
2 quality assurance, model fitting, et cetera, is
3 well on its way. There's no major hiccups or
4 concerns at this time with regards to this one, that
5 we're aware of.

6 The next item is neptunium. RPRT-65
7 was originally intended to be released to the Work
8 Group in August, which was last month.
9 Unfortunately, we didn't get it out to you all until
10 last week. This was due to some difficulties with
11 the ADC review. It did not clear the final ADC
12 review until September 14th. Then it was approved
13 internally here. Jim signed the document on
14 September 19th, which was last Monday.

15 We have submitted it for public
16 release, for public reviews. It goes to DOE
17 headquarters for the final ADC review and release
18 to the public. That was sent on September 20th.
19 Again, I sent this to the Work Group on September
20 23rd.

21 So, once we get that final approval back

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1 from DOE headquarters, then we will post it onto
2 our website. Again, I apologize for the delay
3 here, but it was kind of outside of our hands here
4 for over a month.

5 RPRT-77, the identification -- or this
6 is the identification segment of the neptunium --
7 there's three reports with neptunium. The first
8 one is a broad overview of the operations at
9 Savannah River, the second one is going through the
10 dosimetry and looking at which workers were
11 monitored for neptunium exposure and comparing
12 that to where they worked, because we don't have
13 as much neptunium data as we have for, say,
14 plutonium at the Savannah River Site.

15 I mean, the primary reason is neptunium
16 is only worked with in certain areas. And so this
17 document demonstrates that these workers who
18 worked in these areas were monitored for neptunium.

19 This particular report just got cleared
20 from ADC review, as well, on September 14th. We
21 have it over here for internal review. That's

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1 currently underway.

2 I reviewed it last week and I've got to
3 write up my comments and get them back to ORAU. So
4 we're in comment resolution. So we're not going
5 to make it by the end of this week, but I do hope
6 that we will have it out in the first half of
7 November. So we'll be a little bit late on that
8 one.

9 The PuFF construction report is
10 currently underway as well. We've got one that is
11 -- I've not seen a draft of this yet, which means
12 it also hasn't gone for the initial ADC review at
13 Savannah River, but we don't anticipate any delays
14 with this one at this time.

15 The thorium exposures, this would be
16 RPRT-70 post-1972. This report is also in
17 development. It's currently scheduled for
18 January. We don't have -- they're not
19 anticipating any delays. We are getting a little
20 bit of delay -- I guess I shouldn't -- we're getting
21 a little bit of a delay from the ADC side of things.

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1 We've selected a bunch of documents
2 back in June. To date, we've only received about
3 half of them. So, we are working with the site.
4 The main difficulty, I think we've cleared that
5 hurdle down at Savannah River, the lead, the
6 manager for the review group down there is taking
7 more of an active role and managing the workflow
8 to make sure that we're getting documents out on
9 a more timely basis. And that seems to be working,
10 at least since the 1st of September, we seem to be
11 getting a better response. Let me put it that way.

12 The thoron exposures, that work is also
13 underway. Again, both of these are scheduled to
14 be delivered in January. We do have all of the data
15 for the thoron exposures.

16 The thorium exposures, the previous
17 one, RPRT-70, that one we are, like I said, missing
18 about half of the data, but it's only from the
19 1980s.

20 The report development for the '70s,
21 part of the '80s and -- '70s and '90s is being

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1 written and analyzed completely now. The '80s is
2 the part that we're still waiting on a little bit
3 of data for.

4 The final component to talk about is the
5 metal hydrides. Unfortunately, we got -- or not
6 the final one; second to last. The metal hydrides
7 reports, we did get notification last week that
8 there's an issue with the ADC review. And so that
9 one is going to have to be modified and then undergo
10 ADC review again. So, we are currently working
11 through that one.

12 Due to the transmittal of this document
13 and we can't use FedEx between Savannah River and
14 where our folks work on it there in Oak Ridge in
15 a limited area, it can only be sent a certain way,
16 it does add a few weeks to this particular report.
17 I don't know for sure yet if it's going to impact
18 the October date or not.

19 With the neptunium report I talked
20 about earlier, we actually were able to turn it
21 around within a day and send it back to Savannah

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1 River. So, I'm hoping that we're only going to be
2 delayed on this by about two weeks, but I really
3 don't know for sure. It depends upon the extent
4 of the redaction that has to occur.

5 The final item that I'll give an update
6 on is the job plan evaluation. And this is
7 something that we are currently working on. We
8 have gone through all of the job plans from 1981
9 to 1986 and there's 3,023 job plans. Of those,
10 1,193 are construction trades worker job plans.
11 So, about 40 percent of the job plans are
12 construction trades workers.

13 About 60 percent, though, are
14 operations folks, where they're going into the
15 caves or into other areas and doing some of their
16 non-routine type of work. So, we've got a mixed
17 bag in there.

18 Of the almost 1200 job plans, we've
19 identified close to a thousand construction trades
20 workers between Rolls 2, 4, 5 and 6. Nine-hundred
21 and eighty-two, actually, individual workers.

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1 And within just the Rolls 4, 5 and 6, which is where
2 the subcontractors would appear, there's 624. So,
3 out of the construction trades workers jobs, it
4 appears about 63 percent of them are non-routine
5 DuPont construction trades.

6 So, these would be your B.F. Shaw, your
7 Miller Dunn, and other such subcontractors. So,
8 in total, we have 624 individual workers identified
9 from that particular group.

10 Our current plan with this one,
11 initially we were going to do a sampling. And
12 that's what I talked about in front of the Advisory
13 Board last October, because we weren't sure how
14 many of these we were going to get. Because we only
15 have 624, we plan on evaluating all 624. We're not
16 going to go through and do a sampling from that
17 standpoint. We'll just evaluate them all to see
18 if they have dosimetry.

19 And for those that were doing work that
20 we feel would need a respirator -- or clearly, if
21 they needed a respirator, they would need bioassay

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1 as well. We'll do an evaluation of which ones had
2 bioassay as well.

3 So, that's where we're currently at
4 with our schedule for completion. As I mentioned,
5 we do have a few delays here that are happening due
6 to ADC reviews that are a bit outside our control.

7 So, with that, any questions?

8 CHAIRMAN CLAWSON: Sorry. It takes me
9 a little while to get off mute there. So, we are
10 pushed back a little bit on this, but we are also
11 getting the information that we need out of SRS.

12 DR. TAULBEE: That is correct, yes.
13 It's been coming through -- the most recent data
14 has been coming through in batches. I believe
15 we've had three batches come through, about 20
16 percent of our documents in each of the batches.

17 And we did get one last week, but I will
18 say that most of this has really started to come
19 in since the last of August and beginning of
20 September, up through the middle of September.
21 So, the response wasn't very good until we got here

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1 into September.

2 CHAIRMAN CLAWSON: Okay. Any
3 questions or anything else that anybody would like
4 to bring up at this time?

5 Not hearing any, let's go to No. 2 and
6 kind of discuss in depth how these -- I call them
7 safe work permits, but I've been corrected on that.
8 Explain to me how this is -- what are we doing with
9 this and what have you found out so far, I guess.

10 **DCAS explanation of how safe work permits data will be**
11 **analyzed, statistical metrics for the "success" of this**
12 **test, and the strengths and limitations of this**
13 **validation approach**

14 DR. TAULBEE: Okay. Well, what we are
15 doing with this is we, as I, you know, first
16 mentioned there a second ago, we're segregating
17 these between what are operations work and then
18 what is construction trades work, because we're
19 primarily interested in the subcontractors: were
20 they monitored and do we have the data?

21 Joe's write-up that he gave back
22 earlier, I think, this month was very good, in fact,

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1 focusing on everyone back into what the question
2 is we're trying to resolve here.

3 And if you don't mind, I'll just repeat
4 here what Joe said here in his email, was "SC&A's
5 concern is, and has been, whether NIOSH can
6 validate that subcontractor doses are, in fact,
7 complete at SRS and fully reflected in the SRS
8 electronic radiological databases to support dose
9 reconstruction, particularly for the more
10 transient and short-term, smaller
11 subcontractors."

12 So that's the purpose of what we're
13 doing here in looking at these job plans. And so
14 we went back, and this is why we identified these
15 job plans, is because they identify all the work
16 in that area that was non-routine.

17 And so, like I said, you've got
18 operations folks that are going in and cleaning up
19 in the caves or laboratories, or taking apart glove
20 boxes to get something out. There's operations
21 work going on, but there's also construction trades

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1 work going on where they're modifying the glove
2 boxes or they're modifying something or pouring
3 concrete in an area like a high-level cave type of
4 scenario.

5 And so these job plans encompass both,
6 and 40 percent of these job plans are construction
7 trades work.

8 Now, within the construction trades
9 work, there's kind of two types of construction
10 trades workers. There's the DuPont construction
11 guys that are part of the maintenance, the building
12 maintenance, services, electronics and
13 instrumentation technicians, which are really
14 electricians, as well as millwrights and so forth.
15 And so those show up on Roll 2. They show up at
16 DuPont construction trades workers.

17 So, they are part of this group of 1,100
18 construction trades worker job plans, but they only
19 make up independently about 40 percent of those
20 construction trades worker job plans. The other
21 60 percent are what I would call non-DuPont

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1 construction trades. These are the B.F. Shaw, the
2 Miller Dunn, the folks that are working for other
3 companies, subcontractors to DuPont.

4 And as I said, we've identified 365
5 construction trades job plans, but 624 workers
6 during this time period, because there's virtually
7 always more than one worker within those job plans.

8 So we're going through, we're looking
9 at the work that's being done, and we're looking
10 at what protective clothing or what the
11 requirements were for the work that they were going
12 to be doing. And many of these construction job
13 plans followed what we heard in the interviews,
14 that they were doing more hazardous work.

15 In that, you'll notice that they'll be
16 wearing two pairs of coveralls. And upon exit, you
17 know, there will be indication there,
18 instructions, to leave one pair of coveralls on at
19 the exit or, you know, inside the room, and then
20 exit with the inner set of coveralls to be checked
21 outside the cell, for example. This is when

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1 they're going into the hot cells. And we see that
2 they're wearing respirators as well.

3 So, when we look at these and we
4 identify the names of these workers, we can go to
5 dosimetry and see, one, do they have a film badge,
6 as the job plan says they should? If they're
7 wearing a respirator, was their follow-up
8 bioassay? So we can go to these workers' dosimetry
9 files and back to Savannah River and say, hey, do
10 we have this data?

11 And if we don't, then clearly we've got
12 an issue here that we're going to have to deal with,
13 but this is the first part of this evaluation.

14 So, I noticed here on the agenda that
15 you mentioned, you know, what is the metric for
16 success?

17 Well, from my standpoint, if, you know,
18 from the TLD side of wearing a film badge, they were
19 required to wear them in there, I'm anticipating
20 we're going to be, you know, over 95 percent,
21 probably 99 percent or greater. That's where I

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1 believe we're going to end up with this.

2 Bioassay is a little more questionable
3 from that standpoint. The reason that it's
4 questionable is because even today the
5 construction trades worker, especially a
6 subcontractor, finishes the job and is given a
7 urinalysis kit to leave a 24-hour urine sample in,
8 and they may or may not return that to the site.

9 Now, generally, people would get pretty
10 good response of, you know, 75 percent or greater,
11 but not always. So, following up with the
12 bioassay, we may not have bioassay from these
13 people. I'd consider success if we're greater
14 than 75 percent, considering that these could have
15 been a onetime job and, you know, you can ask
16 somebody to leave a 24-hour urine sample and give
17 them all the materials, but if they don't send it
18 back, there's nothing really the site can do, or
19 anybody can do, even today, other than restrict
20 them on their next job coming into the site.

21 So I don't expect a hundred percent on

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1 that one, but I do think that -- I do anticipate
2 that we will have a fairly reasonable success rate.

3 And if we do, of, say, 75 percent, then
4 I feel the coworker model would be valid because
5 the people who would not be leaving their sample
6 would probably be -- I can't see why they would be
7 just the high jobs. I would think that they would
8 be the more at random.

9 So, you know, a coworker model should
10 cover those workers' intake potential. And so,
11 that's what we're considering from this
12 standpoint.

13 CHAIRMAN CLAWSON: So, Tim, let me
14 interrupt for just one second.

15 DR. TAULBEE: Sure.

16 CHAIRMAN CLAWSON: So, with this
17 paperwork, your feeling is, is that there should
18 be a bioassay tied to each one of these permits or
19 --

20 DR. TAULBEE: No, within that year.
21 By the way they were doing the monitoring, it was

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1 quarterly with the maximum frequency, unless there
2 was an incident or something like that.

3 So if we don't have an indication of an
4 incident or something along those lines for these
5 workers, but they were wearing a respirator doing
6 this type of work, I would expect to see, within
7 a year of that work, a bioassay sample for that
8 work.

9 Because some of them, even though they
10 were subcontractors, they were not -- they were
11 going from one job to the other, to the next, to
12 the next, and we see many of the same names within
13 this group.

14 So it wasn't a dedicated group
15 completely, but they did tend to use many of the
16 same workers. So I don't expect it to be at the end
17 of each job plan. But if we don't have, you know,
18 a bioassay within that year or half a year or
19 something like that, then, yeah, I would consider
20 that a miss.

21 CHAIRMAN CLAWSON: Well, the reason

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1 why I wondered, the reason why I keep referring to
2 these as safe work permits, is this is exactly the
3 same stuff we had out here later on, I believe. And
4 all this is, and I'll be quite brutally honest with
5 you, is when we went out onto a job, we would do
6 one of these. And as far as bioassays, the only
7 thing would be is to ask as if we're on a bioassay
8 program, which of course we are, and either we're
9 given quarterly or anything else like that.

10 In our world, they didn't drive us to
11 do that. It was just to make sure that we're --
12 kind of a check and balance. Make sure that we're
13 not missing somebody that should be on a bioassay
14 program.

15 Is this kind of what it's looking like
16 to you? Because that's what it looks like to me
17 and I was just wondering.

18 DR. TAULBEE: Kind of. However, I
19 think it's -- I mean, I don't see a check box of
20 checking to see are you on a routine bioassay
21 program.

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1 CHAIRMAN CLAWSON: Routine bioassay,
2 that's what it comes down to. So, anyway, go
3 ahead. I'm sorry.

4 DR. TAULBEE: That's all right. What I
5 see out of this, to me, is that it's job
6 plan-specific. That's how the construction
7 trades worker bioassay was controlled.

8 When we look at the procedures, they
9 indicated that the only thing that people were
10 routinely monitored for if they were one of these
11 kind of routine construction trades was plutonium.
12 The rest of them were all kind of job-specific.

13 And so, to me, if you're going into
14 these caves in the 773 area and you're potentially
15 exposed to americium, curium, californium, we
16 should be seeing the bioassay for that particular
17 hazard.

18 So it wasn't routine for that
19 particular radionuclide amongst construction
20 trades workers. But from our looking at the
21 americium, curium, californium logbooks that we

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1 have, we see a good number of construction trades
2 workers that were monitored.

3 So, the question is whether or not these
4 are the guys that are on these job plans in this
5 time period.

6 CHAIRMAN CLAWSON: Okay. I
7 understand. Anybody else have any questions for
8 Tim on this?

9 MR. FITZGERALD: Yeah. Tim, this is
10 Joe. I did offer up some very, very early
11 observations based on just scanning these job
12 plans. But I guess just for a little bit more
13 background, the genesis of the 3,000 job plans, was
14 that basically just sort of discovered recently and
15 that offered the opportunity to do this particular
16 sampling?

17 DR. TAULBEE: That's correct. When we
18 were going through and looking for air sample data
19 in the 1980s for the thorium report, we ran into
20 these large volumes, these large books of job
21 plans. And so that's how they were identified.

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1 And when we started looking, they all
2 seemed sequential, you know, day in, day out within
3 the same area, 773-A, including the high-level
4 caves, and we started seeing the construction
5 trades in there and the maintenance guys and the
6 electricians, as well as the operations.

7 And so we were like, okay, this is the
8 set of complete that we can evaluate to see if the
9 subcontractors that are identified in here
10 actually had monitoring data.

11 So, there are other job plans out at the
12 site. Every area had job plans, how they
13 controlled their work. We just felt that this was
14 a very convenient group of records that we could
15 evaluate and make some quick determinations on.

16 I can't see where it would be any
17 different from this area versus other areas in this
18 time period. It was all controlled by DuPont and
19 they did things pretty uniformly across the whole
20 site.

21 MR. FITZGERALD: Yeah, I did comment on

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1 that a little bit that, you know, based on a couple
2 of the interviews that we did onsite, it was sort
3 of acknowledged that DuPont did ride hard on the
4 subcontractors and more or less imposed the same
5 planning processes and monitoring that they did for
6 their own employees pretty much up until, I think,
7 one of the interviewees suggested the mid-'80s:
8 '83, I think, was a date that stuck in my mind.

9 That's kind of what gave me a little bit
10 of pause that I think it sounds like the sampling
11 process would try to ascertain, you know, sort of
12 the completeness of records for this sample time
13 period in the early '80s.

14 And my question is, how representative
15 would that be for later years, when it appears
16 DuPont did not manage the growing subcontractor
17 population onsite quite what might have been early
18 on?

19 And, you know, again, that's based on
20 some feedback from HPs at the site, but it appears
21 to be, you know, the situation was changing in the

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1 '80s, as it did at most DOE sites, where outside
2 subcontractors were brought in increasing numbers
3 and became much more of an integrated management
4 structure. And, of course, DuPont left by the end
5 of the '80s.

6 So, I guess I would throw that caution
7 out, that drawing conclusions based on the sample
8 time period. I'm not quite as familiar what the
9 job plans will look like at other locations, but,
10 again, I think what we're trying to look at is
11 whether this very defined sampling period and
12 sampling location should be the basis for
13 concluding that, you know, the records are, in
14 fact, complete across the site. That's just the
15 reservation I expressed earlier.

16 And, again, the time period is one where
17 things were changing. I think it was pretty clear
18 that DuPont managed its subcontractors. I say
19 "its subcontractors;" subcontractors it brought in
20 pretty tightly up through the early '80s. But then
21 it, according to the interview, of course, it

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1 appears that that started changing. That's the
2 only thing I would offer that.

3 DR. TAULBEE: Within the records that
4 we're currently seeing here, Joe, I'm not seeing
5 a big difference here through the 1980s.

6 If I can just give some numbers here,
7 from 1981 through 1986, the number of construction
8 trades worker job plans changes, from 1981, 184,
9 207, 253, 184, 129. And then the number of Roll
10 4, 5 and 6 workers, where the subcontractors, from
11 1981, is 80, 78, 94, 120, 164, 88.

12 So, it seems to peak a little bit
13 between '84 and '85, the use of the subcontractors,
14 and then goes down again, but this very well could
15 be due to the fluctuation of the type of work being
16 done in 773-A.

17 So I'm not seeing a whole bunch of that,
18 but, again, this is just a small sample, as you
19 pointed out. So, through that early '80s, it's
20 looking fairly stable, to me, from what we see in
21 the job plans right now.

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1 MR. FITZGERALD: Yeah. Again, the
2 caution I would have, and this is, of course,
3 something the Work Group will have to consider, is
4 that in the '80s, particularly at Savannah River,
5 you're talking about a period which started out
6 pretty stable, in the early '80s, but as they start
7 decontaminating, decommissioning some of the older
8 facilities, and as they started having to deal with
9 the EPA and the state on environmental restoration,
10 there were a lot of subcontractors brought in to
11 do cleanup.

12 And this is almost every site by the
13 mid-'80s into the late '80s were being sued for
14 environmental issues, and there was a lot of
15 activity to catch up quickly, because you were
16 under compliance agreements. And that's where the
17 influx of subcontractors was substantial and it
18 happened very quickly.

19 And I think the degree of DuPont's
20 control and management of those kinds of subs
21 changed radically, because the system changed

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1 radically. You're talking about thousands of
2 subcontractors brought in to do cleanup, to build
3 ponds, restoration ponds, to clean up certain
4 locations onsite. So, where you sample
5 subcontractors makes a big difference.

6 In my opinion, you may see little change
7 in an operational area that did not have much D&D
8 and cleanup. If you were to switch to an area such
9 as the tank farm or other contaminated areas that
10 were under environmental compliance agreements,
11 you would see perhaps hundreds, if not thousands,
12 of subcontractors coming onsite all of a sudden.

13 And those are the ones I'd be more
14 concerned about, because, again, it was rapid and
15 it involved pretty dirty stuff. You were in the
16 middle of a lot of contamination doing cleanup.

17 So, the time period does matter, the
18 location matters. And I think the answer you would
19 get might change a lot, because I think DuPont did
20 exercise a lot of control early on, but I think that
21 control changed quite a bit by the end of the '80s.

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1 So, I would just offer that up as a broad
2 perspective.

3 DR. TAULBEE: Okay. Would you
4 consider this time period that we are looking at
5 here to be valid going back to, say, 1972 or the
6 early 1970s?

7 MR. FITZGERALD: I would be more
8 comfortable going backwards rather than forwards,
9 just because I think you're talking about the cusp
10 of change by the early to mid-'80s in terms of
11 subcontractor management by DuPont. And I would
12 be the first to say DuPont was a very rigorous
13 manager of safety, but I think that it did change.
14 It did change by the end of the '80s.

15 So, extrapolating these results, I
16 think, would be something I'd be careful asking.

17 DR. TAULBEE: Extrapolating forward,
18 not backwards?

19 MR. FITZGERALD: Yeah. That would be
20 the biggest concern I would have. Again, though,
21 I think you've got to be careful with location,

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1 because, you know, I think the radiological
2 experience and the use of subs would change, but
3 the management by DuPont and the exercise by DuPont
4 of imposing its requirements, I think, would be
5 less of a concern going backwards and forward from
6 that time period.

7 DR. TAULBEE: Okay. I mean, we can
8 certainly look at the more modern time period into
9 the late '80s and '90s. We haven't done that.

10 We want to finish this first to see what
11 we've got from at least this time period going
12 backwards to make sure that these subcontractors
13 that we've identified on these job plans that are
14 wearing respirators going into the high-level
15 caves, that are actually monitored and that we have
16 their data. So, this is where we're currently
17 going.

18 I can understand your hesitation to
19 extrapolate forward. Sure. Maybe it will be
20 something more that you want us to evaluate at that
21 time period, but for this particular group we're

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1 looking to see if these folks that we have
2 identified that should have been bioassay
3 monitored were in fact monitored.

4 CHAIRMAN CLAWSON: Hey, Tim. This is
5 Brad. How far are we into these at this time right
6 now? What have we got done? Do we have anything
7 -- I guess I'm trying to look at how are you going
8 to validate these? What, I guess, is your
9 criteria?

10 DR. TAULBEE: Well, our criteria of
11 evaluation is pretty much what I just talked about,
12 is we're going through the job plans themselves,
13 we've identified the workers, we've been typing
14 them out. And by the way, that leads me to a point
15 that was in Joe's email as well about the legibility
16 of these.

17 Based upon, you know, when you look at
18 the legibility of these names, it does initially
19 look like 10 to 20 percent appear to be illegible.
20 However, through other means, such as payroll ID
21 or comparison with other job plans, as a signature

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1 would have a payroll ID, of the 982 Roll 2, 4, 5
2 and 6, all the construction trades workers total,
3 982, there's only been 16 that we haven't been able
4 to resolve. So, that's 1.6 percent.

5 So we have been able to resolve these
6 ones that are illegible by doing other comparisons
7 and doing lookups in payroll IDs and so forth. We
8 have been able to identify, you know, 98.4 percent
9 of them to date. We feel pretty confident from
10 that standpoint.

11 With regards to -- oh, shoot, Brad.
12 I'm sorry, I just lost your question.

13 CHAIRMAN CLAWSON: That's all right.
14 You've gone over it pretty good. I was wondering
15 about the legibility myself.

16 The thing that I'm looking at is, and
17 I think you brought this up earlier, so if you see
18 these names on there and different areas and so
19 forth like that, if they are being sampled for what
20 they're supposed to -- I guess I'm kind of nervous
21 about some of, you know, the americium and

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1 neptunium, all these other ones, that if they show,
2 then you feel like you've got a pretty good handle
3 on it, is that correct?

4 DR. TAULBEE: That's correct. If we
5 go through here, you know, we've gone through the
6 job plans and we see this guy should have been
7 wearing a TLD and he's wearing a respirator, then
8 he should have bioassay. So that's where we're
9 currently at, is identifying those two things.

10 The TLD part is easy for us. That is
11 well underway from these job plans. By the way,
12 we've been typing in these names. We've got these
13 names in a database now. This is getting back to
14 your earlier question, I just remembered, of where
15 are we.

16 We've got these names into the
17 database. We're comparing them against the TLD
18 records to make sure that they show up during that
19 time period. And then the next step is to check
20 those bits clearly that should have been monitored,
21 bioassayed - in other words, they wore a respirator

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1 into this area -- if it was an airborne area, do
2 they have bioassay? Yes or no?

3 And so that's where we're at with the
4 analysis at this time.

5 MR. FITZGERALD: Tim, Joe again.

6 You know, the original question that -- this goes
7 back to the beginning where it was mentioned that
8 these subcontractor individuals, these names were
9 maintained in company files versus in the regular
10 roster, you know, the DuPont roster.

11 Have you, in your going through all
12 this, established any of that? Or is, in fact, all
13 the subcontractors, you're finding they all have,
14 you know, employee, somehow employee numbers or
15 some means of traceability? I mean, that was a big
16 question in the beginning.

17 DR. TAULBEE: So far, with the names,
18 like I said, we've been able to identify them based
19 upon the external dosimetry.

20 I don't know that it's a hundred
21 percent. I don't know what those numbers are.

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1 But it hasn't been reviewed yet, so I don't really
2 want to give those.

3 But so far, we are finding most of them
4 -- or the vast majority of them, from my
5 understanding, in the payroll -- or in what we call
6 quarterly dosimetry reports, which were the
7 roll-outs of them. The bioassay is really the big
8 question here. That's the one that I don't know
9 about yet from that standpoint.

10 There might be a few so far that we don't
11 see on the quarterly dosimetry, but we haven't
12 tracked those down yet to see what's going on with
13 them.

14 MR. FITZGERALD: So, the dosimetry
15 report would identify the subcontractor company
16 that they work for?

17 DR. TAULBEE: No, they don't, but they
18 do identify the roll. Roll 4 is your construction
19 trades folks from the main subcontractors to
20 DuPont: the B.F. Shaw, the Miller Dunn and so forth.
21 But there's another roll of 5 and 6 that tend to

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1 be more of the mom-and-pop-type of shop. But not
2 always.

3 Sometimes there's some B.F. Shaw folks
4 that appear in there that we know worked for B.F.
5 Shaw, so it's really 4, 5 and 6 is where you find
6 those very small-tier subcontractors, but we do see
7 them on the electronic printouts with dosimetry.

8 Whether we do for bioassay, whether we
9 see them, I don't know yet.

10 MR. FITZGERALD: Okay.

11 DR. TAULBEE: I mean, according to Ken
12 Crase, when we did that interview with him, he felt
13 that all of those files had been rolled into their,
14 you know, individual dosimetry.

15 So, those left bioassays, they should
16 have been rolled, you know, out of those company
17 files and into the program. When we test this,
18 we'll find out.

19 MR. FITZGERALD: Right.

20 CHAIRMAN CLAWSON: Do we have kind of
21 a timeframe that we're looking at here?

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1 DR. TAULBEE: The timeframe was to give
2 us some -- the current timeframe says February
3 2017. I'm hoping to be done before then, but I'm
4 not sure, once we get done going through the
5 logbooks and identifying bioassay, whether we're
6 going to have to have a few of them that we request
7 from the site. And that can take 30 to 60 days.
8 So, we did build in a little bit for that type of
9 analysis.

10 What we do for dose reconstruction is
11 we request from the sites this person's dosimetry
12 records. Well, we're not going to be requesting,
13 you know, 624 dosimetry records from the sites.
14 We're going to go through the records we have
15 in-house, the logbooks for plutonium, the
16 americium, curium, californium logbooks,
17 neptunium logbooks, and we will look for these
18 people in those logbooks first before we get down
19 to the site and be requesting that.

20 So, you know, it's kind of -- you know,
21 the end date is out there a bit, but that's the

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1 reason why we put it out there.

2 Does that answer your question?

3 CHAIRMAN CLAWSON: Yeah, it does.

4 Looking at the agenda here, this No. 3, I believe
5 we've kind of answered that already, unless there's
6 more questions, Joe, or from anybody.

7 **Follow-up Questions with Respect to Data Adequacy of**
8 **CTW Primary Contractors, CTW Subcontractors and**
9 **Operations Workers**

10 What about any follow-up questions
11 regarding data adequacy of construction trades
12 workers?

13 I guess, you know, looking back at our
14 history on this and stuff, we've had quite a problem
15 to separate construction trades out, and I was
16 trying to think of how many different iterations
17 we've kind of been through on that, Tim, and I did
18 not think that we had got an adequate fast-forward
19 as of yet that the Board had signed off on of being
20 able to separate them out.

21 So, I guess what I'm asking is, is how
22 are we going to be able to separate construction

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1 trades and operations people to just -- I'm trying
2 to think back. We did the -- there used to be a
3 number or there was a letter on the side of the
4 badge, and we got into problems with that one.

5 I mean, we really don't have, in my
6 mind, I didn't know if we had had a clear path
7 forward, if we had been able to settle this problem
8 of separating construction trades from the
9 operations.

10 DR. TAULBEE: Right. Well, the way
11 that we are doing it currently is by looking first
12 at the roll number. And by roll number, this is
13 where there's a prefix to every dosimeter badge
14 there onsite.

15 Roll 1 is where the DuPont technical
16 folks -- these would be your chemists, your
17 radiological engineers, your regular nuclear
18 engineers, mechanical, et cetera. These are all
19 the technical folks. Those are all Roll 1.

20 Roll 2 is all of your operations folks,
21 your operators, your chemical operators.

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1 However, there is a group of DuPont construction
2 kind of thrown in there with that group. And these
3 were the building trade -- or these are the
4 millwrights, the E&I technicians - electronics and
5 instrumentation technicians - maintenance
6 mechanics that did a lot of the, what I would call
7 non-Davis-Bacon type of work.

8 What we have gone through is, with these
9 particular workers, these are all Roll 2 mixed in
10 with the operators, we've gone back to the job
11 history cards that we collected from the site a
12 number of years ago for an epidemiologic study, and
13 have gone through and looked at whether this person
14 was a maintenance mechanic or an E&I technician or
15 not, and categorized them operations versus DuPont
16 construction.

17 The Roll 4 folks, 4, 5 and 6, they have
18 an additional prefix associated with it that tells
19 the trade. This one is a carpenter. This guy was
20 an electrician. This guy was a pipefitter. And
21 from Roll 4, you can basically tell which company

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1 they were with depending up on their trade at that
2 time.

3 I believe Miller Dunn was all
4 electricians. Somebody can correct me if I'm
5 wrong on that. And B.F. Shaw was the pipefitters,
6 that type of work. So, from there, we can use those
7 codes to identify which subcontractor.

8 Five and 6 we cannot, because some of
9 those 5 and 6, even with the prefix -- I believe 26
10 is the pipefitters -- 26-xxx, whatever the number
11 is, their badge number, those folks could have been
12 working for B.F. Shaw, but didn't routinely go out
13 to Savannah River, so they're on Roll 5.

14 Roll 4 folks were more routine; not
15 strictly Savannah River, but they were more often
16 out at Savannah River. Let me put it that way.
17 And then 6 is the same way.

18 Those we can't actually identify which
19 subcontractor they worked for based upon the badge
20 code, but we can tell that they are definitely
21 construction trades based upon that prefix of job

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1 code. So, that's the triage that we have in
2 sorting this out.

3 The Roll 2 were actually the hardest to
4 do. These are DuPont folks separating out which
5 were maintenance mechanics and which were E&I
6 technicians that were doing some of the lighter
7 construction work.

8 CHAIRMAN CLAWSON: Well, you've got
9 your work cut out for you, I'm going to be right
10 truthful, because Savannah River is unique, in some
11 ways, of the way that they use construction trades,
12 unlike many of the other sites. And this is why,
13 you know, I'm wondering what path we are going down,
14 because I think you're going to have a hard time,
15 because you're right, DuPont had their own
16 construction trades that were the maintenance part
17 of this, too. But also from the operational
18 standpoint, the operators would start to get burned
19 out on a higher dose so they're bringing in a lot
20 of these construction trades to do some of the work.

21 So, you know, it will be interesting to

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1 see what we finally end up with, but we want to make
2 sure that you realize that separating these out has
3 still not been validated from our standpoint.
4 This is your path forward that you're going down.

5 DR. TAULBEE: Well, the good news on
6 this, Brad, is that hopefully the middle of -- well,
7 in October, let me just say October - you're going
8 to be getting what we call the coworker model,
9 OTIB-81. And in there, it has the breakdown of how
10 we have identified the construction trades.

11 So, you'll have an opportunity to see
12 who we've identified as construction trades and
13 why. So, you will be seeing that hopefully within
14 the next month, and we're using the same
15 methodology here. So, that will be coming to the
16 Board for review within the next month.

17 CHAIRMAN CLAWSON: Okay. I
18 appreciate that.

19 Joe or John, do you have any questions
20 for --

21 MEMBER MELIUS: How about Jim first?

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1 CHAIRMAN CLAWSON: Oh, sorry. Hey,
2 you're not always here. Okay. So, go ahead.

3 MEMBER MELIUS: I'm easy to ignore,
4 right?

5 So, Tim, just one question and then a
6 comment. So, are you doing a single coworker model
7 for both production and construction, or are there
8 dual or more than one coworker models?

9 DR. TAULBEE: There are two coworker
10 models. One for operations, one for construction.
11 And within this report you're going to see, well,
12 for tritium, there's an operations coworker model
13 and a construction coworker model. For the exotic
14 radionuclides; americium, curium, californium;
15 there's an operations coworker model and a
16 construction coworker model.

17 But within that report, you'll see how
18 we separated construction trades from the
19 operations.

20 MEMBER MELIUS: Oh, okay. And then my
21 comment is going back to, I think, some of the

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1 questions and concerns that Joe Fitzgerald raised,
2 which is, I don't see how, given the limited scope
3 of your job plan evaluation, how the Work Group or
4 the Board can evaluate how good your coworker
5 construction model is, that you have captured an
6 adequate proportion of that and constructed that
7 correctly given that your sampling seems to be in
8 terms of such a narrow timeframe and such a narrow
9 location for those.

10 And I think that's a very fundamental
11 problem. So, when we get to February or whenever
12 you say it's done, I think there's going to be a
13 lot more work to do.

14 DR. TAULBEE: I can give an attempt
15 here to answer your question on this.

16 When we did this coworker model, this
17 report that's going to be coming, OTIB-81, the
18 americium, curium, californium is all of the
19 americium, curium, californium data onsite. So,
20 it's not a sampling, it's all of it.

21 And for the tritium, we're actually

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1 using NOCTS, because we have so much tritium data
2 we won't have to go back to the site to get all the
3 tritium data.

4 And so the question that was posed here
5 that I read in the beginning was, are we getting
6 the subcontractor data?

7 When we look at the americium, curium,
8 californium coworker model where we use all of the
9 data from the logbooks, we have thousands of
10 construction trades worker samples.

11 The question is, are we getting these
12 subcontractors? That's what this job plan
13 evaluation is designed to look at.

14 From the coworker standpoint, we're
15 using all of the data that was available from that
16 standpoint. Like I said, there's thousands of
17 exotic radionuclides for construction trades
18 workers. But were those construction trades, I
19 mean, is there a group of construction trades
20 workers that are missing out of that?

21 That's what this job plan is going to

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1 identify. Here are the guys going into the hot
2 cell that should have been monitored. Were they
3 monitored? Do we have their data? That's what
4 we're trying to answer.

5 MEMBER MELIUS: Well, I guess we'll
6 cross that bridge, but I'm very skeptical given the
7 limited evaluation that you're doing.

8 DR. TAULBEE: Okay.

9 MEMBER MELIUS: But I don't want to
10 prejudge until I've seen the coworker model.

11 DR. TAULBEE: Okay.

12 CHAIRMAN CLAWSON: Is there anybody
13 else that had any questions? John or Joe or --

14 MR. STIVER: This is John. I don't
15 have any additional questions. I think we've
16 pretty well covered the waterfront here.

17 MR. FITZGERALD: Yeah, just as a
18 closing remark. This is Joe, just a take-off from
19 what Jim was saying.

20 Yeah, so, you know, certainly the
21 coworker model based on the source terms that

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1 you're dealing with, whether it's tritium or the
2 exotics, I mean, I can understand that. And I
3 think, you know, as far as a process, that's one
4 issue.

5 I look at the subcontractor follow-up
6 as sort of a more fundamental question. This would
7 be sort of validation-verification, the V&V that
8 we usually look for in all SECs as far as the
9 database.

10 And for the subcontractors, this had
11 not been done at the beginning. And I think it was
12 prompted by that comment that Ken Crase had made
13 that we started looking at this.

14 So, really, it's just down to, can we
15 trust the completeness and accuracy of the
16 subcontractor database and its reflection in the
17 electronic database that you're using?

18 To me, it's a broader question that
19 hasn't been answered. And I think the pause that
20 I am expressing is whether this sampling is going
21 to be enough to assure the Work Group of that V&V

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1 question, the reliability of the database.

2 That's really everything I've come back
3 for on that one, and I know we've tried a number
4 of different approaches on that. And it's not an
5 easy question, but it's a pretty important question
6 given the way the site has used subs. So, I guess
7 we'll also wait and see what the analysis comes up
8 with.

9 CHAIRMAN CLAWSON: Well, I think we've
10 kind of followed up on the question there in respect
11 to data adequacy for the coworkers and primary.
12 And I think what we're going to end up coming up
13 to is generally we'll see when we get it and go from
14 there.

15 We've got here follow-up questions on
16 the neptunium, thorium, metal hydrides coworker
17 models. Is there anything else -- I know that
18 you've gone over this. I'm just wondering if
19 there's anything else that you'd like to put out
20 there or --

21 DR. TAULBEE: Not really, at this time.

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1 And I know you guys just got the neptunium report,
2 so I'm not expecting you guys to have any comments
3 on it yet. But, you know, once you do, then we can
4 have another call to discuss those.

5 So, I don't really have much more to
6 offer other than we will be getting out the next
7 report in October here to you all. And then the
8 PuFF report should be coming in December.

9 CHAIRMAN CLAWSON: Okay.

10 DR. TAULBEE: And the metal hydrides,
11 that one I don't have a good date for right now
12 because we're going to have to be doing some
13 redaction.

14 **Follow-up questions re: neptunium, thorium and metal**
15 **hydrides coworker models**

16 CHAIRMAN CLAWSON: That's always fun.

17 Joe, what about you? Any follow-up
18 questions on any these? I know you guys have
19 already got the thorium, but anything that you
20 wanted to bring out or --

21 MR. FITZGERALD: No, I think we've

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1 certainly done a first read on it and it's, you
2 know, a pretty complete compendium of the
3 operational history and kind of where we come out
4 on the -- I guess there was four options for dose
5 reconstruction. And I think we're sort of at the
6 fourth option with this particular -- so, we're
7 looking at that. And that's pretty much it.

8 **Follow-up discussion of DCAS/SC&A work priorities**

9 CHAIRMAN CLAWSON: Okay. Well, with
10 that being said, I guess a little bit of a follow-up
11 discussion about the work priorities here. I
12 think you've kind of hit a little bit on that.

13 I'm just going to be brutally honest.
14 I'm looking at the timeframes for a lot of these
15 things. I know that you've thrown them out there,
16 but could you just kind of give us a follow-up of
17 kind of where we're -- what our path forward is,
18 what we're looking at for a time period?

19 DR. TAULBEE: Sure. You know, just to
20 kind of recap here, we are working on all of these
21 simultaneously, actually. We've got multiple

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1 health physicists working on this. We are
2 diligently trying to meet the estimated completion
3 dates that Steve presented there at the Advisory
4 Board meeting in August.

5 We are anticipating that OTIB-81 will
6 be released in October. That would be Rev. 3.
7 That's the americium, curium, californium, thorium
8 one, as well as the tritium coworker models within
9 that report.

10 I would look for it towards the end of
11 October at this time just due to the delay getting
12 it out of ADC review, but we are working to try and
13 meet those dates still.

14 The neptunium reports, you received the
15 first one, RPRT-65. RPRT-77 should be coming out
16 the first part of next month. The PuFF report is
17 scheduled for December.

18 I mean, this is PuFF construction, by
19 the way. For those, just as a recap, while there
20 was neptunium operations going on in building
21 235-F, which is the plutonium fuel fabrication

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1 facility, these would be for the Cassini and
2 Galileo missions that were coming up, they added
3 -- or they took a part of the building and turned
4 it into a plutonium fuel fabrication area.

5 When they were doing that new
6 construction on that side of the building, they
7 were still doing some neptunium operations. So
8 that's what this report is going to address, and
9 that's scheduled for December.

10 Again, the thorium exposures report
11 post-1972, this would be our RPRT-70, is currently
12 scheduled for January. We do have a draft in the
13 works. We have all the data for 1970 and 1990 to
14 support that report. We have half of the data from
15 the 1980s to support that report.

16 And so, as long as the site continues
17 to deliver the data on the schedule that they have
18 been this past month, I think we'll be in prime
19 shape for that one.

20 For thoron exposures, we've got all the
21 data in-house and are currently analyzing that to

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1 get that report out.

2 And then the metal hydrides report, I
3 just mentioned that we are having some issues. So,
4 that may not come out until the beginning of
5 November.

6 And then the job plan evaluation, we are
7 underway. Like I said, we've got the names into
8 a database and have already started checking
9 against the dosimetry. And the next step is to
10 start categorizing whether there is a need for
11 bioassay based upon the job plan and whether there
12 is bioassay.

13 Keep in mind, some of these
14 construction job plans, they weren't required to
15 wear a respirator. And so they weren't in any, you
16 know, airborne type of area. So we're not
17 necessarily expecting that they would be needing
18 bioassay from that standpoint, but I would say at
19 least half, if not more, of these job plans for the
20 construction trades do indicate wearing a
21 respirator. So, from that standpoint, we should

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1 be seeing bioassay for these workers.

2 So, again, the February date, I
3 explained that if we have to go back to the site
4 in order to request a few workers to see their
5 bioassay cards individually, or maybe if we have
6 to go there to look those workers up, we're going
7 to need a little time, which is why that date is
8 out into February.

9 So, does that give you a good idea of
10 where we're at with our work priorities?

11 CHAIRMAN CLAWSON: Yes.

12 DR. TAULBEE: Again, we're working on
13 all of these at the same time.

14 CHAIRMAN CLAWSON: Right. And I
15 appreciate that.

16 Any questions from any of the other
17 Board Members or SC&A?

18 Not hearing any, we can discuss the
19 priority for going forth. One question I do have
20 is, Joe or John, for this thorium, what are we
21 looking at a time period for you guys, that we're

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1 going to be looking at?

2 MR. FITZGERALD: You're talking about
3 neptunium?

4 CHAIRMAN CLAWSON: Thorium, I believe.
5 This one that just got out -- or was it neptunium?

6 MR. FITZGERALD: Neptunium.

7 CHAIRMAN CLAWSON: Neptunium, yeah.

8 MR. FITZGERALD: Well, I'll defer to
9 John. I think we had Bob Barton working on that
10 originally. And I think we just got that to him.

11 MR. STIVER: We just got that literally,
12 you know, on the 23rd. So, we --

13 DR. TAULBEE: Yeah, I just sent it
14 Friday.

15 CHAIRMAN CLAWSON: Okay. Well, when
16 you get a chance, just kind of let us know where
17 you're at, I guess.

18 MR. STIVER: As Tim has mentioned,
19 maybe we could have another call if we have any
20 questions that need to be clarified after we, you
21 know, get a more of an in-depth look at it.

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1 So, I mean, we could kind of do that as
2 a technical call, if it's necessary, but we're
3 going to get started on it right away. So, you
4 know, I don't anticipate it's going to be an
5 extremely long period of time. I would say, I don't
6 know, probably four to six weeks, I would say.

7 MR. KATZ: Yeah, John, I mean, after
8 you've had a chance to look at it, just send us a
9 note with --

10 MR. STIVER: Right. After we have a
11 chance, we'll have a better idea of --

12 MR. KATZ: Yeah. Send us a note and
13 let us know when you expect to have completed your
14 review.

15 MR. STIVER: Okay. Sounds good.

16 MR. FITZGERALD: Tim, I have sort of a
17 background question having scanned the neptunium
18 report, if it's okay to raise it.

19 We've gone through the various options
20 on sort of post-reconstruction strategies and, you
21 know, we're sort of back to the original bioassay

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1 data, albeit, you know, it was considered limited
2 before and I think that was the reason the mass
3 ratios and whatnot were a higher priority, if they
4 would have worked.

5 Now that we're back to the actual
6 limited bioassay data, is the confidence in
7 extrapolating that data forward, is that more from
8 the better understanding of the neptunium
9 operations in place and the stability of those
10 operations and knowledge of those operations, that
11 you feel it's a steady state, that the limited data
12 ought to bound any exposures going forward?

13 Again, that's what I inferred from the
14 report, in the broadest way, that you have a more
15 comprehensive knowledge. And it didn't appear
16 there were any outliers that would have made using
17 that limited data restrictive.

18 DR. TAULBEE: That's correct.
19 However, we're not using just the urinalysis.
20 We're actually proposing to use the whole body
21 count within that. And so the urinalysis is

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1 actually showing significantly lower than what
2 we're projecting for the coworker model and using
3 the whole body count information.

4 And the reason for including that in the
5 discussion is that there were some questions early
6 on from SC&A about the separations of the neptunium
7 and the timing of the whole body count and whether
8 these were, you know, bounding estimates of the
9 whole body count.

10 So, we've included the bioassay data
11 that, again, is limited, but it does encompass, you
12 know, a significant number of workers. And that's
13 what the second report is going to be showing, is
14 that these workers that have that neptunium
15 bioassay are the ones that were in 235-F that were
16 working with the neptunium.

17 And so we feel that, you know, those
18 whole body counts are certainly going to be
19 bounding. They're much higher than what the
20 urinalysis of the people with direct hands on these
21 material were receiving.

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1 So, yeah, we have gone back to using the
2 whole body counts from that information, with the
3 limited urinalysis demonstrating that the whole
4 body count is bounding.

5 Did that answer your question?

6 MR. FITZGERALD: Yeah. That's kind of
7 what I got from the report, that it's sort of an
8 operationally informed judgement that this would
9 be a bounding dose.

10 DR. TAULBEE: Yeah. Well, not just
11 the operationally informed. The report you're
12 looking at right now is mostly operationally
13 informed. That was its goal, was to use just that.
14 But then, you know, with the model and so forth,
15 what you'll see is we're using the operationally
16 informed, as well as the demonstration of these are
17 the people working with neptunium, this is their
18 urinalysis, and all of this is below the whole body
19 count that we see. So it's a combination of all
20 of this. It's weight of evidence.

21 MR. FITZGERALD: Alright.

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1 CHAIRMAN CLAWSON: Are there any other
2 questions that anybody has before we allow the
3 petitioners the opportunity to comment?

4 MEMBER LOCKEY: Brad. I just got one
5 question. I can remember when we do the modeling,
6 for those who don't have bioassay, we give them a
7 value, you know, like maybe it's half of the high
8 value of what it is. I would like to see the
9 justification on that if we are going that route.

10 DR. TAULBEE: Okay. With the
11 implementation of the coworker models, it tends to
12 be based upon the type of work that that individual
13 was doing.

14 For, like, example, the general
15 guidance is somebody who's doing clerical type of
16 work or, you know, clerk/inventory type of work or
17 something along those lines that might
18 occasionally go into an area, we tend to assign the
19 geometric mean for their dosimetry -- or for their
20 coworker model. However, people who are
21 operations -- or not operations, but construction

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1 trades and so forth, we tend to assign the 95th
2 percentile.

3 So it really depends upon the
4 individual claim and there's guidance that we've
5 got out there that dose reconstructors use along
6 those lines.

7 These coworker models won't be any
8 different from that standpoint of how those
9 coworker models are implemented.

10 MEMBER LOCKEY: Okay. Thanks.

11 CHAIRMAN CLAWSON: Anybody else?

12 Ted, I'll turn it over to you and you
13 can allow the petitioners or however you want to
14 do that.

15 MR. KATZ: Yeah, Brad. Absolutely.
16 So, Josh, I think you had distributed some
17 material, which I've distributed to these Work
18 Group Members, but, anyway, it's your opportunity
19 to talk to the Work Group.

20 MR. FESTER: Okay. And I think Warren
21 was on another line. Are you there, Warren?

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1 MR. JOHNSON: I am.

2 MR. FESTER: Okay. I think Warren had
3 some comments that he wanted to --

4 **Petitioner Comments**

5 MR. JOHNSON: Yes, that's right.

6 First, thank you all for allowing us to
7 comment. And I'm still trying to completely
8 digest all that was just discussed, but I think the
9 overriding point of it is this is highly technical
10 information and clearly NIOSH is making every
11 effort to accomplish its purpose here of bounding
12 the dose with sufficient accuracy.

13 But having said that, what Congress
14 created was a program for compensation for our Cold
15 War veterans, the people that supported our Cold
16 War effort. And the illnesses we're just talking
17 about, our primary subject, are illnesses that are
18 termed in terms of five- and ten-year survival
19 rates.

20 We're now over 16 years past when this
21 Act was created, and we're still hearing that more

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1 records are coming out, the prior dose
2 reconstructions, many of which have had to be
3 vacated, and it sounds like the potential for some
4 part of the end in sight will be hopefully in
5 February where we get an evaluation of a sample of
6 records that were just found.

7 Congress said for you all to be doing
8 this to determine whether it was feasible for NIOSH
9 to reconstruct the dose with sufficient accuracy
10 and ensure it's claimant-favorable. All these
11 prior dose reconstructions were not
12 claimant-favorable because we found more records.
13 That changed the coworker models. We've had
14 numerous revisions and technical bulletins and so
15 on which keep changing the analysis.

16 One big part of feasibility, obviously,
17 is time. And clearly, Congress envisioned, when
18 they're dealing with people who have five to
19 ten-year survival rates, many of which have less
20 than a 50-percent survival rate of ten years from
21 diagnosis, they clearly didn't envision us to be

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1 continuing to try and get this right almost 20 years
2 later.

3 One of the primary benefits that are
4 afforded to this isn't just compensation. It's
5 the home health, it's full healthcare.

6 I've got many, many clients that tell
7 the story of having a child or daughter having to
8 quit her job and stay home and care for her dad who's
9 basically wasting away. He's got -- one that comes
10 to mind is pancreatic cancer. The individual died
11 at 90 pounds and his daughter had to tell the story
12 of having to change his dressings, change his
13 diapers.

14 That's not the dignity that these
15 people were supposed to have been granted. That's
16 not what Congress intended.

17 And so when you consider whether it's
18 feasible, you also have to consider time as an
19 element of that.

20 I have no doubt NIOSH is trying its best
21 and is clearly competent to do this, eventually,

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1 but, also, the end result is only as good as the
2 records that are fed into it.

3 Josh and I have been in litigation with
4 a number of cases and deposed a number of
5 individuals out at the site, and the records
6 keeper, the person most knowledgeable on the
7 records, cannot attest that the individual records
8 provided to us pursuant to subpoena were complete.

9 And now we're talking about the
10 completeness of a sample on some work permits from
11 a sample of time. I don't know how you'll ever know
12 that those are complete. And when something's not
13 in there, I mean, it's missing or it didn't happen.
14 If there's not an incident report, is it missing,
15 or did it not happen? Well, you can't assume that
16 it didn't happen and still have a
17 claimant-favorable outcome. That's not a
18 claimant-favorable assumption.

19 So you're speculating, when there's an
20 absence of a record, that everything went as
21 planned. We've seen what happened from '54 to '72.

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1 We also have seen the Tiger Team investigated in
2 1990s. And what they found was, I believe it was
3 well over 200 violations, many of which were things
4 such as radiation zone that was dependent upon
5 positive airflow with doors propped open to
6 non-radiation areas.

7 Well, clearly people in the
8 non-radiation areas wouldn't be assigned
9 respirators. And so according to that philosophy,
10 you only need to give a bioassay if you have
11 respiratory protection, those people would never
12 have a positive test, because they were never
13 tested.

14 The other big problems are things like
15 when did the tests occur? When did their intake
16 occur? You can't assume it happened the day
17 before. And if it's now down below the minimum
18 detectable limit, it depends on when the person
19 breathed it in or had a puncture or whatever.

20 All of these things are problems that,
21 quite frankly, I think the only cure for is to grant

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1 the SEC. I think it's not feasible to continue --
2 feasibility, again, has to be viewed in terms of
3 what the goal was trying to accomplish. And what
4 Congress tried to accomplish was to grant benefits,
5 primarily including -- not just compensation, but
6 primarily the healthcare. And you can't just
7 continue to move this down the road. We're going
8 to get to February and it sounds like there's, in
9 all likelihood, more information to be found from
10 there.

11 I believe, at this point, you see
12 violations in 1990, they weren't following
13 procedure. In fact, one citation they got in, I
14 believe, '97, was for lack of follow-up on
15 bioassays. They had a 79 percent
16 non-participation rate.

17 I believe somebody spoke earlier about
18 we can trust the bioassays of the subcontractors
19 if we had a 75 percent rate or better. Well,
20 Westinghouse itself, according to that violation,
21 only had a 21 percent participation rate. That's

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1 not good enough and that's not going to lead to
2 sufficient accuracy when you try and do a
3 reconstruction for these people.

4 They deserve better, their families
5 deserve better. And I think that Congress gave you
6 all the power to fix this, and that is granting the
7 SEC. Thank you. And Mr. Fester may have some
8 comments as well.

9 MR. FESTER: Yeah. And I guess --
10 again, this is Josh Fester. I guess one of my
11 concerns is something that I think Jim brought up
12 and Warren touched on, is, you know, how can there
13 be an accurate coworker model based on such a narrow
14 sampling from a narrow period of time?

15 And I guess my concern is, giving the
16 benefit of the doubt to these contractors and
17 subcontractors when we know time and time again
18 they've had these violations, the Tiger Team report
19 shows, you know, very basic ALARA violations, OSHA
20 violations, you know, up to 1990.

21 The Tiger Team report basically says,

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1 well, you all are doing a good job, you're getting
2 closer to your goals of not violating OSHA and being
3 in accordance with ALARA, basically intimating
4 that, you know, it had gotten better by 1990 even
5 though we see all these violations.

6 So, I guess my question would be, you
7 know, between that period of 1972 to 1989,
8 Westinghouse, it was supposedly worse during that
9 period of time. That's an issue and that's
10 something that we have to consider. And I don't
11 think they can get the benefit of the doubt,
12 especially when we see -- you know, and this is
13 something that we didn't submit prior to, but
14 Westinghouse itself has gotten various violations
15 over the years, particularly, as Mr. Johnson
16 pointed out, you know, compliance with the bioassay
17 program.

18 They were cited for a violation where
19 they had 79 percent non-compliance with bioassays
20 as late as, I think, 2000. You know, that's an
21 issue.

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1 Another thing I wanted to point out, and
2 I know that you all have to wait until NIOSH
3 presents the evaluation on thorium, but what we
4 presented is FOIA documents that show the presence
5 of thorium in various areas, not just the lab.
6 Various buildings throughout the 700, 300s area and
7 even in 235-F. And that's throughout the '70s
8 after 1972.

9 A person most knowledgeable, in the
10 excerpts of the deposition that we submitted, he
11 says that they didn't even have a program for
12 monitoring thorium. They didn't have a way to test
13 for thorium until at least 2000. So I'm just not
14 sure how any evaluation of dose for thorium can be
15 accurately recreated by NIOSH here.

16 And, again, it's not a criticism of
17 NIOSH. I think they're very competent to produce
18 dose reconstructions, but for things that we know
19 were present at the present and were monitored for.
20 So, that's just one thing that I wanted to point
21 out and bring to the Board's attention. Thank you.

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1 MR. KATZ: Thank you, Josh and Warren.

2 Brad?

3 CHAIRMAN CLAWSON: Yeah. Is there
4 anything that we need to -- is there anything that
5 anybody would like to bring up before we call this
6 the meeting to a halt?

7 **Adjourn**

8 If not, I guess we'll adjourn. I
9 appreciate all of you calling, and I appreciate the
10 update, Tim, and we'll see you shortly.

11 DR. TAULBEE: Okay.

12 MR. KATZ: Yeah. Thank you, everybody.

13 (Whereupon, at 11:25 o'clock a.m. the
14 meeting in the above-entitled matter was
15 adjourned.)

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