

This transcript of the Advisory Board on Radiation and Worker Health, Rocky Flats Work Group, has been reviewed for concerns under the Privacy Act (5 U.S.C. § 552a) and personally identifiable information has been redacted as necessary. The transcript, however, has not been reviewed and certified by the Chair of the Rocky Flats Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICE
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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

WORK GROUP ON ROCKY FLATS PLANT

+ + + + +

MONDAY
JULY 8, 2013

+ + + + +

The Work Group met telephonically
at 10:30 a.m., Eastern Daylight Time, Mark
Griffon, Chairman, presiding.

PRESENT:

MARK GRIFFON, Chairman
DAVID KOTELCHUCK
WANDA I. MUNN
PHILLIP SCHOFIELD

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ALSO PRESENT:

2

TED KATZ, Designated Federal Official

TERRIE BARRIE

SCOTT BISON

JIM BOGARD, NIOSH ORAU

JOE FITZGERALD, SC&A

LARA HUGHES, NIOSH ORAU

JOSH KINMAN, NIOSH ORAU

ARJUN MAKHIJANI, SC&A

JOHN MAURO, SC&A

DAN McKEEL

JIM NETON, NIOSH ORAU

MICHAEL RAFKY, HHS

LaVON RUTHERFORD, NIOSH ORAU

MUTTY SHARFI, NIOSH ORAU

DAN STANESCU, NIOSH ORAU

JOHN STIVER, SC&A

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1 P R O C E E D I N G S 4

2 10:31 a.m.

3 MR. KATZ: All right. This is the
4 Advisory Board on Radiation and Worker Health,
5 Rocky Flats Work Group. Let's get started
6 with roll call before we formally begin the
7 meeting.

8 We're speaking about specific work
9 sites. So please all agency-related people
10 speak to conflict of interest as well when you
11 report in. So let's begin with Board Members
12 with the Chair.

13 (Roll call.)

14 MR. KATZ: Okay. So welcome,
15 everybody. There is an agenda, but it was not
16 posted on time. For the meeting, I've
17 distributed it. It's very simple anyway, and
18 the Chair can go over it.

19 Let me just remind everyone before
20 the Chair takes over to please mute your
21 phones, except when you're addressing the

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1 group. If you don't have a mute button, *5
2 will mute your phone, and then to come off of
3 mute you do the same again, *6. So please do
4 that at this point, everyone.

5 DR. MAKHIJANI: Hello, Ted. This
6 is Arjun, SC&A. No conflict.

7 MR. KATZ: Okay. Thank you,
8 Arjun.

9 Also, please don't put the call on
10 hold at any point, but hang up and dial back
11 in if you need to go on hold.

12 So thank you, and, Mark, it's your
13 meeting.

14 CHAIRMAN GRIFFON: Thank you, Ted.

15 Yes, I wanted to do a quick little
16 apology for -- the agenda out and also, you
17 know, we did intend to have this as a face-to-
18 face meeting, but since there was little time
19 between NIOSH's White Papers being available
20 to the public and a chance for the Work Group
21 or SC&A to review them, we thought best to

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1 have just a phone meeting now and then
2 schedule a face-to-face in the near future,
3 you know, hopefully soon after the Board
4 meeting in Idaho.

5 So this is going to be more of an
6 update, I think, from NIOSH since I doubt SC&A
7 has had a lot of opportunity to look through
8 this and review it. But the main focus of the
9 agenda is the recent White Papers. One is on
10 the evaluation of petitioner concerns about
11 data falsification, specifically related to
12 Building 123, and the other is on the tritium
13 issues.

14 And then, I guess, LaVon will also
15 give an update on the status of the other
16 items, the thorium issues, neptunium issues.

17 So at this point I think I'll turn
18 it over to NIOSH, I think LaVon, but to NIOSH
19 to go over, I think, either White Paper,
20 whichever you prefer to start with.

21 MR. RUTHERFORD: Well, okay.

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1 Mark, this is LaVon Rutherford. 7

2 I did actually upload a
3 presentation into that Live Meeting, and so
4 basically all the presentation is is a summary
5 of the two White Papers, and if needed
6 ultimately at the Board meeting, it would be
7 used there as well.

8 So if the Board Members go to the
9 Live Meeting, you can actually see this
10 presentation as I go through it. But, again,
11 it's basically just a summary of the White
12 Papers and where we are with the other White
13 Papers.

14 So with that, basically there are
15 five White Papers. We've actually completed
16 two of those White Papers and there's five
17 total. The first White Paper is a follow-up
18 effort on the tritium issues. We did complete
19 that and get that out in late June.

20 I know that the petitioner did not
21 get that document until at the earliest would

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1 have been Wednesday. It was released from ADG
2 review, and so I know the petitioners had very
3 little time to review that document.

4 The other document is the
5 Evaluation of Petitioner Concerns about Data
6 Falsification and Data Invalidation in Rocky
7 Flats Plant Building 123. Again, we got that
8 document out in late June, and petitioner just
9 received that document, again, on Wednesday at
10 the earliest. I'm assuming that they received
11 it on Wednesday. It was released Wednesday,
12 and we were trying to get it to them on
13 Wednesday.

14 Three other White Papers we're
15 working on, the thorium strike White Paper,
16 uranium-233. This is basically an update from
17 the initial evaluation. We went back and did
18 some additional research on that, and I'll
19 give a little update on that one later.

20 Another one is neptunium, on the
21 neptunium operation, and then there are other

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1 thorium activities. Other thorium activities
2 was actually during our data captures and
3 interviews and some of our secured data
4 captures identified a potential concern here
5 that we felt like an additional White Paper
6 should be developed, and I'll give an update
7 on that as well as we go.

8 So the first White Paper I want to
9 talk about is the tritium White Paper. Our
10 follow-up efforts that we did on this one were
11 we did additional data captures, both
12 classified and unclassified. We went to LANL.

13 Because of the interactions between LANL, and
14 knowing that a number of the Rocky Flats
15 classified documents were shipped to LANL, we
16 went to LANL in November of last year.

17 We went to OSTI and CBC in Denver,
18 and DOE Legacy Management. All of those we
19 went back and we did some additional data
20 captures based on some keyword searches that
21 were identified from our interviews that were

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1 conducted back in November of last year. 10

2 We also had some secure
3 discussions with some technical people. We
4 had secure interviews and other interviews,
5 approximately 19 of those, and then as part of
6 our follow-on efforts, as you remember, we had
7 come up with basically a dose reconstruction
8 approach for tritium that identified roughly
9 700 millirem per year for all years.

10 We wanted to go back and look and
11 see if, one, based on the additional data
12 captures and information, the classified
13 interviews, was that still a bounding exposure
14 scenario. As well, we wanted to look at was
15 there enough additional information that we
16 could come up with a little better modeling.

17 So our additional data captures
18 and interviews did identify and confirm a
19 potential for tritium exposure from
20 contaminated shipping containers. I think we
21 all knew that there was already identified

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1 potential exposure from the units, processing
2 the units and such that the 1973 accident
3 cause and that those situations may exist.

4 However, when we had our
5 classified interviews, the additional
6 discussion identified a scenario where tritium
7 could be released from opening a shipping
8 container containing units or a unit. So
9 that additional scenario was identified.

10 Also, our data capture and our
11 interviews supported our previous finding that
12 all known incidents of tritium release are
13 below the release levels from the 1973
14 incident. And, in addition, we did not
15 identify any other sources of tritium exposure
16 beyond that previously evaluated, other than
17 the shipping container contamination release
18 scenario.

19 So our White Paper basically would
20 break down the tritium exposure in the three
21 periods. It's broken down into three periods

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1 not because of changes in activities or during¹²
2 those periods; it's broken down based on the
3 1959 to '72 period when there was little to no
4 tritium monitoring at all, and in 1973 the
5 incident that occurred, and then the post
6 1973, so we broke it down into three separate
7 exposure periods based on that.

8 So I'm going to start first with
9 prior to the 1973 incident, the early years,
10 and our approach to that and what we've
11 learned since the Evaluation Report was
12 presented.

13 Based on our interviews and
14 document reviews, we feel the most likely
15 chronic exposure area was from opening and
16 working with shipping containers that contain
17 units from other sites, those units being
18 returned from the sites and having a release
19 from those.

20 We actually have an exposure
21 scenario that was developed from an incident

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1 that occurred in August 30th, 1974, where $1\frac{5}{13}$
2 curies of tritium was released from a shipping
3 container. Basically they opened a shipping
4 container containing tritium and this release
5 occurred.

6 Our basis for using a 1974
7 incident, recognizing that this is after the
8 1973 incident, the questions automatically
9 come up of, well, why would you use an
10 incident that occurred after the '73 incident
11 and would it be representative of what
12 occurred prior to that '73 incident.

13 Well, our basis for that is the
14 background levels prior to the incident were
15 being measured and were basically at
16 background levels. So we had monitoring that
17 was occurring over a period of time with no
18 releases, and then you have a release event of
19 an open container.

20 The quantity release was probably
21 more typical of release from a shipping

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1 container and more realistic of a chronic¹⁴
2 exposure, a daily exposure that instead of the
3 incident-based sample or incident like the
4 1973 incident where you have an acute incident
5 occurring and so this is more of a chronic
6 exposure scenario for those early years that
7 we felt like would be more typical of what
8 would be seen.

9 Tritium was released to the
10 workplace environment and not in the glovebox.

11 So that we felt like was another good point.

12 The release involved elemental tritium and
13 tritium oxide like the event that occurred in
14 1973.

15 The shipping container wasn't used
16 prior to 1973. I mean, you could argue back
17 and forth of whether that really has much
18 support, but it was in use, and so, you know,
19 we do feel like it has a little basis for it.

20 The incident occurred close enough
21 to the 1973 incident that workplace controls

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1 were likely similar to prior to 1973. If you¹⁵
2 actually look at it, this shipping container
3 event or the 1973 incident was completely
4 different than this event. So the actual
5 putting in workplace controls for containers
6 coming back to the site had not really been
7 identified as something that needed to be
8 corrected.

9 If you look at the paper, we
10 identify a document where they actually went
11 back in early 1974 and started monitoring
12 shipping containers and looking at these
13 shipping containers to see if this was an
14 exposure concern of opening them and
15 ultimately later in 1974 is when that event
16 occurred.

17 And then workplace controls were
18 put in place after that. So we do feel that
19 this is a good basis for using this event.

20 So the monitoring data from the
21 1974 incident, we had air samples that were

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1 taken from June through September of 1974₁₆
2 The average concentrations were around 5,343
3 picocuries per meter cubed, and the
4 concentrations on August 30th were
5 significantly higher, and that's when the
6 release occurred of 37,676,609 picocuries per
7 meter cubed.

8 Bioassay samples were taken. They
9 indicated a high result of 32,320 picocuries
10 per liter. There were work area smears taken,
11 over 300 of those.

12 So based on the information and
13 monitoring data we had available, we did a
14 dose assessment for that 1974 incident. We
15 IMBA. We took the largest urine sample of the
16 32,320 picocuries per liter. We used a start
17 date of August 30th, 1974, and inserted this
18 in.

19 We come out with a resulting dose
20 that was less than one millirem. It is
21 actually .15 millirem. So if we assume that

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1 incident, you know, the next question is;
2 okay. How often do you assume or how often
3 would you assume that an incident would occur?

4 And not having a good indication
5 of how often this did occur, we assumed one
6 incident per day for 250 days. Basically this
7 event occurred every day and results in 37 and
8 a half millirem per year. We think that this
9 is a reasonable estimate of the exposure that
10 the individuals would receive in those years
11 prior to the 1973 incident. So, therefore,
12 for all unmonitored workers for tritium we
13 will assume 37.5 millirem for all years prior
14 to 1973.

15 The tritium exposure in 1973, the
16 annual dose assigned based on the 1973
17 incident, the incident occurred from April 9th
18 through April 25th in 1973 when a shipment of
19 scrap plutonium from Lawrence Livermore was
20 processed at Rocky Flats Plant in Building
21 779A.

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1 Again, those will remember that¹⁸
2 the incident was not immediately recognized,
3 and so individuals were not monitored until
4 September of that year. So you're looking at
5 roughly a little over five months later or
6 around five months later that individuals were
7 monitored.

8 Approximately 250 people were
9 bioassayed for tritium. They had basically an
10 action level of 10,000 picocuries per liter.
11 They initially used undistilled samples to
12 identify people. They identified roughly 19
13 people with elevated tritium. When they
14 distilled samples and rechecked, there were
15 five individuals above the action level.

16 So the five cases exceeding 10,000
17 picocuries per liter were reviewed from the
18 final incident report, and then all cases were
19 modeled to determine the best fit for the
20 urine data, which then would give the most
21 likely dose.

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1 If you remember, we originally ~~in~~ⁱⁿ
2 our Evaluation Report, I think, came up with
3 around 700 millirem. That was a worst case
4 scenario taking the concentration, a urine
5 concentration from the highest individual,
6 backdating it or assuming an acute exposure
7 back on the release date, which gave us a
8 bounding dose scenario.

9 That really did not fit the data
10 real well. So we went back. We looked at the
11 data again to see what would actually come up
12 with the best fit data. Based on that, we
13 went through each case, and then Case H best
14 fit exposure scenario resulted in the highest
15 dose of 84 millirem.

16 Again, this 84 millirem was based
17 on limited information. We had very few
18 samples from this individual, and based on
19 their work history, we could only assume the
20 intake occurred on the first day of the event.

21 So that came up with the high exposure of 84

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1 millirem. 20

2 The tritium doses for the 1973
3 period would be assigned to all unmonitored
4 workers at 84 millirem.

5 For the post 1973 period, we did a
6 coworker analysis, the coworker analysis
7 performed using the 1974-1975 tritium bioassay
8 data. We had 38 individuals with tritium data
9 in 1974 and 37 individuals with tritium data
10 in 1975. Because tritium was only present as
11 a contaminant, there were not large groups of
12 individuals placed on routine bioassay for
13 tritium.

14 What they did was one-tenth of the
15 urine samples collected for plutonium were
16 analyzed for tritium. Also, there were
17 samples that were taken or bioassay samples
18 taken when they felt there was an additional
19 concern for tritium exposure.

20 The dose assessment, again, for
21 1974 and '75, it was assumed that each worker

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1 had a potential for exposure throughout the ²¹
2 year. The 95th percentile was used because
3 only one-tenth of the population was sampled.

4 So we took the 37/38 data points for each
5 year. We assumed that the workers had a
6 potential for exposure throughout the year to
7 come up with their intakes, and then we also
8 assume the 95th percentile was used because
9 only one-tenth of the population was sampled.

10 That coworker study for the '74-
11 '75 period yielded doses of zero millirem for
12 everyone. So for the '74-'75 period, it would
13 be zero millirem.

14 Also for poat-1974, the same dose
15 would be assigned for unmonitored workers.
16 Based on the limited bioassay data we do have,
17 it is consistent with the 1974-1975 data, and
18 we do know that there were a number of
19 workplace controls that were put in place at
20 that period.

21 So in summary, the period prior to

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1 1973, we used the exposure scenario of opening²²
2 the shipping container and a chronic release
3 of tritium from a shipping container, 1.5
4 curies, resulting in 37.5 millirem. The
5 period of 1973, we used the 1973 incident as
6 our bounding exposure. Using the best fit
7 data, we come up with 84 millirem per that
8 year, and then post 1973, based on our
9 coworker analysis, we would not assign any
10 exposure for the tritium during that period.

11 That pretty much summarizes the
12 tritium White Paper, and I can answer any
13 questions before we go on to the next White
14 Paper or if you want to wait, whatever you
15 want to do.

16 CHAIRMAN GRIFFON: Yes. I mean,
17 maybe take a second and just see if anyone has
18 any questions.

19 I mean, I haven't had a lot of
20 time to look at this, and I don't know if SC&A
21 has reviewed this. So certainly when we do

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1 the face-to-face, I expect SC&A will have had²³
2 time, more time to go through it and, you
3 know, have a more formal response.

4 But, I mean, one question I would
5 have right away is it seems like you have
6 selected -- you said that the one incident was
7 more representative of chronic exposures and,
8 therefore, you end up applying it or assigning
9 it for the 250 days. I mean, is that backed
10 up by operational data or is that simply
11 because it was a much lower number than the
12 other 1973 incident?

13 MR. RUTHERFORD: No, no. It's not
14 because it's a lower number. I think it's
15 because, you know, when we interviewed
16 individuals, that issue was brought up.

17 We knew that the four incidents
18 that occurred that had been defined, '68,
19 1973; there were a couple of other incidents.

20 All of the incidents, other than the '73
21 incident, were well below the 1973 incident

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1 and did not involve tritium oxide. 24

2 So the exposure from that '73
3 incident was definitely the higher one of the
4 incidents, but what we looked at based on that
5 interview was, okay, you know, do we have a
6 scenario where, you know, there could be a
7 chronic exposure from these unit shipping
8 containers being returned to the site and
9 being opened up and a release occurring,
10 unknown.

11 You know, we did have indication
12 from our interviews that there were bubblers
13 in place and that at times they were told that
14 they needed to drink a lot of fluids to remove
15 the tritium from their body. So we knew that
16 scenario.

17 And so what we went back to do is
18 to try to actually come up with what would be
19 a good source number for that scenario, and
20 then try to develop a model based on that and
21 see how that compared to the 1973 incident,

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1 and so, you know, that's what we did. 25

2 Now, I think that --

3 CHAIRMAN GRIFFON: And then you're
4 also saying or, I mean, the evidence was that
5 the incident, the '73 incident which resulted
6 in the higher exposures, was a more unique
7 circumstance?

8 MR. RUTHERFORD: Yes, correct.

9 CHAIRMAN GRIFFON: Okay. And I
10 don't know if others from the Work Group had
11 any questions or not.

12 I mean, again, I think when we
13 come face to face, we might have more on this,
14 but if Work Group Members have questions or
15 SC&A can weigh in, that would be great.

16 DR. FITZGERALD: Yes. Mark, this
17 is Joe.

18 LaVon, I guess one question I
19 have, and I think you touched upon it earlier,
20 is, you know, sort of a conundrum of choosing
21 1974, which is roughly a year after the '73

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1 incident, you know, and the issue of the ²⁶
2 returns, as we heard, really gets down to how
3 careful Pantex was.

4 And of course, '73 was Livermore,
5 but in general most of the units came back
6 from Pantex, and the issue was, you know,
7 Pantex was supposed to pump down the pits,
8 supposed to make sure that, you know, there
9 was no substantial tritium contamination on
10 those as they came back, and of course, that
11 wasn't done very well obviously.

12 There was anywhere from small
13 residual to a lot more contamination in some
14 batches, and so my question would be, given
15 the flap that happened in '73 -- and this was
16 a major flap, having the State of Colorado
17 actually discover tritium coming out of Rocky
18 that Rocky wasn't aware of; so you can only
19 imagine that was a very major issue for the
20 complex as a whole -- how confident are we
21 that the '74 scenario in terms of the event

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1 and the measurements would, in fact, ~~be~~²⁷
2 representative of pre-'73, given the fact that
3 it's likely between Rocky and Pantex there was
4 a major discussion about the fact that Pantex
5 wasn't decontaminating their pits before
6 returning them to Rocky?

7 And I would suspect after '73
8 there was quite a bit of effort to make sure
9 those pits were very, very clean of tritium,
10 you know, from there on out. I just don't
11 know.

12 But it would seem to me that that
13 would be a question as to how -- and this gets
14 back to Mark's question -- how normalized are
15 the activities. How clear is it that the
16 conditions are the same that you could use
17 this event going back in time when, in fact,
18 during '73 it had to have been a major review
19 of operations and a major upgrade of how
20 Pantex was doing business with the pits before
21 they were returned to Rocky Flats?

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1 MR. RUTHERFORD: And, Joe, 28
2 think, I mean, that is definitely the issue
3 that we all had here and went back and forth
4 on. I think the biggest reason that we felt
5 that this was the right one or that the
6 controls had not changed was based on that
7 letter that is referenced in the site research
8 or it is referenced in our paper.

9 Basically what they did was the
10 Rocky Flats Plant -- first of all, remember
11 that the incident that occurred in 1973 was
12 not opening a shipping container and having
13 this release scenario. This was actually
14 processing, doing some process work that
15 caused this major release.

16 So it wasn't necessarily known or
17 it wasn't clear that this release mechanism of
18 a shipping container wasn't a potential major
19 problem I don't think if you read the letter
20 that is referenced. It is an October 21st,
21 1974 letter, and it basically says that, you

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1 know, during the past six-month period, year²⁹
2 there's been sampling the atmosphere of and
3 where possible smearing the material in each
4 container that is received in a non-routine
5 category at Rocky Flats.

6 And I'm reading this letter.

7 "The results of these tests have
8 shown that a significant number of containers
9 do have varying low levels of tritium
10 contamination. Since Rocky Flats doesn't
11 presently have a facility where these
12 containers can be opened, the material cannot
13 be processed. Therefore, effective upon
14 receipt of this letter, Dow is establishing an
15 additional requirement that must be met before
16 non-routine SS or non-SS material will be
17 received at Rocky Flats. The shipper must not
18 only verify the tritium levels of the material
19 to be sent, but must also check the tritium
20 level of the shipping container. A statement
21 specifying results of the verification must

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1 appear on forms," dah, dah, dah. 30

2 So then it talks about the
3 facilities in the process of being built at
4 Rocky Flats that will allow containers
5 contaminated with tritium opened, the material
6 checked utilizing a smear sampling technique.

7 So it looks to me from the letter
8 and based on this 1974 incident, they had
9 started a program to check the containers as
10 they came in.

11 They recognized that this is a
12 potential concern, and then they had the
13 release in September, and then ultimately in
14 October this letter is sent out to the various
15 sites that they would receive units.

16 So based on that, now, can I say
17 definitively that the controls hadn't changed?

18 No, I can't, but I'm saying based on this
19 letter that we felt like, okay, that early in
20 1974, probably after the '73 incident, review
21 of the '73 incident, they said, "Okay. Here's

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1 another potential scenario of the shipping
2 containers."

3 They started a monitoring program
4 of the shipping containers and as they were
5 opened. They went through that period. They
6 had the release in September of '74.
7 Ultimately this letter comes out in October of
8 '74.

9 So, I mean, that was the reason
10 why we came up with and we said, you know,
11 okay, this does seem like an event that's
12 similar to what would have occurred prior to
13 the 1973 incident.

14 Now, again, I know everybody
15 hasn't had time to review this and actually
16 review some of these letters and stuff. So,
17 you know, that's basically how we came up with
18 that though.

19 DR. FITZGERALD: Yes, I think we
20 do need to look back at that, but I think that
21 would be a line of inquiry just to firm up the

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1 representatives of operations and whether³²
2 there was a dramatic change in practice
3 between Pantex and Rocky, and there might be
4 certainly some correspondence.

5 They did a site-wide tritium
6 evaluation, as you know. So it would seem
7 that those sources would have been identified
8 and there would have been some communications
9 with Pantex. So that would be something I
10 think we would look at.

11 DR. MAURO: This is John Mauro.

12 I did read the report this
13 morning, and it's a very thorough treatment of
14 the 1974 and the basis for the data you have
15 and how you would reconstruct '74.

16 The idea though of using the '74
17 data as somehow surrogate -- I'm using the
18 term loosely -- for pre-'73, we've been in
19 this situation before, and I know we're
20 talking about relatively small doses, but we
21 have been in this situation before where you

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1 have later data that you think somehow you can³³
2 apply to earlier data.

3 And you just discussed one reason
4 why maybe you could do that, but what we
5 usually look for -- this is sort of just a
6 think piece between now and when we go discuss
7 this again -- you usually look for a hook that
8 allows you to make a statement where you have
9 some weight of evidence that says, "We think
10 we could use the '74 data to apply to pre-'73,
11 even though we lack" -- it sounds like you
12 lack.

13 Everything I can tell, there is
14 very little information on tritium
15 measurements in plant for people who, I guess,
16 disassembled or opened or handled these units.
17 We'll call them "units."

18 But you do make quite a bit of
19 mention in your draft -- not your draft --
20 your report regarding bubblers, and let me
21 just speak for a second about that possibly

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1 being a hook. I'm almost offering a line ^{of}₃₄
2 investigation that might help beef up the fact
3 that you're using '74 for pre-'73.

4 If there's bubbler data, if by
5 "bubbler" I believe you mean you're passing
6 the air through a column of water which if
7 there's any tritiated water in the air, as it
8 passes through this bubbler the bubbler will
9 capture and hold the tritiated water, and then
10 you measure the bubbler and you can see the
11 concentrations of tritium or tritiated water.

12 The bubbler I do not believe will
13 capture -- I'm not sure of this -- hydrogen,
14 you know, the non-tritiated, the tritium, the
15 hydrogen, but it would be a measure of the
16 tritiated water that might be in the air, and
17 you have that data.

18 Now, the hook that I'm thinking
19 of, if it exists, and this is a question, is
20 if there was ongoing bubbler sampling going
21 on, you know, throughout, and I believe these

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1 bubblers are continuous type of units,³⁵
2 something like collecting an air particulate
3 sample. You let the air just chronically pass
4 through and you accumulate.

5 If you have bubbler data during
6 the '74 time period, but you also have bubbler
7 data pre-'73 which might have been located, as
8 I understand, in the hoods; in other words,
9 they were not necessarily bubbler data. They
10 were there mainly -- and correct me if I'm
11 wrong. I'm just trying to open up a line of
12 inquiry.

13 I'm picturing that you've got a
14 hood where when you receive your unit, that's
15 where you would receive it and you have
16 bubbler data there, but if that bubbler data
17 is running all the time, and then, of course,
18 the unit is then taken and the people do what
19 they have to do with the unit; but if that
20 bubbler data is still running so it's almost
21 like a continuous tracking of what might be

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1 going up the stack through the hood and up³₆
2 stack as being a measure of how much -- an
3 index.

4 We recognize that it's not a good
5 quantitative, but it's a good qualitative
6 indicator of do we have anything unusual going
7 on in this bubbler data.

8 If you have bubbler data in '74
9 and you also have some bubbler data pre-'73
10 that you could say is a hook between the two
11 time periods, it would be a way to make a
12 statement of the type you just made that
13 there's good reason to believe that whatever
14 was going on pre-'73 by way of handling the
15 amounts of tritium that might have become
16 airborne, tritium gas or tritiated water, if
17 you have some data there and you have some
18 data in '74, you have the hook you're looking
19 for.

20 And I did not get a sense -- I did
21 get the sense that there was quite a bit of

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1 bubbler data, but I did not get the sense that³⁷
2 there was any way to compare bubbler data from
3 '74 to pre-73. If that's at all possible, it
4 gives you the hook you're looking for.

5 MR. RUTHERFORD: Yes, okay.

6 DR. MAURO: Did that make sense?

7 MR. RUTHERFORD: Yes, John, that
8 does make sense. It does. I'm not sure that
9 we have it, but I will definitely take that
10 action to take a look at that and see if we
11 can come up with that.

12 DR. FITZGERALD: Yes. I guess,
13 LaVon, the other comment, somewhere in the
14 White Paper there's a comment that there's no
15 smear data predating the '73 event, and that's
16 probably true.

17 I did find though they did a
18 baseline survey in '73 which included the
19 containers, and they do have smear data in the
20 baseline survey dated October 12th, '73, and
21 they did, you know, anywhere where there was a

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1 source of tritium, potential source of
2 tritium, they did a baseline survey of that
3 area, smear samples, air samples.

4 I thought that data was maybe also
5 helpful in terms of calibrating some of the
6 levels that they observed in '73 that might be
7 more typical of routine operations, and that
8 was an overall package dated March 12th, '75,
9 but it included the baseline surveys taken in
10 October of '73.

11 And I think the SRDB on that is
12 68351.

13 MR. RUTHERFORD: Okay.

14 DR. MAKHIJANI: Hi. This is
15 Arjun.

16 Could I ask a couple of questions?

17 CHAIRMAN GRIFFON: Yes, yes, go
18 ahead, Arjun.

19 DR. MAKHIJANI: Now, the release
20 in 1973 was for oxidized tritium and the
21 others were tritium gas, right?

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1 MR. RUTHERFORD: Yes. 39

2 DR. MAKHIJANI: So what was the
3 cause of the oxidation of the tritium? Did it
4 come that way from Livermore or was it
5 oxidized by some process at Rocky Flats?

6 MR. RUTHERFORD: It was a process
7 at Rocky Flats.

8 DR. MAKHIJANI: Okay. So I mean,
9 given that this was different and it wasn't
10 recognized by Rocky Flats, I mean, how can we
11 establish or how has NIOSH established that
12 these kinds of shipments were not occurring
13 from Livermore or, for that matter, from Los
14 Alamos that were undetected before 1973?

15 MR. RUTHERFORD: Well, the --

16 DR. MAKHIJANI: Not the tritium
17 containers or bottles, but these cracked
18 plutonium shipments that might have had
19 tritium that was undetected because they
20 weren't aware of it.

21 MR. RUTHERFORD: They actually

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1 went back, and part of the incident report⁴⁰
2 from the 1973 incident, they went back and
3 they looked at previous shipments that could
4 have actually contained tritium in
5 concentrations and made potentially in that
6 form.

7 They identified, I believe, three
8 other shipments. All three of those shipments
9 were significantly lower concentrations.

10 We also went back. We did do some
11 classified data searches to see if we could
12 find any additional information that would
13 identify potential concern prior to the 1973
14 incident, and from our reviews we could not
15 find anything.

16 DR. MAKHIJANI: Okay. My other
17 questions was about the ChemRisk report. You
18 know, it was a very, to some extent, a kind of
19 the "back of the envelope" exercise that was
20 done in the aftermath of the FBI raid and, you
21 know, it's a necessity to put some numbers out

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1 that there was some kind of internal review ~~or~~
2 maybe the state just accepted it. I'm not
3 sure exactly what went on there. So it might
4 be worthwhile looking at the state's records
5 at least and maybe some other reviews.

6 MR. RUTHERFORD: Okay.

7 DR. MAKHIJANI: And my last
8 question about that: the ChemRisk report was
9 looking for off-site impact. Am I right about
10 that?

11 MR. RUTHERFORD: I think mainly it
12 was, yes.

13 DR. MAKHIJANI: Yes, and in my
14 experience, the stack releases and workplace
15 concentrations aren't necessarily correlated.

16 I mean, in fact, you could argue that in some
17 circumstances they'd be anti-correlated,
18 right?

19 Because if you're sending stuff up
20 the stack, then it's not in the workplace, and
21 vice versa. So if you have material that was

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1 susceptible to dispersal and there's a lot ^{up}₄₃
2 the stack, it could be dispersed in the
3 workplace.

4 So I'm not sure that the stack
5 releases are in any way an indication of what
6 you might have found in the workplace. I
7 mean, I don't find that argument very
8 persuasive.

9 MR. RUTHERFORD: Well, I don't
10 think we used that argument. In fact, I think
11 on other occasions we say we don't use that
12 argument that stack --

13 DR. MAKHIJANI: Oh, okay.

14 MR. RUTHERFORD: -- is indicative
15 of exposure.

16 DR. MAKHIJANI: I started reading
17 your paper, but I haven't finished. So some
18 of these questions may be a little bit off
19 base.

20 CHAIRMAN GRIFFON: Let me suggest
21 this, just the path forward. LaVon, I'm

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1 assuming you're keeping track of those few
2 items that John and Joe and Arjun asked.
3 Maybe you can follow up on those and then for
4 our next Work Group meeting, SC&A can come
5 prepared with a more formal review of, you
6 know, this White Paper, actually probably
7 both, but you know.

8 MR. RUTHERFORD: Definitely. I
9 actually wrote down looking at the bubbler
10 data that we have pre and post 1973, how they
11 compare.

12 I wrote down looking at the survey
13 data that Joe had mentioned, the 1973 baseline
14 data to see if that provides any information
15 and support or non-support of what we've done,
16 and then see if there's any validation of the
17 ChemRisk report.

18 I also wrote down just to ensure
19 that we, as I had said, that we're not using
20 the stack sample data in any manner from a
21 dose reconstruction standpoint.

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1 CHAIRMAN GRIFFON: Very good, and⁴⁵
2 we can figure out the timing at the end of the
3 call because if your other White Paper is
4 almost ready, it would be great to, you know,
5 have SC&A review all, everything, come to our
6 face-to-face Work Group meeting and be
7 prepared to talk about all. I guess there's
8 five items or so here.

9 MR. RUTHERFORD: Six.

10 CHAIRMAN GRIFFON: But we can talk
11 about the timing at the end.

12 So unless there's other questions
13 --

14 DR. FITZGERALD: Yes, Mark. Just
15 one last parting question since LaVon is
16 making such a good list.

17 LaVon, we did have one interview,
18 and it's SRDB 122550. That's 122550, and this
19 individual was one of the few that were
20 knowledgeable about the bubblers, and the
21 reason I'm going to raise this one was he made

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1 a point -- you may remember this -- that ⁱⁿ₄₆
2 terms of the containers, the bubblers only
3 figured in the outer container, but not during
4 the opening of the inner, and the inner
5 container was where the bulk of the tritium
6 contamination would have been implicated.

7 And I think that's an important
8 qualifier on the use of the bubbler data.

9 MR. RUTHERFORD: That's a very
10 good point. I remember that, Joe, and you're
11 absolutely right. That is exactly what he
12 said, and that would definitely bring into
13 question comparing bubbler data.

14 DR. FITZGERALD: Yes.

15 MR. RUTHERFORD: So we will take
16 that into consideration.

17 DR. FITZGERALD: All right.
18 That's it, Mark.

19 DR. MAKHIJANI: I had one more
20 question, Mark. Is there any indication of
21 metal tritides from container handling and

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1 processing? 47

2 MR. RUTHERFORD: I can answer
3 that. We have found no indication of metal
4 tritides.

5 DR. MAKHIJANI: Okay.

6 CHAIRMAN GRIFFON: Okay. Is there
7 any other questions from any of the Work Group
8 Members?

9 MEMBER MUNN: No. This is Wanda.

10 I don't have a question. I do
11 have a couple of comments.

12 Thank you for the very good
13 reports, all of the NIOSH team.

14 And one other comment with respect
15 to the question that was raised relative to
16 stack emissions. I thought that one of the
17 points that was made in papers that we had was
18 the fact that no one had ever inferred that
19 external measurements that were made in any
20 way suggested that there was any kind of
21 secondary concerns with respect to personnel

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1 monitoring, that the two were completely₄₈
2 separate and there was never any question
3 about the process that was made in surveying
4 employees as being related in any way to
5 external amounts that were evaluated in the
6 atmosphere. At least that was my inference
7 from what I read.

8 I think that was addressed
9 beforehand, but again, thank you for the good
10 reports, and thank you especially for
11 identifying the difference between oxides and
12 the elemental tritium. That was helpful to
13 this reader.

14 CHAIRMAN GRIFFON: Thanks, Wanda.

15 Any other comments or questions?
16 Then I'll have LaVon move on to the next Work
17 Paper.

18 Again, this is just more of we're
19 getting a presentation, and we're going to
20 bring these back to a face-to-face Work Group
21 meeting to more thoroughly discuss. So we'll

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1 certainly have other opportunities. 49

2 Hearing no more questions from the
3 Work Group or SC&A, I'll move on to the next
4 item. LaVon, if you want to do the next White
5 Paper.

6 MR. RUTHERFORD: Sure. The next
7 White Paper is on data falsification and
8 potential data invalidation. The White Paper,
9 Evaluation of Petitioner Concerns about Data
10 Falsification and/or Data Invalidation in
11 Rocky Flats Plant Building 123 Based on Worker
12 Allegations.

13 This issue was brought up by one
14 of the co-petitioners and was based on her
15 review of a document, of an interview that was
16 conducted, and it identifies potential or what
17 could be potential issues associated with the
18 sample analysis in Building 123.

19 The document is an interview
20 conducted by the U.S. EPA and the FBI of a
21 former Rocky Flats worker who alleged safety

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1 violations and manipulation of lab samples at
2 Rocky Flats.

3 You can see the concern would be
4 that if they were manipulating samples,
5 potentially bioassay samples, personal
6 monitoring data, it ultimately is going to
7 affect our ability to reconstruct dose. So
8 this is a concern we took seriously and looked
9 at, looked at pretty closely.

10 So the allegations relevant to
11 data falsification and data invalidation,
12 Building 123, the interviewee -- and these are
13 basically what I'm doing, is going to cite the
14 allegations that this interviewee identified
15 and then respond to how we feel that could
16 potentially affect our ability to reconstruct
17 dose.

18 The interviewee identified a
19 concern with the fume hoods, that they were
20 inadequate. He based this on he had a pH
21 paper taped to the outside of the fume hood.

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1 The pH paper turned bright red and which he
2 felt was indication that the fume hoods were
3 inadequate.

4 Your know, our response to that is
5 that there could have been a chemical exposure
6 concern. There potentially could have been
7 some minor releases of contaminants if the
8 fume hood was bad. But from a bioassay
9 analysis standpoint there would be no effect
10 to the bioassay analysis from this situation.

11 Another issue was that samples
12 were left on the shelf too long and not
13 refrigerated or preserved. Again, we looked
14 at this. Recognize its target radionuclides
15 of concern for the most part have long half-
16 lives, the plutonium and such. Therefore, the
17 shelf life would have no impact on the
18 analysis for this.

19 The third concern was that fecal
20 coliform samples were diluted to get count
21 rate down for sampling and the dilution amount

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1 was guesswork. Again, this has no relevance⁵²
2 on bioassay analysis. The bioassay analysis
3 and the bioassay program, personal bioassay
4 program was separate from the environmental
5 monitoring program.

6 Stack samples, filters were
7 divided. If the first count was high, they
8 would count the second half. Again, response
9 stack sample results are not used to
10 reconstruct dose for Rocky Flats Plant. So
11 that has no effect.

12 And the last allegation made was
13 that the improper collection of environmental
14 water samples. Again, the environmental water
15 samples are not used in our dose
16 reconstruction so it has no effect on our
17 personal monitoring results that we would have
18 on site. Those were the allegations from the
19 worker that we reviewed.

20 We also did some additional
21 follow-up to get some outsiders' views, other

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1 individuals' views of this. We interviewed⁵³
2 three individuals who potentially had related
3 knowledge or information, you know, on health
4 physics programs, programs near that area, and
5 to look at the issues and get their judgment
6 on those.

7 We also reviewed additional
8 documents, including another document that was
9 provided by the petitioner, all of those for
10 the data falsification issue, and our
11 conclusion in the White Paper is basically
12 that we had no indication of falsification or
13 invalidation of the data used for dose
14 reconstruction. And so there appears to be no
15 effects to our ability to reconstruct the
16 dose.

17 That's pretty much it on that
18 White Paper. I'll take any questions on that.

19 CHAIRMAN GRIFFON: Well, LaVon, I
20 will start off just with the one, just a
21 question from me. In the Item No. 2, you seem

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1 to address the shelf life, but the other part⁵⁴
2 of it seems to be the handling, the
3 appropriateness of the handling.

4 I mean, I've certainly run across
5 this issue in the past, the question of a
6 sample being stirred in the appropriate
7 container. You know, different things can
8 happen in a plastic or a glass container, you
9 know, regarding the sample, depending on what
10 the liquid that that bioassay sample might be
11 mixed in with. You know, different reactions
12 can take place over time.

13 So I think wasn't part of the
14 allegation the question of the
15 appropriateness, whether it should have been
16 stored at room temperature or refrigerated or
17 preserved appropriately, et cetera?

18 And how did you look into that or
19 did you look into that?

20 MR. RUTHERFORD: Yes, I know we
21 looked into that. I don't remember exactly.

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1 I think that I might have to ask Dan to
2 provide some update on that or Mutty Sharfi.
3 Actually Mutty was the one who actually did a
4 lot of the review on that.

5 MR. SHARFI: Hi. This is Mutty.

6 Some of the things, we also talked
7 to other labs, but people who worked bioassay
8 labs in similar times, and from what we can
9 tell, protocols are no different at Rocky
10 Flats than they were at other facilities. For
11 the most part unless you're worried about
12 precipitation on the sides of the containers,
13 which usually pre -- pre and analyze, you do
14 an acid wash of the containers to make sure
15 you capture everything.

16 For the type of radionuclides that
17 Rocky was dealing with, there's really not
18 much of a worry that the fact whether you have
19 them at room temperature or refrigerated is
20 really going to affect your results. Most
21 labs if they refrigerate it, it was more for,

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1 you know, like controls, just the urine⁵⁶
2 becoming unbearable as it gets warm, you know,
3 more than it is from an ability to process the
4 sample itself.

5 So there is nothing indicating
6 that the fact that they refrigerated it or
7 they, you know, kept it on shelves really
8 impacted anything.

9 MR. STANESCU: And this is Dan.

10 I will add that we tried to
11 identify or collect, first identify and then
12 see if we could collect, sampling procedures
13 for Rocky Flats, but we were not successful in
14 finding anything in the time that we had
15 pulling this paper together or specific to
16 bioassay procedures at Rocky. So the
17 interview is what we have at this point to
18 back up our information.

19 CHAIRMAN GRIFFON: Okay. Dan, you
20 were reading my mind. That was my follow-up
21 question, was do you have any procedures from

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1 that time frame. 57

2 Did you happen to -- I mean, I
3 don't know over the course of doing Rocky
4 Flats if we've had any interviews with labs,
5 you know, people you can contact otherwise to
6 verify this. I tend to think that, you know,
7 what Mutty said seems to be reasonable, but I
8 just wonder if you had any other corroboration
9 of it.

10 MR. STANESCU: We haven't done any
11 other interviews on this particular part.
12 This particular investigation was associated
13 with environmental. We haven't found any
14 investigations that invalidate the bioassay
15 procedure portion at Rocky Flats.

16 As a matter of fact, we have
17 indication that they had a pretty good
18 bioassay program at Rocky, but nothing to this
19 level that says their bioassay program was
20 failing from the perspective of operating by
21 the procedures or anything.

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1 CHAIRMAN GRIFFON: Okay. I'll¹¹₅₈
2 turn to see if there are any other questions
3 from SC&A or the Work Group.

4 MEMBER MUNN: This is Wanda.
5 Just another comment. Perhaps I'm
6 missing something, but I don't understand why
7 the handling, the storage of a sample would
8 have anything to do with the radiological
9 assay of that sample. I can see how it would
10 have something to do with the biological or
11 coliform aspects of testing samples, but why
12 would anything other than the known half-life
13 of radiological samples be affected in any way
14 by storage?

15 Is there some indicator there of
16 which I'm unaware? It just --

17 CHAIRMAN GRIFFON: I think Mutty
18 sort of addressed that. I mean, if it did, if
19 the sample did, you know, react with the
20 container itself, if they did the wash
21 afterwards, after wash to get everything off

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1 of the container, you know, there's perhaps
2 ways to handle it, but having no procedures,
3 we're not sure either.

4 So I wasn't even clear on what
5 radionuclides were necessary. I can guess
6 what radionuclides we're analyzing, but you
7 know, I was just questioning whether there
8 were reasons beyond the concerns over odor, et
9 cetera, that there were specific handling
10 procedures in place and why they weren't
11 followed.

12 So just questioning, Wanda. I
13 think perhaps Mutty's answer is probably
14 reasonable, but I just wanted to --

15 MR. SHARFI: Mark, this is Mutty.

16 I can add that we did interview
17 some people we could get a hold of from other
18 labs, and they said even at that time those
19 kind of practices were standard policies for
20 most labs throughout the DOE complex. So
21 there's no reason to believe that they

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1 wouldn't have been anything different at Rocky
2 than they are at other labs.

3 MEMBER MUNN: Thanks.

4 CHAIRMAN GRIFFON: Yes, thanks,
5 thanks.

6 Any other questions? Again, you
7 know, this is our first sort of cut at this.
8 Anybody have any comments?

9 DR. FITZGERALD: Well, Mark, I
10 just have a comment. This is Joe.

11 I think this was a pretty good
12 work-up on the FBI interview in terms of
13 critiquing it for its implications on the
14 occupational side, but I think what was
15 touched upon was what the crossover
16 implications are for the bioassay, and I don't
17 know if you can answer that just by the FBI
18 interview by itself.

19 So you know, you would need a
20 little bit more information I would think on
21 the occupational side to, you know, make sure

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1 that there's no crossover implications. 61

2 DR. MAKHIJANI: This is Arjun.

3 I have a comment or a question
4 rather. In the aftermath of the FBI raid,
5 were there issues related to workplace safety
6 practices and so on that, you know, were part
7 of the proceedings or was that restricted to
8 environmental issues only?

9 MR. RUTHERFORD: Well, I can only
10 answer from what I've, you know, generally
11 read. I mean, I could do some additional
12 research, but generally what I read is most of
13 the issues that were identified were based
14 mainly on environmental issues. And so the
15 findings from that would have been mainly
16 environmental.

17 I'm sure there were other health
18 and safety issues that were identified from
19 the raid that were, you know, identified, but
20 I don't recall.

21 DR. MAKHIJANI: Because they did a

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1 pretty open-ended search of the classified⁶²
2 records at Rocky Flats during the raid, and
3 I'm wondering in the work-up of those
4 documents, you know, whether you've reviewed
5 the work-up of those documents to see if there
6 were workplace safety issues and, you know,
7 issues of data integrity and so on that came
8 up, not in terms of why they raided the client
9 but what happened after.

10 MR. STANESCU: LaVon, this is Dan.

11 If I'm remembering correctly,
12 there's a lot of documents that are locked
13 down in a litigation package or --

14 MR. RUTHERFORD: Yeah, I was going
15 to bring that up.

16 MR. STANESCU: Right.

17 MR. RUTHERFORD: There were a
18 number of documents that were sealed that we
19 have not been able to get.

20 MR. STANESCU: Oh, okay.

21 DR. MAKHIJANI: That litigation is

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1 not over yet? 63

2 MR. RUTHERFORD: No, it's over,
3 but the documents have been sealed.

4 DR. MAKHIJANI: Oh, I see. Okay.

5 CHAIRMAN GRIFFON: Joe, I think
6 you raised a good point. The crux of the
7 implications is the key, and if you can think
8 about that further, you know, when we actually
9 convene a face-to-face, I think that would be
10 a relevant discussion, if you have any --

11 MR. RUTHERFORD: I think one thing
12 we can do, too, before is actually we can go
13 back in preparation for convening and do some
14 additional research and see if we can identify
15 any changes in practices maybe through
16 interviews or whatever in the program prior to
17 and after and see if we come up with anything.

18 DR. FITZGERALD: Yes, I think
19 there's certainly people that could be
20 interviewed that would be very familiar with
21 practices at that time, and I think that would

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1 make it a little bit more confident that even⁶⁴
2 though the environmental program had these
3 flaws, they weren't necessarily characteristic
4 of the bioassay program. I think that's what
5 needs to be done.

6 MR. RUTHERFORD: Okay.

7 MEMBER MUNN: I thought that --
8 well, --

9 CHAIRMAN GRIFFON: I believe that
10 would be very --

11 MEMBER MUNN: -- degree. It's
12 called out pretty well, I think, in the paper
13 as it exists, but it sounds as though this DNA
14 was like more reassurance of what's been
15 stated already.

16 DR. FITZGERALD: Well, I think
17 everybody agrees that what's there has a
18 strong environmental context because of the
19 raid and the history of the raid. So this
20 would be a little bit more assurance that
21 there's no crossover issues.

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1 MEMBER MUNN: Well, I don't know⁸⁵
2 what one can say other than the fact that
3 there's no connection between the two, and
4 that even the statements that were made in
5 legal proceedings indicated that there wasn't
6 a connection between environmental monitoring
7 outside the plant and worker protection, which
8 was not called into question.

9 But all right. That's a question
10 that has been made.

11 DR. MAKHIJANI: Mark and LaVon, I
12 had a question. Is there any merit to
13 pursuing whether some of the documents under
14 lockdown can be accessed just to have an idea
15 of what's in them and whether they might be
16 relevant or is it not worth the effort?

17 MR. RUTHERFORD: I'm trying to
18 think of a good answer. Yes, I will speak to
19 our General Counsel and see, you know, what
20 they can find out. That's all I can do.

21 DR. MAKHIJANI: Okay. Yes,

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1 obviously it's a sensitive issue since they're⁶⁶
2 still under lockdown, but it might be
3 worthwhile to at least, you know, have some
4 idea of whether they can be accessed and if so
5 whether they should be accessed.

6 MEMBER MUNN: Historically that
7 hasn't been an easy thing to do, Arjun.

8 DR. MAKHIJANI: Right, I know. I
9 understand that, and presumably that's why
10 they're under lockdown still.

11 CHAIRMAN GRIFFON: Okay. So I
12 think a couple of follow-up items, LaVon, that
13 you have on that.

14 Any other questions on that Work
15 Paper for now? I think we've got a path
16 forward on that to do a little more
17 investigation.

18 And, Joe or Arjun, any more on
19 that?

20 DR. FITZGERALD: No. I think, you
21 know, everybody agrees. Actually, on Wanda's

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1 point, they did -- you know, I think the FBI⁶⁷
2 did say it was not as much an occupational
3 issue, but I think a little additional
4 information will help on that.

5 CHAIRMAN GRIFFON: Yes, agreed,
6 agreed.

7 Okay. The last item is the update
8 on the other three remaining items. So I'll
9 turn it over to LaVon to give us an update,
10 and then we can talk schedule, too, for our
11 next, and the next one I do want to be a face-
12 to-face meeting.

13 So go ahead, LaVon.

14 MR. RUTHERFORD: Okay. I think we
15 all had hoped that these documents would be
16 out sooner, but we've been back and forth on
17 some issues and also with the sequestration,
18 it has kind of put a damper on some things,
19 but there are three additional papers that
20 have issues that we're working to resolve.

21 Thorium strikes, thorium strikes

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1 was identified as a concern in the previous
2 evaluation, the first one. We went back. We
3 did some additional research on that. We've
4 been working this paper, and not only the
5 thorium issue; the other radionuclides
6 involved in this process, and this paper is
7 close to completion. We've been back and
8 forth with ORAU on a couple of issues.

9 We do expect to have this paper
10 complete later this month and to support a
11 Work Group meeting soon for that one.

12 That, as I mentioned, there's only
13 a couple issues remaining. We're working
14 those issues, and we do expect that to be
15 completed later this month.

16 Neptunium, this paper is, again,
17 close to completion as well. This is
18 basically neptunium operations that occurred
19 at the Rocky site. It was an issue that was
20 identified during our reviews.

21 It wasn't really thoroughly

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1 addressed in the previous evaluation. We
2 recognized that. Also our interviews and our
3 data capture, we recognized that this needed a
4 little more review, and so we have been
5 working that paper.

6 The schedule on this is kind of up
7 in the air because there's a couple of issues
8 out. We do hope to have this report. This
9 report will be done no later than August, but
10 it may be sooner depending on we're going to
11 schedule a couple of conference calls to
12 discuss a path forward on a couple of issues,
13 and that may actually move that schedule up.
14 But right now we'll say that this won't be
15 complete in August.

16 The other issue is other thorium
17 issues, and this came about in our review of
18 classified documents and some of the
19 interviews. We actually recognized that there
20 were some activities that we do not believe
21 were previously evaluated or looked at, and we

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1 felt that we needed to do some additional
2 research on that one.

3 That one is kind of the long pole
4 in the tent. That one has had the least
5 amount of work and would not be ready until
6 probably September of this year.

7 I know that the idea is to get
8 everything completed in time for our Board
9 meeting in Denver in October. So we will do
10 everything we can to pull that one or get that
11 one completed as soon as possible.

12 I think the idea of a Work Group
13 meeting or we hope to be able to support a
14 good Work Group meeting in August, and if not,
15 for having the other thorium issues completed
16 September.

17 That's about --

18 CHAIRMAN GRIFFON: Okay. That was
19 sort of my last question. Maybe we can make
20 the dates toward the end of August for a Work
21 Group meeting face to face.

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1 It doesn't seem like you're 71
2 well, it seems like most of it should be done
3 by then anyway.

4 MR. RUTHERFORD: That's correct.
5 That's correct. Most of it will be done.

6 The other thorium issue is the
7 only one I feel that could be stuck out there.

8 CHAIRMAN GRIFFON: Okay.

9 DR. FITZGERALD: LaVon, this is
10 Joe again.

11 Can you say anything more about
12 the other thorium issues or is that --

13 MR. RUTHERFORD: Well, nothing,
14 you know, nothing major that we've seen. If
15 you remember, there were foils that were made.

16 DR. FITZGERALD: Yes. Okay. So
17 this is kind of --

18 MR. RUTHERFORD: Yes, I don't --

19 DR. FITZGERALD: -- to the other
20 issues.

21 MR. RUTHERFORD: Yes, yes, yes.

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1 And it's more along those lines. It seemed⁷²
2 like from what we looked at, it looked like
3 small process operations, but we needed to
4 look at them a little further to ensure that
5 there wasn't an exposure scenario that we
6 hadn't previously looked at.

7 I can probably get into a little
8 more detail with you next week at the Board
9 meeting.

10 DR. FITZGERALD: All right.

11 DR. MAKHIJANI: This is Arjun.

12 Are you finishing at the end of
13 August, LaVon, or the beginning of August?
14 Because we would need some time to look at
15 these materials.

16 MR. RUTHERFORD: Sure. Well,
17 again, I can give you a better update. We're
18 going to have some conference calls with our
19 contractor to discuss neptunium, but I would
20 anticipate we could have that one done in
21 early August.

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1 So the first two, the thorium⁷³
2 strikes and the neptunium in early August.

3 CHAIRMAN GRIFFON: Yes, Arjun.
4 That's what I heard, was July for thorium
5 strikes, and then around August for neptunium,
6 and if that was the case, I was thinking late
7 August would give time for the papers to be
8 cleared and also for you guys to be able to
9 review them.

10 But we can email and set these
11 dates in the next couple of weeks.

12 DR. MAKHIJANI: Yes.

13 CHAIRMAN GRIFFON: But, you know,
14 I think we should try to shoot for something
15 toward the end of August or early September.

16 DR. MAKHIJANI: Yeah, it seemed to
17 me like, you know, given the time clearance
18 and, you know, all of the sequestration issues
19 and so on it might give SC&A a little bit more
20 elbow room to schedule it in September.

21 CHAIRMAN GRIFFON: Yes.

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1 DR. MAKHIJANI: I mean, it's Joe's
2 call, but --

3 MEMBER KOTELCHUCK: This is Dave.

4 Is the last week in August
5 potentially available? I mean, this is the
6 time when many folks take vacation before
7 Labor Day. I happen to be free during that
8 last week, but many folks may not be. Did you
9 want to check on that?

10 MR. KATZ: This is Ted.

11 I mean, it's sounding like from
12 what I'm hearing here and the uncertainty
13 about delivery, especially given clearance
14 uncertainties, like we really should be
15 looking early September rather than late
16 August.

17 CHAIRMAN GRIFFON: All right.
18 Yes.

19 MEMBER KOTELCHUCK: Yes.

20 CHAIRMAN GRIFFON: I'm trying to
21 nail down an exact date, but maybe after Labor

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1 Day would be more appropriate, and early to
2 mid-September.

3 MEMBER KOTELCHUCK: I think that
4 makes sense.

5 MR. KATZ: All right. But if you
6 want, I mean, I don't know if you have your
7 calendars and all, but we can pencil in a date
8 now if you guys are ready. I mean, if we're
9 aiming for like the first or second week in
10 September, we could do that right now.

11 MEMBER KOTELCHUCK: Yes.

12 CHAIRMAN GRIFFON: Well, Ted, when
13 is the October meeting, anyway?

14 MR. KATZ: The October meeting is
15 the middle of October. So it's October --

16 MEMBER KOTELCHUCK: Seventeenth?

17 MR. KATZ: -- the 17th.

18 MEMBER KOTELCHUCK: October 17th.

19 MEMBER MUNN: If we met the week
20 of September 9th, that would be more than a
21 month before. So that is plenty of time.

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1 MR. KATZ: Yes, the week of
2 September 9th, that's wide open for me. Do
3 you want to try to pick a date now?

4 MEMBER KOTELCHUCK: Why not? That
5 week, there's for Jewish folks Yom Kippur. I
6 don't have the exact date on that.

7 MEMBER MUNN: My calendar says
8 13th.

9 MEMBER KOTELCHUCK: Thirteenth?
10 Thank you.

11 MEMBER MUNN: That's a Friday.

12 MR. KATZ: That's a Friday.

13 MEMBER KOTELCHUCK: Okay. Good.

14 MR. KATZ: So, Mark, do you have a
15 calendar that you want to try to pencil
16 something in now?

17 CHAIRMAN GRIFFON: Yes. I mean,
18 yes, a little difficult, but the week of the
19 9th, the only day that I really have is the
20 12th, if that works for others.

21 MR. KATZ: And that's fine here.

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1 MEMBER MUNN: It's okay for me. 77

2 MEMBER KOTELCHUCK: The 12th?

3 MEMBER MUNN: Yes.

4 CHAIRMAN GRIFFON: September 12th,
5 yes.

6 MEMBER KOTELCHUCK: Okay. Well,
7 it's marginal for me, but I can do it.
8 There's a Northeast Diesel conference that I
9 was going to in Groton for a couple of days,
10 but I could cancel that. If there were
11 another day --

12 MR. KATZ: Well, I mean, how about
13 the week of the 16th?

14 CHAIRMAN GRIFFON: That may not be
15 good for me that week and the next week
16 either.

17 MR. KATZ: Okay. Well, then it
18 sounds like --

19 MEMBER KOTELCHUCK: It sounds like
20 Thursday.

21 MR. KATZ: -- the better date.

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1 MEMBER KOTELCHUCK: Yes, okay⁸
2 I'll make it Thursday. It's not an urgent
3 thing. It's just I would have liked to go.

4 MR. KATZ: Right. And I'm just
5 worried that if we don't leave as much time as
6 possible for SC&A to be able to review what
7 gets delivered, too, we'll find ourselves in a
8 pinch that way.

9 MEMBER KOTELCHUCK: Right, right.
10 Okay. Well, that's fine.

11 CHAIRMAN GRIFFON: It will work
12 for me.

13 MEMBER KOTELCHUCK: And the Yom
14 Kippur begins --

15 MEMBER MUNN: I have that down on
16 the 13th.

17 MEMBER KOTELCHUCK: Does it begin
18 the evening of the 12th?

19 MEMBER MUNN: It says begins at
20 sundown on the 13th.

21 MEMBER KOTELCHUCK: Wonderful.

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1 Okay. Thank you. That's fine. 79

2 MEMBER MUNN: I can't speak to it
3 personally.

4 MEMBER KOTELCHUCK: No, no, that's
5 fine. That's exactly the question.

6 MEMBER MUNN: -- rely on the
7 calendar, David.

8 MEMBER KOTELCHUCK: Yes, yes.
9 Okay. Thursday, the 12th, will be fine.

10 MR. KATZ: Okay, and just to be
11 clear that would be a meeting in Cincinnati.

12 CHAIRMAN GRIFFON: Yes.

13 MEMBER KOTELCHUCK: Yes.

14 MR. KATZ: Okay.

15 MEMBER KOTELCHUCK: Done.

16 CHAIRMAN GRIFFON: That sounds
17 good then, and that should -- all right. It
18 sounds like that will give us time, you know,
19 for a Board meeting, but also time for NIOSH's
20 products to get out and be available for SC&A
21 to review.

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1 MR. KATZ: Right, right. And ⁸~~9~~
2 think it's nice to have a hard deadline to
3 help push the system to the clearance --

4 CHAIRMAN GRIFFON: Yes.

5 MR. KATZ: Very good.

6 CHAIRMAN GRIFFON: Okay. The last
7 thing I would ask is are there any comments
8 from, I think, Terrie, Don and Dan, and there
9 may have been a few others from the public.

10 Any comments from the petitioner
11 at this point? Certainly you'll have a better
12 opportunity in the face-to-face meeting, and
13 you will have had more time to look at these
14 White Papers at that point, too. But --

15 MS. BARRIER: Right, Mark. But I
16 will be attending the Idaho meeting next week,
17 and Charles and I are still finalizing our
18 comments, but we should have them ready for
19 next week's meeting if that's okay.

20 CHAIRMAN GRIFFON: Oh, very good.
21 That's great, yes.

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1 MS. BARRIE: Thank you. 81

2 CHAIRMAN GRIFFON: All right. And
3 Dan, did you have anything you wanted to add
4 at this point?

5 (No response.)

6 CHAIRMAN GRIFFON: Okay. Maybe he
7 dropped off the call. I'm not sure.

8 All right. I think that's it.
9 This is really just an update, and we'll have
10 more time for discussion of all these items in
11 the face-to-face meeting in September.

12 DR. McKEEL: Hello?

13 CHAIRMAN GRIFFON: Oh, hi, Dan
14 McKeel?

15 DR. McKEEL: Yes. This is Dan.

16 CHAIRMAN GRIFFON: Hi. Sorry. I
17 thought we had lost you.

18 DR. McKEEL: Yes, I had a phone --
19 I don't have any particular comments to make.

20 I was interested in the papers, the other
21 papers on thorium, and I just wanted to

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1 mention that I believe that Terrie Barrie has⁸²
2 brought to your attention the serious activity
3 once more prompted by a tip from an anonymous
4 Rocky Flats worker that might shed some light
5 on the shipments.

6 If you remember in SEC 79 on Dow
7 Madison, there were supposed to be major
8 shipments of thorium magnesium alloy plates to
9 Rocky Flats. Brant Ulsh could never find any
10 evidence of that, but apparently a worker has
11 come forward, through Terrie, who has some
12 documents that might be related to that.

13 So we're following up on that
14 issue, and we're doing that specifically
15 through FOIA requests to NMSA and to
16 Department of Energy, who promise to actually
17 do some hand searches through the classified
18 records, which I don't believe has been done
19 before.

20 So there may be some new news,
21 breaking news on that thorium issue at Rocky

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1 Flats, and I just was interested whether that⁸³
2 paper number five, in particular, about other
3 thorium issues might relate to that.

4 So, anyway, I appreciate your time
5 for letting me just say a word, and that's all
6 I have to say.

7 CHAIRMAN GRIFFON: Thank you.
8 Thank you, Dan.

9 LaVon, I think you got the emails
10 I received on that, and on your other thorium
11 issues. I think you should add that in, and
12 we should follow up to the extent we have any
13 more information on that.

14 MR. RUTHERFORD: Another thing,
15 Mark. I'm on the agenda next week for the
16 Board meeting to discuss Rocky Flats.
17 Anything in particular from the Work Group
18 meeting that you want me to add to my
19 presentation or --

20 CHAIRMAN GRIFFON: No, I can talk
21 to you off line on that, but I think, you

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1 know, what you've covered today in a more
2 concise fashion would be appropriate, I think.

3 MR. RUTHERFORD: Okay.

4 CHAIRMAN GRIFFON: But you do have
5 that up there on the magnesium issue on your
6 other thorium issues?

7 MR. RUTHERFORD: If it wasn't on
8 there before, it is there now.

9 CHAIRMAN GRIFFON: Okay. All
10 right. I just want to make sure of that.

11 Anything else before we close out
12 from any of the Work Group Members?

13 MEMBER SCHOFIELD: I don't have
14 any.

15 CHAIRMAN GRIFFON: All right. I
16 appreciate everyone's time and --

17 MR. BISON: This is Scott Bison,
18 and I have one comment to make.

19 CHAIRMAN GRIFFON: Oh, sure, sure.

20 MR. BISON: The view that there
21 are documents that have been sealed and that

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1 are not being accessed in order to do the dose⁸⁵
2 reconstruction, I think that's very
3 concerning, and I think every effort needs to
4 be made to get those documents available in
5 order to make sure that the conclusions that
6 are being drawn in the dose reconstruction
7 are, in fact, accurate.

8 They may not be related, but that
9 should be confirmed in my opinion

10 CHAIRMAN GRIFFON: Yes, thanks for
11 your comments, Scott.

12 I think NIOSH did indicate they
13 were going to talk to General Counsel and see
14 what they can do maybe at least to find out
15 the nature of the documents, what is sealed,
16 and it may be that there is no recourse, but
17 at least they're going to follow up on that.
18 So thanks for the comment.

19 MR. BISON: Yes.

20 CHAIRMAN GRIFFON: All right.
21 With that I think we can close out this Work

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1 Group call, and we'll talk next week, I guess⁸⁶

2 (Whereupon, at 11:55 a.m., the

3 Work Group meeting was adjourned.)

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