

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

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ADVISORY BOARD ON RADIATION
WORKER HEALTH

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KANSAS CITY PLANT WORK GROUP

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THURSDAY
JULY 16, 2015

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The Work Group convened in the Hampton Inn Cincinnati Airport-North, 755 Petersburg Road, Hebron, Kentucky, at 1:30 p.m. Eastern Time, Josie Beach, Chair, presiding.

PRESENT:

JOSIE BEACH, Chair
BRADLEY P. CLAWSON, Member*
JAMES E. LOCKEY, Member
JOHN POSTON, Member
LORETTA R. VALERIO, Member

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ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A*
RON BUCHANAN, SC&A*
GRADY CALHOUN, DCAS*
PETE DARNELL, DCAS
JOE FITZGERALD, SC&A
ROSE GOGLIOTTI, SC&A*
WAYNE KNOX
PAT MCCLOSKEY, ORAU Team

A-G-E-N-D-A

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Welcome and Roll Call 4

Discussion: Petitioner's Issues with
Responses from NIOSH, SC&A and
Work Group Members 7

Adjourn

1

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

2

1:38 p.m.

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1 MR. KATZ: Good afternoon, everyone in
2 the room and on the line. This is the Advisory
3 Board on Radiation Worker Health. It's the Kansas
4 City Plant Work Group.

5 And we are getting ready for a two-day
6 meeting beginning now.

7 For folks on the phone the agenda for
8 the meeting and materials that are going to be
9 discussed mostly tomorrow are posted on the NIOSH
10 website under the Board section under meetings,
11 today's date.

12 So you can go there, click on that date
13 and you'll find the agenda and other materials.
14 And you can follow along with the meeting that way.

15 Let's get started with roll call. And
16 since we're speaking about a specific site please
17 speak to conflict of interest while we're at it for
18 agency-related officials.

19 And let's begin with Board Members with
20 the Chair.

21 (Roll Call)

22 MR. KATZ: Very good. Okay, then
23 folks on the phone, please keep your phones muted

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1 except when you're addressing the group just for
2 audio quality.

3 And if you don't have a mute button *6
4 to mute your phone, *6 to take it off of mute.

5 And Josie, it's your agenda.

6 CHAIR BEACH: Okay. Thank you, Ted.

7 Like Ted said, the agenda is posted.
8 Today we try to start at 1:30 with no end time
9 listed.

10 So I'm going to ask up front does
11 anybody have a time that they have to be finished
12 today? Is there anybody that -- okay.

13 I don't suspect we'll go longer than 5,
14 but if we run a little late I wanted to make sure.

15 The meeting in January, the last time
16 the Work Group got together, January 20, we ran
17 short of time. Mostly my fault. I had a flight
18 to catch.

19 And the petitioners didn't really have
20 a chance to discuss their issues.

21 Wayne Knox had given us a one-page list
22 of issues that we were going to address at that
23 meeting and were unable to.

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1 So I decided at that time and we
2 discussed it then and at the March meeting, the
3 Advisory Board meeting in Idaho last March, that
4 we would have a day for the petitioners to meet.

5 So, the only topic today will be
6 petitioners' issues. We'll discuss them, try to
7 come to some closure on them. If we can't it will
8 give us something to work on for our next meeting.

9 [Identifying information redacted],
10 I'm going to ask again are you on the line?

11 (No response)

12 CHAIR BEACH: I know [identifying
13 information redacted] had some issues. If he
14 doesn't join us I'll go over those after Wayne has
15 a chance to go through his.

16 So, did anybody else have any comments?

17 Wayne, I'm going to turn the floor over
18 to you.

19 MR. KNOX: Well, thank you.

20 CHAIR BEACH: You're welcome.

21 MR. KNOX: I'm going to state at the
22 offset I was not aware that I was going to be front
23 and center on this issue.

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1 In the past I have not been permitted
2 to speak up as a health physicist with experience
3 concerning the issues.

4 And I received a copy of the agenda
5 which says petitioners' issues with responses from
6 NIOSH.

7 And it meant that business as usual.
8 We were not expecting you to say anything.

9 But now I understand I am supposed to
10 be the central figure in this discussion. So it
11 might be a little choppy.

12 CHAIR BEACH: So, Wayne, let me say I
13 don't want you to feel like you're on the spot.

14 But I know that you needed time to go
15 through issues, and I wanted to make sure you had
16 that opportunity.

17 So, don't feel like you're on the spot,
18 or you have -- I mean, if you want to start with
19 the list you gave us and let us go through that.

20 I know SC&A prepared some responses,
21 not written, just verbal. We can go through those
22 to start with.

23 I know you have another form you gave

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1 us that none of us have had a chance to read.

2 But if you can stick to topics on Kansas
3 City that would be very helpful. And then we can
4 try and work through that and see if we can come
5 to some resolution I'm hoping, or not in some cases.

6 MR. KNOX: That's fine. First of all
7 --

8 MR. MCCLOSKEY: Excuse me. Dr.
9 Lockey, do you have that login information?
10 Sorry.

11 MR. KATZ: Go ahead, Wayne.

12 MR. KNOX: First of all, I do not think
13 people have an understanding of what happened in
14 the good old days.

15 These large contractors were provided
16 a hold harmless indemnification for establishing
17 the nuclear weapons program.

18 But they used the cover of that hold
19 harmless indemnification and all of the government
20 facilities and workers in order to develop other
21 applications of radiation and radioactive
22 materials.

23 That included propulsion systems,

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1 nuclear medicine, and many other industrial
2 applications.

3 And Bendix was one of the key players
4 in discovering new applications and different
5 applications for radiation and radioactive
6 material.

7 They were a member of this large
8 committee of companies.

9 They used every resource available from
10 the government under the cover of the Atomic Energy
11 Act for corporate profits and developing all of
12 these technologies.

13 So, the facility that we are dealing
14 with, and you said stick with the facility.

15 The Kansas City Plant was not designed,
16 staffed, sited for performing hazardous work with
17 radioactive material.

18 It was located in the city of Kansas
19 City. There was a daycare center right by it. And
20 they had no provisions for surveying in and out of
21 the facility.

22 They had two cafeterias and people
23 walked between each one of these cafeterias.

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1 Now, the people from the GSA side were
2 not permitted to go to the cafeteria on the
3 contaminated side of the building.

4 However, the contaminated people were
5 allowed to go into the other cafeteria, the GSA
6 cafeteria, without any surveys.

7 The question is have you seen any kind
8 of exit surveys in that facility.

9 MR. MCCLOSKEY: You're talking about
10 like a person who was working with radioactive
11 material and then would need to survey out of the
12 area to go to lunch sort of thing?

13 MR. KNOX: Yes.

14 CHAIR BEACH: Can you tell us time
15 period-specific that you're talking about for this
16 incident?

17 MR. KNOX: It was a continuum.

18 CHAIR BEACH: Can you give me time
19 periods? Like from '63 to?

20 MR. KNOX: From 1949 until. I don't
21 know if they are doing it today. I don't know.

22 And that's what I would expect you to
23 have done is to get the exit surveys and determine

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1 that.

2 So, did you get any exit surveys?

3 CHAIR BEACH: So, that would be a
4 question for NIOSH.

5 MR. KNOX: Yes.

6 MR. MCCLOSKEY: I'm trying to think
7 here now. We did routine contamination surveys
8 during our period of radiological work, our
9 greatest period of radiological work which has been
10 the DU machine from '58 until '71.

11 And so we have routine contamination
12 surveys of areas, not people.

13 Typically when people survey
14 themselves out of an area those are not documented.

15 The only documented indications of --
16 I'm sorry.

17 MR. KNOX: The question is did they
18 have provisions for exit surveys.

19 MR. MCCLOSKEY: Procedures and --

20 MR. KNOX: And equipment.

21 MR. MCCLOSKEY: Yes. They had
22 provisions for that. But I'm not prepared to --
23 I don't have that information in front of me. I

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1 didn't know this was something we were going to talk
2 about today. I'm sorry.

3 CHAIR BEACH: So you'll make note of
4 that? I'm making note of it as well.

5 MR. MCCLOSKEY: I'm going to go look
6 and see what I can get for you procedure-wise.

7 MR. KNOX: And while we're on that
8 subject, what about equipment sales?

9 They sold equipment. And we did it at
10 Hanford. And we did it all around these
11 facilities. We sold equipment in public sales.

12 Were those pieces of equipment
13 surveyed? Do you have surveys of the equipment
14 that was sold to businesses and the public?

15 And I understand in talking to the GSA
16 people they went into the other side of the building
17 and brought contaminated equipment out of that
18 building to be sold to the public.

19 MR. MCCLOSKEY: We have examples of
20 machinery, like lathes and mills and things like
21 that being decontaminated.

22 MR. KNOX: And you have
23 decontamination records?

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1 MR. MCCLOSKEY: Yes. Yes.

2 MR. KNOX: And the survey -- okay.

3 MR. MCCLOSKEY: Yes, we have some of
4 those records.

5 MR. KNOX: Okay.

6 MR. MCCLOSKEY: That's actually one of
7 our issues that we've been talking about most
8 recently. We call it our lower capital D&D efforts
9 of areas and equipment.

10 MR. KNOX: Okay.

11 MR. MCCLOSKEY: Informal cleanups.

12 CHAIR BEACH: So what will satisfy you
13 on that? Knowing that NIOSH has them? Or is there
14 something more specific you're looking for in
15 regards to those records?

16 MR. KNOX: I'm looking for any time we
17 performed a survey, a release survey on the
18 equipment with the name of the person who did it
19 and the contamination levels. And there were
20 limits that we had.

21 And most of that equipment that we had
22 was not worth decontaminating because it was
23 difficult to survey.

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1 If you look at a piece of equipment and
2 you try to survey, you can't get into all of these
3 crevices. You just can't.

4 CHAIR BEACH: Sometimes it just gets
5 thrown away.

6 So what are you looking for then in
7 regards to those records?

8 MR. KNOX: What I'm looking for are
9 release surveys.

10 CHAIR BEACH: So you want copies of
11 release surveys?

12 MR. KNOX: A copy of the release
13 surveys.

14 CHAIR BEACH: Okay. And I don't know
15 if we can -- how does that work, Ted? I'll have
16 to --

17 MR. KATZ: Well, I mean, with any DOE
18 records, whether they can be released to the public
19 is a DOE question, not a NIOSH question.

20 CHAIR BEACH: Right.

21 MR. MCCLOSKEY: Here's an example of
22 something maybe that -- this speaks to our issues
23 that we'll probably be talking about tomorrow.

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1 It's a letter that the subject is
2 "Cleaning of Equipment Contaminated with Beryllium
3 or Radioactive Material."

4 And so, one of the people that we
5 interviewed in March at the site talked about an
6 episode where he was involved with this sort of a
7 decon of equipment. So I pulled this out to talk
8 to that tomorrow.

9 But here's an example of -- and you can
10 take a look at this when we have a break or
11 something.

12 MR. KNOX: Okay.

13 MR. MCCLOSKEY: But it talks about the
14 wet cleaning methods they used for machines.

15 And here's the decon levels that they
16 had to achieve to release the equipment.

17 So. I mean, I didn't know we were going
18 to talk about this now.

19 MR. KNOX: But I'd like to get into the
20 nitty-gritty of it. Show me the release surveys.

21 MR. KATZ: Well, so I think you'll have
22 to FOIA DOE to get those surveys.

23 Because even if NIOSH has some of those

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1 in its records it will have to -- the way FOIA works
2 it has to go to the sort of owning agency to deal
3 with FOIA requests.

4 And that would certainly fall within
5 the basket of what's covered by FOIA, the agency
6 records like that.

7 MR. KNOX: Now that we are on the
8 facility that Kansas City Plant has a huge
9 building. I think it's 3 million square feet in
10 the main building.

11 CHAIR BEACH: The old building.

12 MR. KNOX: Yes. And that was
13 primarily where the contaminated work was done.

14 Part of it was GSA. The other part was
15 the Kansas City Plant.

16 But the Kansas City Plant was not
17 maintained only by the Kansas City Plant people.
18 It was maintained by GSA people.

19 GSA people went into the Kansas City
20 Plant side of the building.

21 Now, keep in mind this is one huge
22 building. The same common ventilation system.

23 CHAIR BEACH: We've toured it, empty,

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1 just recently. So we're aware of the contaminated
2 -- where they've had contaminated areas. We're
3 aware of what the ventilation looked like in those
4 areas. So we were able to do that.

5 MR. KNOX: But the GSA people went in
6 and out of that facility to do maintenance work on
7 contaminated equipment.

8 CHAIR BEACH: But you're also aware
9 that we can't -- you're looking for GSA people to
10 be within this Class designation, is that correct?

11 Because we don't make those
12 determinations. That's DOL.

13 So while you're saying they went in and
14 worked maintenance it's nothing we can do here, is
15 that correct?

16 MR. KNOX: The regulation says a
17 contractor. GSA was a contractor to the Kansas
18 City Plant.

19 I have listed here the memorandum of
20 understanding. They were actually paid, that is,
21 the Kansas City Plant actually transferred cash to
22 GSA for those workers going over there doing it.

23 So, in principle GSA was a contractor.

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1 MR. KATZ: Wayne, I understand what
2 you're saying, and it's perfectly sensible, but
3 legally they're not contractors. They're federal
4 employees.

5 It doesn't work that way. It's just
6 legally it's not correct that they're contractors
7 to DOE.

8 And for that reason I think DOL is not
9 covering GSA employees at the Kansas City Plant.

10 MR. KNOX: But they were exposed during
11 the performance of duty.

12 MR. KATZ: No one's arguing -- no one's
13 arguing with that.

14 MR. KNOX: Based upon the statutory law
15 it covers exposures during the performance of duty.
16 It covers the --

17 MR. KATZ: Of DOE employees and their
18 contractors. And GSA employees are not
19 contractors.

20 MR. KNOX: Why not?

21 CHAIR BEACH: Okay, so, here's the
22 deal.

23 We can't solve it here. We can't

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1 change the designation.

2 So, to argue or talk about it here
3 wastes some of your time for other things.

4 MR. KNOX: Okay.

5 CHAIR BEACH: That's something you'll
6 have to take up with --

7 MR. KATZ: Well, you can discuss it
8 with DOL. But I mean, they can't change the law
9 either.

10 It's statutory.

11 (Simultaneous speaking)

12 MR. KNOX: So these people were
13 exposed. They have as many cancers. They have
14 chronic beryllium disease the same as the people
15 in the same building now.

16 MR. KATZ: We understand.

17 CHAIR BEACH: We understand.

18 MR. KNOX: And yet --

19 CHAIR BEACH: Our hands are tied. We
20 can't change the law. So, we understand, but we
21 can't -- there's nothing we can do about it here.

22 MR. KNOX: Okay.

23 MEMBER LOCKEY: It has to be through an

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1 act of Congress.

2 CHAIR BEACH: Is there anything on this
3 list that I gave you a copy of that you wanted to
4 try to get through today? Or some of these you've
5 already come to closure on?

6 MEMBER LOCKEY: Can I ask a question?
7 The exit surveys, what -- how does that apply?
8 Does that apply to GSA? The exit survey is in
9 relationship to GSA issues?

10 MR. KNOX: It applies not just to GSA,
11 it applies to the workers.

12 MEMBER LOCKEY: Okay.

13 MR. KNOX: They were not allowed to
14 change clothes. They took all these clothes to the
15 cafeteria, home.

16 So in principle they were exposed not
17 just at work. They were exposed when they went
18 home. Contamination was tracked home.

19 And some of the surveys show that, that
20 contamination was found in the homes of workers.

21 MR. MCCLOSKEY: That's the
22 promethium-147 incident.

23 MR. KNOX: Yes, true, but the only

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1 reason we know that promethium was there because
2 we specifically looked for it. We didn't look for
3 the other contaminants in people's home. So if you
4 don't look, it's not there.

5 MR. MCCLOSKEY: Since you brought this
6 up I started thinking about it. And I do have a
7 procedure that you might be interested in. And
8 it's dated August 17, 1951. So this would have
9 been in place very early in your site's operations.

10 It's addressed by the SRDB number
11 128346.

12 And so this is --

13 CHAIR BEACH: Did you say 346?

14 MR. MCCLOSKEY: Yes, 128346. And so
15 this is one of those procedures that governs the
16 radioactive work, the controls that would have been
17 applied, the PPU acquired.

18 And on the second page, so it's in
19 Section 1.01 TAC E, Tolerance Level for Clothing
20 talks about clothing shall not be worn when
21 contamination exceeds 500 counts per minute.

22 So it specifies the actual surveying of
23 the PPE that you're allowed to wear, how

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1 contaminated it's allowed to be.

2 Shoes will not be worn when the
3 contamination exceeds a certain value there.

4 And so there's also contamination
5 limits for the area. It talks about the dosimetry
6 and what kind of personal monitoring for medical
7 surveillance like urinalysis and things like that.

8 So, early on, this would have been
9 during the natural uranium machining operations
10 that we discovered there, they had this in place.

11 And we have examples of this throughout
12 the site's history, procedures like this.

13 So, that's one part of the thing you
14 asked about. You asked about are there procedures
15 in place and do they have instrumentation. And
16 then you asked for documentation of the surveys
17 that were performed. So this is the procedure part
18 of that.

19 MR. KNOX: Okay.

20 MR. MCCLOSKEY: I can show you many
21 examples.

22 MEMBER LOCKEY: And you can get the
23 actual surveys.

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1 MR. MCCLOSKEY: We have surveys of
2 equipment. But people, no.

3 MEMBER LOCKEY: No, no surveys of
4 people.

5 MR. MCCLOSKEY: No. When you leave --

6 CHAIR BEACH: Hand and foot.

7 MR. MCCLOSKEY: Yes.

8 CHAIR BEACH: It's usually a hand and
9 foot out.

10 MR. MCCLOSKEY: Yes, there's a PCM 2 or
11 something you walk into. It surveys you. You
12 leave.

13 When there's a discovery of
14 contamination on a person that gets documented.

15 CHAIR BEACH: And there's room survey
16 records.

17 MR. MCCLOSKEY: Yes.

18 CHAIR BEACH: All kinds of them.

19 MR. MCCLOSKEY: Equipment and areas.

20 MR. DARNELL: But DOE did not
21 eventually do surveys to say this person was clean.
22 They only did it if this person was dirty.

23 MEMBER LOCKEY: So they surveyed when

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1 they left the site.

2 MR. MCCLOSKEY: There was a boundary to
3 the work area and a locker room where they would
4 shower. And so they'd change from their coveralls
5 that they wore in the work area and surveyed before
6 they took off their coveralls and showered.

7 MEMBER LOCKEY: What I was trying to do
8 is make sure I understood what you were asking for.

9 The exit surveys meaning before the
10 employees went home they went through some kind of
11 screening.

12 MR. KNOX: Yes. They went through
13 screening. When they went to lunch they surveyed
14 out.

15 And it turns out that in reality if you
16 are surveying it is very difficult to do because
17 you have tucks in your clothing.

18 You cannot perform an adequate survey
19 of people --

20 CHAIR BEACH: But when they've been
21 surveying, we survey every day out of areas.
22 There's TACs that you're trained how to discover
23 that contamination in the folds and stuff.

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1 MR. KNOX: But you had industrial --
2 you did not have health physicists here at the
3 plant.

4 MR. DARNELL: That's true.

5 CHAIR BEACH: That's true.

6 MR. DARNELL: They had basically a
7 health protection program which included health
8 physics, industrial hygiene, environmental
9 safety, all rolled into one type of technician and
10 one type of professional. They put it under the
11 industrial hygiene program.

12 We reviewed it. We've been through it.
13 We see procedures from it. We see procedures that
14 had they been called health physics procedures they
15 would have been perfectly adequate.

16 So it does not matter that they weren't
17 called health physicists in the early days, nor
18 does it matter that there was no health physicists
19 there. The program was there to cover the people.

20 MR. KNOX: Did you take a look at some
21 of the investigative reports following the
22 promethium-147 spill?

23 They said that they had purchased the

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1 instrument package, but they did not purchase the
2 detector.

3 They said that the instruments were not
4 designed for detecting this.

5 MR. DARNELL: Which instruments are
6 you referring to?

7 MR. KNOX: The instruments for
8 detecting promethium. Based upon the reports that
9 I provided to you from the auditors they said that
10 they --

11 MR. DARNELL: From your memory, what
12 does promethium give off? What type of radiation
13 does it give off?

14 MR. KNOX: It gives off a beta.

15 MR. DARNELL: Okay. The site had
16 instrumentation for beta gamma.

17 MR. KNOX: Did you read the report
18 which stated that the instrumentation was
19 inadequate for detecting the radiation?

20 MR. DARNELL: I don't remember that
21 report.

22 MR. MCCLOSKEY: One of the findings
23 that Mr. Knox is referring to was, you know, a DOE

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1 group came in and said that you have these sources
2 that you were treating as sealed sources and you
3 shouldn't have been.

4 A long time ago when they were bought,
5 the promethium-147 sources were bought, the
6 engineers that purchased them knew they were not
7 sealed sources, meeting the definition of a sealed
8 source by the agency and NRC and others.

9 Because with the beta they couldn't
10 totally seal them. The beta had to be able to come
11 out to do its job, its backscatter work.

12 And so over time they lost track of the
13 fact that it was not a sealed source.

14 And they were doing their routine
15 source leak checks with an ion chamber instead of
16 a pancake probe like you would expect, like any good
17 HP would expect.

18 And so that's what he's talking about
19 not having the proper instrumentation for the
20 required routine source checks.

21 MR. KNOX: And they also indicated that
22 they had purchased equipment. They did not
23 purchase the detector. They only purchased the

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1 instrument package.

2 MR. DARNELL: In any regard -- I
3 understand that you're not happy with the
4 promethium incident. Nobody that's a health
5 physicist is happy that that incident occurred.

6 The simple fact of the matter is that
7 somebody at the plant did find the contamination
8 regardless that it was after the fact or not.

9 An incident investigation was
10 reviewed, performed, completed, not only by onsite
11 personnel, but by offsite personnel.

12 They even hired a professional health
13 physicist from the local university to come in to
14 look at the entirety of the program.

15 What I fail to see is where you're going
16 with this.

17 CHAIR BEACH: And I was going to jump
18 in too, Pete.

19 So that is a well-documented incident.
20 And I think what you're looking for is the recovery
21 from that incident so that they had the correct
22 equipment afterwards so that that would not occur
23 again.

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1 Is that what you're looking for?
2 Because we can't change the fact that they had an
3 incident. People took it home. People got
4 cleaned up. They had reports written, yes, we
5 messed up here. We found our holes in our system.

6 But they fixed those, my understanding.
7 So then you move onto what the rest of the program
8 is.

9 Every DOE site has incidents. Hanford
10 has incidents. I mean, you're well aware of them.

11 So, we can't go back and make that so
12 it didn't happen. They had problems. So they
13 moved forward, changed their processes, bought the
14 right equipment based on those findings.

15 So what more can we do with that
16 promethium?

17 I mean, it's very well documented.
18 We're all aware that it occurred.

19 MR. KNOX: The problem was it was not
20 just promethium. They reported that it was just
21 promethium, but then if you look into the
22 inspection reports they identify a lot of other
23 radioactive materials that were leaking. And it

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1 wasn't just promethium.

2 CHAIR BEACH: Okay, so those reports
3 are also out there which means once they're
4 documented they had to do something about it,
5 correct? They would have had to have --

6 MR. KNOX: Yes.

7 CHAIR BEACH: And I know there was a
8 time period -- I don't know the year -- that all
9 those sources were gathered up and a lot of them
10 were shipped out.

11 Isn't that's correct? A lot of them
12 were turned into waste.

13 MR. DARNELL: Well, some of them were
14 turned into waste. Some of them were returned to
15 the manufacturer.

16 CHAIR BEACH: Manufacturer, correct.

17 MR. DARNELL: Some of them stayed in
18 service.

19 CHAIR BEACH: Because I know there was
20 a time period where they really did a cleanup to
21 get rid of all the sources that they had.

22 MR. DARNELL: Like a lot of sites that
23 are comparable to the Kansas City the radioactive

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1 material use at Kansas City went up and down
2 depending upon the type of job.

3 CHAIR BEACH: Right.

4 MR. DARNELL: The actual footprint of
5 the radioactive material use in the site as we
6 noticed when we did the walk-through this past
7 winter was extremely small.

8 I mean, even to get into those areas,
9 you had to go out of your way to get into those
10 areas.

11 So, you've got monitoring programs.
12 We've got times when sealed sources were used and
13 then disposed of.

14 We've got times when different types of
15 radioactive material projects were used and then
16 stopped over the history of the site.

17 So, this is not a general walking the
18 place, it's dirty everywhere type of site.

19 MR. KNOX: How can you say that the
20 footprint was small when this happened over a
21 period of 12 years based upon the documentation.

22 It was found at Sandia. It was found
23 at Oak Ridge --

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1 MR. DARNELL: Okay, we have to limit
2 our talk to Kansas City.

3 MR. KNOX: Wait --

4 (Simultaneous speaking)

5 MR. KATZ: One person at a time,
6 please.

7 MR. DARNELL: Kansas City. That's
8 what we're concerned with. I don't care what
9 happened at Sandia. I don't care what happened at
10 Oak Ridge. It is Kansas City only.

11 MR. KNOX: You're saying that the
12 footprint was small, and I am saying that it
13 happened over a 12-year period.

14 You have it found in the homes of five
15 workers, on their carpet, on their toilet. And the
16 janitors cleaned those facilities and spread it all
17 around.

18 Now, how can you say the footprint --

19 (Simultaneous speaking)

20 MR. KNOX: And may I finish, please?
21 It was located in Sandia.

22 MR. DARNELL: I don't care.

23 MR. KNOX: It was located in Mound.

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1 MR. DARNELL: I do not care.

2 MR. KNOX: But it was spread --

3 MR. DARNELL: I do not care about these
4 sites.

5 MR. KNOX: The argument is whether the
6 footprint is small --

7 MR. DARNELL: You're wasting your time
8 for your presentation by talking about the other
9 sites.

10 MR. KNOX: No, I --

11 CHAIR BEACH: Okay, wait, I want to
12 make sure --

13 MR. KNOX: -- talking about the size of
14 the footprint.

15 CHAIR BEACH: I want to make sure I
16 understand. When you're talking about Sandia, was
17 that contamination that came from Kansas City and
18 was found at Sandia?

19 MR. KNOX: It came from --

20 MR. DARNELL: It was ascertained --

21 MR. KNOX: It came from Kansas City and
22 was shipped to Sandia. They shipped things to
23 Mound. They even shipped things to Amersham,

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1 England that were most likely contaminated.

2 CHAIR BEACH: I'm aware --

3 MR. KNOX: So, the footprint was not
4 small.

5 MR. DARNELL: -- documentation.

6 MR. KNOX: Huh?

7 MR. DARNELL: As we've asked for you in
8 the past, every time we've addressed this topic
9 with you in the past we've asked for some type of
10 documentation.

11 MR. KNOX: I've provided that to you.

12 MR. DARNELL: You've never given us
13 anything that has documented that the promethium
14 incident was spread to Amersham, England, was
15 spread to any of the other sites.

16 None of the documents that you have ever
17 given us has shown us that.

18 MR. KNOX: Not true. I have.

19 MR. DARNELL: Well, we have a
20 difference of opinion.

21 And as far as the footprint of
22 radioactive material use at the site I was speaking
23 of the specific projects. Not promethium. I'm

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1 talking about the projects versus the size of the
2 entire site.

3 The footprint of radioactive material
4 use for those projects at the Kansas City site is
5 very small.

6 We're not talking about a place that is
7 dirty all over.

8 We have a promethium incident where, as
9 unfortunate as it is that it happened it was
10 discovered, it was reviewed --

11 MR. KNOX: Twelve years.

12 MR. DARNELL: -- it was -- it doesn't
13 matter. It was discovered. It was reviewed. It
14 was investigated. Dose was assigned and the site
15 moved on.

16 Talk about 12 years all you want. Talk
17 about Mound. Talk about Oak Ridge. Talk about
18 anywhere in the world all you want. It doesn't
19 matter.

20 MR. KNOX: Why doesn't it?

21 MR. DARNELL: Because it's not the
22 Kansas City Plant. We're here for the Kansas City
23 Plant.

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1 If that contamination were sent to a
2 different place and it was found to be the similar
3 type of incident in a different place it becomes
4 an incident on that site, part of their exposure
5 history.

6 MR. KNOX: But it went out of this spot
7 right here. Over a 12-year period it was spread
8 most likely throughout that plant.

9 How did it get into the homes of people?

10 CHAIR BEACH: Wayne, you're aware of
11 the incident because there was an incident report
12 and you read the incident report, is that correct?

13 MR. KNOX: Yes. Several of them.

14 CHAIR BEACH: Okay. So, the incident
15 is well documented. It's out for public.

16 I guess I want to bring it from out here
17 to what can this Work Group do. What's your
18 question that we can do for this incident so that
19 we can move past that?

20 MR. KNOX: Number one, the incident
21 footprint as we define it was not small.

22 CHAIR BEACH: Okay. He was talking
23 about a different footprint, not the promethium

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1 footprint is my understanding. So, I believe
2 you're talking two different issues, right, Pete?

3 MR. DARNELL: Yes.

4 CHAIR BEACH: Okay. So, take the
5 footprint out. That was something different.

6 We understand that this happened.
7 It's well documented. As Pete said, the workers
8 involved have gotten dose assigned to them from
9 this incident.

10 And that's all we can do on that
11 incident. Because we know the levels. We know
12 who was contaminated, where it was contaminated.
13 All we can do is assign dose, and we have.

14 So, what more can we do here?

15 MR. KNOX: You can look at the other
16 radioactive materials that --

17 CHAIR BEACH: Other sources.

18 MR. KNOX: Other sources that they said
19 were leaking too.

20 CHAIR BEACH: Okay, so --

21 MR. KNOX: You can look at the uranium
22 and other materials that they were dealing with and
23 see that you have contamination in clean areas.

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1 And how did that -- but may I say this.
2 You've already acknowledged that you had
3 contamination in clean areas. And the janitors,
4 people tracked in it.

5 How can it not be all over the facility?

6 CHAIR BEACH: Well --

7 MR. KNOX: It was in the homes of
8 people. How can it not be?

9 CHAIR BEACH: I can tell you that when
10 we visited the facility in -- when did we go? Was
11 it the March visit?

12 So, the March visit, when we were there
13 and we toured all the rad areas they had people
14 working as we were there surveying all those rad
15 areas for leftover contamination, hot spots, on the
16 walls, the floors, the joints.

17 So that report I'm assuming should be
18 ready. We don't have it now. It will be awhile.

19 MR. DARNELL: It's going to be a long
20 time. What they're performing is survey of the
21 entire site.

22 CHAIR BEACH: To sell it, because it's
23 for sale, right?

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1 MR. DARNELL: So far they haven't found
2 anything. There's been no spread, okay?

3 Even with a 2.6-year half-life of
4 promethium, if there was a lot of promethium around
5 they'd still see it. And it's not there.

6 MR. KNOX: I will make this statement
7 and that I will stand by. The criminal controls
8 the crime scene. What do you expect to get?

9 They are doing the surveys. They don't
10 want to find anything.

11 CHAIR BEACH: No, we watched the guy
12 doing the surveys. They're doing a very thorough
13 survey.

14 I think Pat had something he wanted to
15 add to the discussion.

16 MR. MCCLOSKEY: Yes, just a couple of
17 things.

18 You brought up other sources. We had
19 promethium. It's well documented.

20 And you talk about what about the other
21 sources that were leaking. Well, we have an Issues
22 Work Group that's working on about 21 issues.

23 And Issue Number 18 is titled

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1 "Accidents, Incidents and Fires."

2 So we looked at a whole gamut of mishaps
3 that could have happened at the site.

4 And we looked at a lot of things. I
5 mean, there was some reports of other sources
6 leaking. In May of '90 there's low levels of
7 thallium-204 were found in a source holder case
8 during routine surveys of the waste storage area.

9 They have these episodes throughout
10 here. We have a bunch listed. There's a 150-page
11 document that we went through to look for anything
12 that would have contributed large exposures that
13 we would need to have found to make sure that we
14 had covered in our methodology.

15 And we continue to look for and ask the
16 site for records of incidents. And we've not found
17 something that appeared to us to be such a large
18 extraordinary dose that we could not bound for this
19 SEC.

20 So that's -- I just wanted to remind us
21 that we have that issue where we've looked at all
22 these things.

23 CHAIR BEACH: I was going to bring that

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1 up.

2 MR. MCCLOSKEY: And as far as the
3 promethium getting to homes, in our ER we talked
4 about it getting to one home offsite and they
5 deconned that home for that employee.

6 I'm not aware of promethium-147 going
7 anywhere else offsite other than one person's
8 house.

9 MR. KNOX: I believe the report said
10 they surveyed five homes --

11 MR. MCCLOSKEY: Oh, they surveyed.

12 CHAIR BEACH: They did survey.

13 MR. KNOX: And contamination was found
14 --

15 MR. DARNELL: In one.

16 MR. KNOX: No.

17 CHAIR BEACH: Okay. But let's not
18 argue.

19 MR. KNOX: I can show you that. It was
20 found in other people's homes.

21 CHAIR BEACH: That's well documented.
22 Let's not argue that, the specifics of it.

23 I don't want you to use all your time

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1 on that because I know you had a whole list.

2 So this list that I made a copy for you,
3 are you done with this list? Is there something
4 on it that you're interested in us pursuing or
5 discussing?

6 MR. KNOX: Yes, there are several
7 things that I would like --

8 CHAIR BEACH: Why don't you start at
9 the top and we'll mark them off.

10 Some of them -- that's later, yes.
11 This is the one that he gave us in January.

12 But I keep directing him to the other
13 one. This one he's sending to President Obama, so
14 he just gave us a copy of it.

15 MR. DARNELL: Well, maybe President
16 Obama will read it.

17 CHAIR BEACH: Okay, so Wayne, I'm going
18 to let you just go down your list, or go down this
19 list that you gave us in January.

20 Is there anything?

21 MR. KNOX: We can run down this list.
22 If we want to hit my highlights.

23 Since we've talked about incidents, can

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1 we finish incidents?

2 CHAIR BEACH: Yes.

3 MR. KNOX: We still have the huge
4 problem from my perspective with the Dottie
5 Troxell.

6 CHAIR BEACH: That is a --

7 MR. KNOX: At least --

8 CHAIR BEACH: -- case that we cannot --
9 we can't retry that.

10 MR. KNOX: I'm not talking about
11 retrying it. I'm saying what were the exposures
12 of people that were on the roof and all of the
13 passersby. What were those exposures? That was
14 a legitimate incident.

15 CHAIR BEACH: And that was from the
16 sources?

17 MR. KNOX: This lady ended up with
18 cataracts in both eyes, so I would expect her to
19 have at least a 500 rem dose.

20 What about the people that were working
21 on the rooftop? What about scattered radiation,
22 even outside of that facility?

23 And I bet you would have seen skyshine

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1 to those buildings around there from those sources.

2 MR. DARNELL: Okay, first part of the
3 answer is the Troxell case did not find what you're
4 stating.

5 So, there's no way that we can address
6 what you're stating for Ms. Troxell.

7 We can't retry the case. We can't talk
8 about the case.

9 We've already explained to you before
10 that the practice in the nineteen fifties was to
11 establish radiation areas when they used the
12 radiography sources.

13 And that if they were up working on the
14 roof and it was part of a radiation area they were
15 either badged or they were removed.

16 We've explained this to you time and
17 time again, okay? I don't know what more you want.

18 MR. KNOX: But they were not.

19 MR. DARNELL: That's not what we found
20 when we asked.

21 MR. KNOX: Have you bound the radiation
22 dose that an individual would receive, or could
23 possibly have received that ended up with cataracts

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1 in both eyes?

2 MR. DARNELL: No. We didn't even
3 attempt to. That's not part of what we do.

4 MR. KNOX: Because it was a legitimate
5 incident.

6 MR. DARNELL: It is part of a case that
7 has been closed. It is not part of our Evaluation
8 Report. It's not needed to be part of the
9 Evaluation Report. Okay?

10 The more that you bring it up, and the
11 more that you argue it, the more time you waste.
12 You're not going to get anywhere.

13 I'm trying to be helpful to you, Mr.
14 Knox.

15 MR. KNOX: Was Dottie Troxell exposed?

16 MR. DARNELL: I have no comment. It's
17 a case that has been closed. I have no comment.

18 MR. KNOX: So, you -- are you
19 evaluating the exposures of the workers from
20 incidents that occurred? This was --

21 MR. DARNELL: Yes, we do. We do
22 evaluate incidents.

23 MR. KNOX: What was the bounding

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1 exposures associated with her case?

2 CHAIR BEACH: Are you working for her?
3 How does she figure into this conversation?

4 MR. KNOX: She defines a certain
5 threshold level of exposures.

6 If she had cataracts in both eyes that
7 means --

8 CHAIR BEACH: Are you her
9 representative though?

10 MR. KNOX: No.

11 CHAIR BEACH: Okay.

12 MR. KNOX: I'm not. The only thing I'm
13 trying to do is to say that based upon her having
14 cataracts in both eyes, based upon her blood
15 vessels being broken as a result of these
16 exposures, the people on the roof should have
17 gotten a lot of exposures.

18 People that were passing by should have
19 gotten a lot of exposures.

20 And surrounding buildings. If you
21 have a cloudy day you would have had skyshine.

22 CHAIR BEACH: But we wouldn't look at
23 -- the only way to discover that is if people had

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1 dosimetry on that picked up those doses.

2 And that is what we've done is we've
3 gone in and we've looked at the records, we've
4 looked at people's records.

5 We've looked at what's available on
6 site sources to try to determine what the doses were
7 and what people were exposed to.

8 I mean, somebody say it better than I
9 can say it, but that's what we're trying to do.

10 Going back to that specific incident,
11 we can't.

12 MR. DARNELL: The best answer that we
13 can give you is that in the nineteen fifties when
14 the Troxell case was going on, all the stuff was
15 going on, it was standard practice to establish
16 radiation areas around, below and above
17 radiography sources. That's what the site did.

18 We have evidence that workers that were
19 in radiation areas were monitored for radiation
20 dose as well as medically monitored to be in that
21 program.

22 Whether or not those workers on the roof
23 during the use of that source is immaterial.

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1 Whether or not --

2 MR. KNOX: It is not immaterial if
3 you're standing on the roof getting exposed.

4 MR. MCCLOSKEY: We looked at all the
5 exposures and didn't see anything.

6 MR. DARNELL: We've got nothing, okay?
7 We've got no dose that says there was anything that
8 was even close to a credible exposure that would
9 have been on an incident level.

10 You've got to get to an incident level
11 before you ever get anywhere close enough to get
12 dose to get cataracts. Okay?

13 The bottom line is the workers were in
14 a program. The program was established.

15 The program has them either monitored
16 or out of the area. That's the answer we have for
17 you. There is nothing else.

18 MEMBER LOCKEY: Let me make a
19 suggestion.

20 We have this list that we need to get
21 through. Do you have this with you?

22 MR. KATZ: Yes, he has it right there.

23 MEMBER LOCKEY: Okay. So, can we

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1 start at the top and run down through here and say
2 answered, not answered?

3 CHAIR BEACH: The N's are NIOSH.

4 MEMBER LOCKEY: Okay. The N's are
5 NIOSH, okay.

6 So this list is -- I think -- because
7 we have a limited amount of time today, and we have
8 -- I think we should try to get through this.

9 (Simultaneous speaking)

10 MEMBER LOCKEY: Do you have that with
11 you?

12 CHAIR BEACH: Yes, I gave him a copy of
13 it this morning.

14 MR. DARNELL: We'll just go by the copy
15 that you have.

16 CHAIR BEACH: Okay.

17 MEMBER LOCKEY: So the first one is
18 what?

19 CHAIR BEACH: Criminal violations
20 relative to knowing false statements by civil
21 servants and contractors, and violations, knowing
22 endangerment laws, including conspiracy,
23 racketeering, violations of the Atomic Energy Act.

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1 I X'd that because that's not something
2 we can answer here.

3 MR. KNOX: No.

4 CHAIR BEACH: The next one, didn't
5 understand what you were looking for there, number
6 2 - '73-'84 finding, sense of Congress.

7 MR. KNOX: This is --

8 CHAIR BEACH: So we can X that out?

9 MR. KNOX: Yes. I didn't know -- I
10 don't believe those were my numbers there.

11 CHAIR BEACH: This is your list.

12 MEMBER LOCKEY: Well, we'll do the best
13 we can do, but the second one we --

14 CHAIR BEACH: Yes.

15 MEMBER LOCKEY: Okay. So, what's the
16 third one?

17 CHAIR BEACH: The third one - applied
18 meaning and use of worst case requirements, worst
19 case versus average versus 99 percent confidence
20 level versus survey data, sufficient accuracy
21 versus full research related to case study of a
22 machinist and coworkers machining and processing
23 DU uniformed, unprotected and unmonitored.

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1 I put NIOSH's name on that. This is one
2 that we've been addressing throughout our Work
3 Group meetings.

4 MEMBER LOCKEY: Is it on the agenda for
5 tomorrow? Sort of halfway covered tomorrow, I
6 think.

7 CHAIR BEACH: Anything on that one?
8 That was NIOSH. I gave it to you guys.

9 MR. KNOX: Well, if this is my show, why
10 don't we finish my opinion.

11 As far as promethium is concerned you
12 have nuclear fleas. I was the one that helped
13 clean up building 325. We had nuclear fleas over
14 there. At Hanford.

15 But you would have had nuclear fleas
16 here.

17 MR. DARNELL: It's immaterial. This
18 is Kansas City.

19 MR. KNOX: But they found nuclear fleas
20 here. And nuclear fleas represent --

21 MR. DARNELL: -- nuclear fleas.

22 MR. KNOX: A nuclear flea is a glob, if
23 you will, of promethium.

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1 MR. DARNELL: At what activity level?

2 MR. KNOX: They have one with 13 mics.
3 They found one in that report. Thirteen mics.

4 If you look at inhaling that, that flea,
5 see what kind of dose you get out of that flea.

6 MR. DARNELL: If it was small enough to
7 get into the lower part of your lungs where it would
8 cause dose it would be quite a bit.

9 And from what I remember of the report
10 I believe it was about 108, you know, it was a rather
11 huge particle. It was not a respirable particle.

12 MR. KNOX: No, they -- I don't recall
13 --

14 MEMBER LOCKEY: How big?

15 MR. DARNELL: I think it was 100
16 microns.

17 CHAIR BEACH: This is Kansas City we're
18 talking.

19 MR. DARNELL: Kansas City.

20 MR. KNOX: I don't remember them saying
21 -- the problem --

22 MR. DARNELL: I don't remember them
23 finding anything respirable in a large activity

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1 particle.

2 MR. KNOX: They found it on the air
3 filtration systems.

4 MR. DARNELL: Where?

5 MR. KNOX: At the Kansas City Plant.

6 MR. DARNELL: What document?

7 MR. KNOX: In the documents that I gave
8 you. That were --

9 MR. DARNELL: You don't have it?

10 MR. KNOX: I didn't know that I was
11 coming to defend this.

12 CHAIR BEACH: You know what? This
13 isn't the drop-dead. If you have it, make yourself
14 a note. And if you can provide it -- to us, or let
15 us know where we can find the copy.

16 MR. KNOX: And if you have found the 13
17 mic nuclear flea that could possibly mean, since
18 we're doing worst case analysis, that higher levels
19 existed out there.

20 And I would have expected when you do
21 your analysis to consider the worst case situation.

22 So, nuclear fleas are an issue. And I
23 don't think they were --

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1 MEMBER LOCKEY: So, that could be an
2 action item. We need a document. Can you provide
3 us, again, the documentation where nuclear fleas
4 were found on the filtration systems within the
5 plant?

6 MR. KNOX: I did it.

7 MEMBER LOCKEY: I guess -- I don't have
8 it. I might have missed it. Can you provide it
9 again? Is that possible?

10 MR. KNOX: Yes, I will be happy to.

11 MEMBER LOCKEY: All right, so that's an
12 action item, okay? We have something we need to
13 look at.

14 If it is on the filtration system then
15 I guess that's something we need to at least look
16 at, look at the size and exposure potential. Okay?

17 MR. KNOX: Okay.

18 MEMBER LOCKEY: So, what's another
19 action item for us?

20 MR. KNOX: When you use -- we're
21 supposed to be doing worst case assessments.

22 But I see all of the time where we use
23 95 percent data. You can't get to a 99 percent

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1 confidence level using 95 percent data.

2 MR. DARNELL: Okay, first thing we have
3 to do is understand that we're not using confidence
4 intervals and statistics from data quality
5 objectives to do the math that we're doing for the
6 health physics.

7 You appear to have data quality
8 objective math, EPA math, and different quality
9 assurance factors mixed together trying to apply
10 to what we're doing.

11 We're using the 95th percentile of all
12 the dose when we're calculating the 95th
13 percentile.

14 It's -- we don't go to the 99th
15 percentile. Number one, the program is not built
16 that way.

17 Number two, it's not a data quality
18 objective. The two things are different programs.

19 MR. KNOX: If you're required to use
20 worst case --

21 MR. DARNELL: Estimates. Remember it
22 is saying worst case estimates. What I remember
23 is we're supposed to adequately bound the dose for

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1 the Special Exposure Cohort.

2 It doesn't say use worst case
3 estimates. Although we do use worst case
4 estimates in some cases. We don't always because
5 we don't have to. We have data to support the
6 methods that we use.

7 It's not always a worst case estimate.
8 It's not always a best case estimate. It varies
9 depending on how we're doing -- what we're doing
10 with the data and how we're using it.

11 MR. KNOX: So, you're telling me you
12 can use 95 percentile data and come up with 99?

13 MR. DARNELL: No. What I'm telling
14 you is that we use 95th percentile data for the
15 statistical approach that we use it for.

16 MR. KNOX: So you define worst case as
17 95 percent.

18 MR. DARNELL: I never said that.

19 MR. KNOX: Well, how do you define
20 worst case?

21 MR. DARNELL: You're stuck on that we
22 have to use worst case.

23 MR. KNOX: That's what the regulations

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1 say, that you'll use worst case.

2 MR. DARNELL: No, they do not.

3 MR. KNOX: I will give you the
4 regulations, worst case regulations.

5 MR. DARNELL: I would be glad to learn
6 that if I am in error. I would appreciate the
7 correction.

8 MR. KNOX: Okay.

9 MR. DARNELL: Okay.

10 MR. KNOX: You identified another
11 incident concerning a hood in the paint shop that
12 had contamination in it, strontium-90.

13 MR. MCCLOSKEY: Who identified this
14 again?

15 MR. KNOX: In your report you
16 identified that as an incident. Strontium-90.

17 MR. DARNELL: Joe, do you remember any
18 strontium-90?

19 MR. FITZGERALD: Are you referring to
20 the Evaluation Report? The ER?

21 MR. KNOX: I don't remember which one.
22 I remember reading --

23 MR. FITZGERALD: I don't recall --

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1 MR. KNOX: -- it was the paint. And
2 they only looked at strontium-90. And I will agree
3 that --

4 MR. MCCLOSKEY: I don't think that's
5 Kansas City.

6 MR. KNOX: Well, we can look it up and
7 see. But I'm sure it was there.

8 But in that assessment did you consider
9 yttrium-90 also? Because it would have --

10 (Simultaneous speaking)

11 MR. DARNELL: First of all, we don't
12 want to talk about strontium that nobody here
13 remembers being in the ER or any of the reports.

14 Strontium and yttrium are ingrown
15 together as you well know when they are in
16 equilibrium.

17 So we'll talk about strontium and
18 yttrium if and when we find the incident that you're
19 speaking of. Otherwise, we need to move on.

20 MR. KNOX: Okay.

21 CHAIR BEACH: I don't see strontium.

22 MR. FITZGERALD: -- talking about
23 cesium, cobalt and plutonium-beryllium sources is

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1 pretty much the extent of KCP. I don't see
2 strontium.

3 CHAIR BEACH: I don't see it either in
4 the ER.

5 MR. KNOX: It's in the incident report
6 where you have some explosion inside of a paint
7 hood.

8 MR. DARNELL: That's not this site.

9 MR. MCCLOSKEY: You might be thinking
10 of another site.

11 MR. KNOX: Well, I'll find it.

12 MR. MCCLOSKEY: Okay.

13 MR. DARNELL: Sure. If you can find it
14 we'll be glad to address it, but until then we need
15 to move on.

16 CHAIR BEACH: Well, I'm keeping track
17 of some of them. That one I don't believe was at
18 this site.

19 MR. KATZ: What's next on the list?

20 CHAIR BEACH: Well --

21 MR. MCCLOSKEY: I think we already
22 covered --

23 CHAIR BEACH: Well, we talked about

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1 number 3, but the survey, the DU information is
2 un-uniform. So, I guess I need a little more
3 clarification of what that was about. For number
4 3 of your list, Wayne.

5 MR. KNOX: Number 3.

6 CHAIR BEACH: Yes. Applied meaning of
7 the worst case requirements, worst case versus --

8 MR. KNOX: Okay.

9 CHAIR BEACH: Okay. So, we kind of
10 talked about the 99 percent.

11 Is there anything more on that? We're
12 looking into what the machining of uranium was
13 quite extensively in our issues matrix.

14 MR. KNOX: But this -- we'll just move
15 on to number 5.

16 CHAIR BEACH: And your bottom part was
17 unprotected and unmonitored. And we are
18 discussing potentially unmonitored workers. It
19 will be part of our discussion tomorrow. The
20 laborers, the janitors.

21 So, you're okay? Is there anything
22 more on that? You're ready to go to number 4?

23 MR. KNOX: Yes.

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1 CHAIR BEACH: Okay.

2 MR. KNOX: Number 4, I guess we've
3 beaten that to death.

4 CHAIR BEACH: Okay. Number 5, health
5 physics. Okay, so KCP health physics and
6 radiological monitoring capabilities and
7 practices.

8 MR. KNOX: We've talked about that.

9 Again, they had industrial hygienists
10 and not health physicists.

11 MR. MCCLOSKEY: Up until the
12 promethium-137. That was a discovery there, that
13 we need to bring in some more HPs. And so from '90
14 on --

15 MR. DARNELL: May I add something to
16 this discussion specifically about the -
17 [identifying information redacted] did it.

18 I'm sorry, I probably shouldn't mention
19 his name, but he's the doctor who wrote the final
20 report on the review of the Bendix Radiation
21 Program in December of 1987.

22 And in Part 6 of his overview he talks
23 about the adequateness of the rad protection

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1 program.

2 And what it basically said was that the
3 program is adequate for the size and complexity of
4 the site.

5 MR. KNOX: But that is not what they
6 said in the audit reports that I provided to you.

7 The audit reports painted a different
8 picture.

9 MR. DARNELL: Okay. You've also said
10 that the criminals hold the key. They're going to
11 say what they want to say, and the whole bit.

12 So, here is the independent reviewer
13 from a university. He's not part of the criminals
14 that are holding the key. He's not part of their
15 organization.

16 He doesn't hire them. He doesn't fire
17 them. He doesn't run the contract.

18 And he's saying that the radiation
19 protection program is adequate for the size and
20 complexity of the Kansas City Plant.

21 That's in the promethium
22 documentation. That is -- in the Site Research
23 Database number 40.

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1 MR. KNOX: You let him see what you want
2 to see. And just because you have a college degree
3 does not make you an operational health physicist.

4 MR. DARNELL: Really.

5 MR. KNOX: And you do not know all of
6 the details of what goes on in the real world.

7 MR. DARNELL: There's no way to answer
8 your question. There's no way to give you an
9 adequate response.

10 MR. KNOX: If you get a college
11 professor that they are making contributions to the
12 institution to come in and give you a report.

13 Why don't you have someone like me
14 that's independent to come in and do it?

15 But the other problem --

16 MEMBER POSTON: I'm a college
17 professor, Wayne.

18 MR. KNOX: I know you.

19 MEMBER POSTON: I would do a good job.
20 I'd make my own decisions. You know that.

21 MR. KNOX: I know you. But we still
22 have people out there that are dependent upon
23 contributions.

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1 MEMBER POSTON: You're impugning
2 somebody you don't even know. I think that's a
3 very unfair statement, for you just to make a
4 blanket statement about that when you don't know
5 the person.

6 And if you want to look at what they
7 wrote, and if you want to look at their background
8 and come back and say you think he bought the farm
9 that's another thing.

10 But you're making a judgment which is
11 inappropriate at this point.

12 MR. KNOX: I cannot know what they told
13 him. But anyway, moving on.

14 MEMBER POSTON: So, that's my point.

15 MR. KNOX: I don't know.

16 MR. DARNELL: Mr. Knox, you see, what
17 you're doing is you are introducing unspoken and
18 unseen conspiracies into whatever response is
19 being given to you.

20 There's no way to give you an adequate
21 response. You won't accept the documents that
22 we've given you. You won't accept the --

23 MR. KNOX: You won't accept the

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1 documents I've given you.

2 MR. DARNELL: So far you've given us
3 nothing.

4 MR. KNOX: I have given you many
5 documents.

6 MR. DARNELL: You gave me a piece of
7 paper once that said -- from the president of Bendix
8 was talking about a reactor built at the Bendix
9 facility in Michigan.

10 And in the next sentence mentioned the
11 Bendix facility in Kansas City.

12 And because the word "reactor" and
13 "Bendix" were in the same paragraph you assumed the
14 reactor was in Kansas City.

15 You read the paper wrong, you gave it
16 to us wrong and it's incorrect data.

17 MR. KNOX: No.

18 MR. DARNELL: Unfortunately, yes.

19 MR. KNOX: What you're telling me is
20 the -- you stated that Bendix built the reactor that
21 went over to Burt Hall at the University of Kansas.

22 MR. DARNELL: I didn't say that. I
23 said there was never a reactor at the Kansas City

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1 Bendix plant.

2 MR. KNOX: But you said one was built
3 in Detroit.

4 MR. DARNELL: That article was the one
5 they were talking about, the Pioneer Division in
6 Detroit.

7 MR. KNOX: Okay. Do you have the
8 license that allowed them to build --

9 MR. DARNELL: I don't need a license.
10 I don't want the license. It's not the Kansas City
11 Plant.

12 MR. MCCLOSKEY: As soon as we found out
13 it was another division of Bendix doing this work
14 and it didn't affect the site that we're here to
15 talk about we -- there's a lot of stuff we could
16 go study, but we didn't study that.

17 MR. KNOX: If you look at all of the
18 materials that Bendix had onsite based upon the DOL
19 SIMS, they had reactor fuel there.

20 MR. DARNELL: No. Actually, the
21 problem is you're misreading the sentence.

22 When the Department of Labor puts a
23 material on that site and states that it was at the

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1 Kansas City Plant it gives you all of the aliases
2 for that material.

3 So, when they listed uranium they
4 listed U-233, they listed -- they listed
5 yellowcake, they listed U-235, the whole thing.

6 You are misunderstanding the SIMS.

7 MR. KNOX: No.

8 MR. DARNELL: Yes.

9 MR. KNOX: The SIMS, what is in the SIMS
10 is taken to be fact.

11 MR. DARNELL: Sure. It said uranium
12 was at the site and it gave you all the names --

13 MR. KNOX: But they don't give you all
14 of the isotopes, do they?

15 MR. DARNELL: They gave you all of the
16 names that were in common use for uranium.

17 What I suggest is you go back and read
18 it more carefully. You are incorrect in your
19 assumption.

20 MR. KNOX: I am not.

21 MR. DARNELL: Yes, you are, sir. I'm
22 sorry.

23 MR. KNOX: What is in the SIMS is

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1 supposed to be accepted as fact.

2 Now, you've gone --

3 MR. DARNELL: I'm not arguing with that
4 part.

5 MR. KNOX: But the interesting thing is
6 after I presented you all of this information that
7 says that they had yellowcake there, they had the
8 depleted uranium.

9 We don't know whether that contained
10 plutonium or not.

11 They had weapons-grade material there.
12 All of this is in the SIMS.

13 Once I told you guys that what you did
14 was to go in and somebody, I shouldn't say who, but
15 someone went in and removed all of the radioactive
16 material indications from the SIMS.

17 Even those people, the industrial
18 hygienists that were surveying around, were not
19 even exposed to radioactive material. It was
20 deleted.

21 MR. MCCLOSKEY: That's not our
22 database, that's DOL, right?

23 MR. KNOX: So, why would DOL -- it was

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1 interesting to me. After I presented to you all
2 of this information that was in the DOL SIMS that
3 suggested these workers were working with these
4 radioactive materials they were all deleted.

5 MR. DARNELL: Mr. Knox, can I ask you
6 to come around and take a look at my computer
7 screen?

8 I have brought up the United States
9 Department of Labor Site Exposure Matrix.

10 I've brought up the toxic substance
11 uranium. Identification. HAZMAT name.
12 Uranium, uranium and compounds. CAS number.

13 Aliases - U-232 tracer, U-232 tracer,
14 U-233, uranium 233, uranium 234. Okay? Those are
15 aliases.

16 MR. KNOX: They do not put -- okay,
17 well, which ones were there then? Which ones were
18 there?

19 MR. DARNELL: We had depleted uranium
20 at the site.

21 MR. KNOX: But it doesn't say that. It
22 just says uranium, and then it says aliases.

23 MR. DARNELL: That's correct.

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1 MR. KNOX: Okay. So, what was there?

2 MR. DARNELL: We told you in the
3 Special Exposure Cohort Evaluation Report.

4 MR. MCCLOSKEY: We have other ways to
5 verify what's there.

6 We have NMMSS, right? They're
7 required to log their inventory with that database.

8 CHAIR BEACH: Correct.

9 MR. MCCLOSKEY: And so we don't just
10 take one piece of information and say we're done.
11 We go off and we validate it.

12 MR. DARNELL: Do you understand now
13 that those are just aliases that are listed?

14 MR. KNOX: No, because I do not have --
15 you deleted, someone, I could say who. Someone
16 deleted all of those references to the use of
17 radioactive materials --

18 MR. DARNELL: Again, you're --
19 conspiracy --

20 (Simultaneous speaking)

21 MR. DARNELL: When you're facing a fact
22 you're introducing a conspiracy to try to undermine
23 it.

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1 There is no conspiracy. Nothing was
2 deleted. This is what the website has always said.

3 MR. KNOX: No, it wasn't. It was
4 changed. That's not true.

5 MR. KATZ: Okay, but we don't need to
6 argue about SIMS because SIMS is a database
7 maintained by the Department of Labor.

8 We have no role in SIMS. We don't
9 delete, we don't add to SIMS. So, it's really,
10 it's not germane to the Work Group.

11 MR. DARNELL: It is germane --

12 MR. KATZ: Whatever might have
13 happened it's not germane to what this Work Group
14 does though because this Work Group doesn't
15 maintain SIMS.

16 MR. DARNELL: It's germane to Mr.
17 Knox's belief in what radioactive materials were
18 at the site.

19 He's looking at the aliases and saying
20 that fissionable and fissile materials were on the
21 site when they were not.

22 MR. KATZ: I understand what you're
23 saying, but it's not useful is what I'm saying for

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1 this Work Group.

2 MR. DARNELL: You're absolutely right.

3 MR. KATZ: Because the Work Group has
4 gone into depth about what materials actually were
5 there. And that's what all this several years of
6 work has been involved in.

7 So, the SIMS which is a very superficial
8 database by comparison to what's been done by the
9 Work Group, and by NIOSH, by SC&A, is -- it's just
10 not germane to this discussion. It's not a primary
11 source, or even -- it's not even a source for this
12 Work Group's work.

13 MR. KNOX: The SIMS indicates, for
14 example, the lathe operators were using
15 nickel-163.

16 What were they doing with it? That's
17 what the SIMS says for that work category.

18 CHAIR BEACH: So, we have --

19 MR. DARNELL: -- published. That's
20 going to be discussed --

21 CHAIR BEACH: And it will be --
22 tomorrow.

23 (Simultaneous speaking)

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1 CHAIR BEACH: And it's very clear what
2 the site was doing with it.

3 And if you're here tomorrow you'll see
4 that report.

5 MR. KNOX: It mentions --

6 CHAIR BEACH: In fact, Wayne, just for
7 the record it is on -- Wayne, it is on the website
8 available for you to take off the public website
9 the report on nickel-63.

10 MR. DARNELL: I believe also that Josh
11 Kinman mailed you a copy of it.

12 CHAIR BEACH: So, we're aware of what
13 they did with it and we'll talk about it tomorrow.

14 But you have access to that report.

15 MR. KNOX: Yes, but now we delete all
16 of those materials that --

17 CHAIR BEACH: We didn't delete.

18 MR. KNOX: Someone deleted them.

19 CHAIR BEACH: But, Wayne, here's the
20 deal.

21 MR. KNOX: And --

22 CHAIR BEACH: Wayne, we are trying to
23 help you.

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1 You have to understand when we tell you
2 that it's not something that we have control over
3 we can't do anything about it.

4 So, that is something you can take up
5 with DOE or DOL. But it's not part of what we're
6 discussing here, or shouldn't be.

7 MR. KNOX: Okay. I've got to hit the
8 john. I'm an old man.

9 CHAIR BEACH: So, you know what?
10 Let's see. It is --

11 MR. KATZ: It's about 3.

12 CHAIR BEACH: -- almost 3. So, come
13 back at 10 after? Five after?

14 (Whereupon, the above-entitled matter
15 went off the record at 2:52 p.m. and resumed at 3:10
16 p.m.)

17 MR. KATZ: Welcome back. We just had
18 a short break.

19 This is the Kansas City Plant Work Group
20 and we're working on Mr. Knox's list of issues from
21 back in March, I believe. January, sorry.

22 CHAIR BEACH: January. I want to
23 check did [identifying information redacted] join

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1 us?

2 (No response)

3 CHAIR BEACH: No, okay. Carry on.

4 MR. KNOX: Okay. Number 6. All I
5 wanted to see were some licenses for the Kansas City
6 Plant to possess and use radioactive material in
7 radiation-generating machines.

8 MR. DARNELL: There was no license
9 required. They were contractors.

10 MR. KNOX: Even if they did work that
11 was not associated with -- there is no license
12 required?

13 MR. DARNELL: No license required.

14 MR. KNOX: Okay. I saw an indication
15 that fuel was shipped from Mallinckrodt there in
16 St. Louis to Bendix. And I gave that as an exhibit.

17 MR. DARNELL: Are we on number 7?

18 CHAIR BEACH: Yes.

19 MR. KNOX: Number 7.

20 MR. DARNELL: Okay.

21 MR. KNOX: Did anyone run that down to
22 see if they have actual shipping records?

23 MR. DARNELL: We actually talked about

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1 this in the 2014 Work Group.

2 And it's on page 317 of that transcript
3 where we discuss that there was metal handling at
4 the Kansas City Plant. It came from Bethlehem
5 Steel and Lackawanna.

6 And they were slugs. They were natural
7 uranium. They were not reactor components.

8 MR. KNOX: If you were to look in the
9 Mallinckrodt Site Profile, it indicates that
10 Bendix was a material -- a uranium handler
11 facility.

12 It also gives the name -- and I've
13 forgotten the codename for the fuel that they sent.
14 And I provided that, the codename that was shipped.

15 MR. DARNELL: Okay. In our response
16 to you in 2014 and our response to you today is that
17 we did not handle -- the Kansas City Plant did not
18 handle reactor fuel.

19 They did natural uranium meaning some
20 slugs. They got stuff from Lackawanna and
21 Bethlehem Steel which were DU and U materials that
22 were done for different projects.

23 There was no reactor fuel handled on the

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1 site. That was the response in 2014. That's the
2 response now.

3 MR. KNOX: Did you look for any
4 shipping records of material to that facility?

5 MR. DARNELL: To Mallinckrodt or from
6 Mallinckrodt?

7 MR. KNOX: From Mallinckrodt to the
8 Kansas City Plant.

9 MR. DARNELL: No. The reason why we
10 didn't have to was we had the Nuclear Materials
11 Database that would have shown whether we had
12 fissile or fissionable material onsite.

13 There was none. There has not been
14 any. It's not in the database.

15 So again, our answer is this was never
16 here.

17 CHAIR BEACH: And that's back to NMMSS,
18 correct?

19 MR. DARNELL: NMMSS.

20 CHAIR BEACH: The NMMSS database, yes.

21 MR. MCCLOSKEY: If Mallinckrodt
22 shipped uranium to Bendix, it was not the Kansas
23 City division of Bendix. It was another Bendix

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1 division.

2 MR. KNOX: I have to find out where it
3 went then because it was shipped to Bendix. And
4 they designated Bendix as a fuel-handling
5 facility.

6 MR. DARNELL: Remember, the Pioneer
7 Division had a reactor in Michigan.

8 MEMBER LOCKEY: Detroit.

9 MR. DARNELL: Okay, so just because it
10 says Bendix doesn't mean it came to Kansas City
11 Plant.

12 MR. KNOX: I agree and that's what I
13 wanted to run down to see. There are leads, there
14 are indications that they were processing
15 radioactive material.

16 CHAIR BEACH: Okay, so you're
17 satisfied with that one?

18 MR. KNOX: No, I have work to do on it.

19 CHAIR BEACH: Okay, but for this Work
20 Group.

21 MR. KNOX: Number 8 -- we can move on.

22 CHAIR BEACH: Okay, number 8?

23 MR. KNOX: Yes, we can move on.

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1 CHAIR BEACH: So you feel like thorium
2 dose reconstruction has been covered?

3 MR. KNOX: There are some issues but I
4 don't want to even get into that.

5 I'm not prepared. I don't have my
6 documentation to show you.

7 It's difficult for me to speak without
8 having a piece of paper to say, look at this.

9 And that's what I had before. I had all
10 my documentation, but I have no documentation now.

11 Okay. The period of number 9, the
12 period of coverage of SEC --

13 CHAIR BEACH: So the Evaluation
14 Report. You're questioning the years that are
15 covered?

16 MR. KNOX: Yes. Why stop at '93?

17 MEMBER LOCKEY: That was an issue.
18 It's on our issues matrix, why we stopped there.

19 And we've gone back and forth to the
20 site getting documents about where we should stop
21 this evaluation.

22 You know, initially we decided it was
23 '93 in our Evaluation Report. And we looked at a

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1 lot of the DOE audits of the facility, and a lot
2 of the statements that independent organizations
3 made about the facility.

4 And we convinced ourselves -- I can find
5 the issue number -- but I think we've closed that
6 one.

7 MR. DARNELL: Yes, it's one of the ones
8 that's closed.

9 Basically, the implementation of the
10 DOE Radiological Control Manual and 10 CFR 835 with
11 associated Price-Anderson Amendment acts leads the
12 Working Group to believe that at that point in 1993
13 that was dated -- I don't remember what that date
14 was -- that the program was adequate and monitoring
15 everything that it should be monitoring for the
16 Kansas City site.

17 There was nothing more to be discovered
18 by searching later than 1993.

19 MR. KNOX: Did you get any reports,
20 audit reports after 1993?

21 MR. DARNELL: Oh yes. That's part of
22 our Site Research Database.

23 MR. KNOX: But based upon my evaluation

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1 of many facilities, they still had problems after
2 1993. It didn't go away just by us writing better
3 regulations and better requirements.

4 MR. DARNELL: They don't just appear by
5 saying that they're there either. What we need is
6 documentation.

7 MR. KNOX: Monitoring --

8 MEMBER LOCKEY: So, we're okay with
9 number 9 then?

10 CHAIR BEACH: Well, there's nothing to
11 say that the years can't go -- if there's a petition
12 put in and the petition is accepted for the years
13 beyond what we're looking at here.

14 There's nothing to say that that can't
15 in the future happen. It's just not part of the
16 business of this Working Group at this time.

17 MR. KNOX: And tritium monitoring
18 equipment that they were using, the training that
19 they had.

20 And all of us recognized specialized
21 equipment is needed, and specialized training and
22 techniques are necessary to control tritium.

23 MR. DARNELL: Maybe you haven't been

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1 informed. I thought you were mailed the tritium
2 White Papers that have gone out.

3 MEMBER LOCKEY: Can you speak a little
4 louder?

5 MR. DARNELL: Oh, I'm sorry. I
6 thought you had been mailed the tritium White
7 Papers that have gone out. We'll be discussing
8 tritium tomorrow for the bounding exposures and
9 everything that we found with tritium.

10 So if you're here tomorrow, that's when
11 we'll be discussing recovering tritium.

12 CHAIR BEACH: It's also part of the
13 documents that are on NIOSH's website that are
14 available to the public or to petitioners. So
15 those have been posted, and have been for a couple
16 of weeks now, I believe.

17 MR. DARNELL: Actually, it's been
18 quite a while.

19 CHAIR BEACH: Yes, it's been posted for
20 a while.

21 MR. KNOX: I believe you were
22 mentioning that people were pouring tritium into
23 a glass container. And I was wondering how --

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1 MR. DARNELL: When was that mentioned?

2 MR. KNOX: You mentioned it at a
3 meeting.

4 CHAIR BEACH: Yes, we've discussed it.

5 MR. DARNELL: We've discussed it. I'm
6 just trying to figure out where you're coming from.

7 MR. KNOX: And how was that controlled?
8 I've worked --

9 CHAIR BEACH: It's all part of that
10 document.

11 MR. DARNELL: It's part of the paper.
12 We'll be talking about it tomorrow.

13 CHAIR BEACH: Yes. Okay. Number 4,
14 spread of uranium and other unknown -- number 11,
15 sorry. It's matrix issue number 4.

16 MR. KNOX: We've touched on that.

17 CHAIR BEACH: Yes. That's part of our
18 matrix so we have looked at that.

19 MR. KATZ: Can you just name it for the
20 record so that we know what we're talking about?

21 CHAIR BEACH: Oh, what it was? The
22 issue - spread of uranium and other unknown,
23 undetected contaminants.

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1 And so you're okay with that at this
2 time?

3 MR. KNOX: Yes. The only comment that
4 I would like to make relative to that, and I have
5 just read the table that you provided of uranium
6 contamination that showed that it was in clean
7 areas.

8 And they were average values. And
9 average values don't mean a lot to me as a
10 dirty-hands health physicist.

11 You need to know what the raw data looks
12 like in these cases in order to determine the actual
13 levels of the contamination.

14 And average data has very little
15 meaning because we are supposed to be making
16 worst-case assessments.

17 MR. DARNELL: Now we're going back to
18 something that we've told you before, that is not
19 what we're supposed to do.

20 It is part of a process. It may or may
21 not be done depending on how we're using the numbers
22 and what part of dose we're reconstructing.

23 You can never say a blanket statement

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1 that we have to use worst-case because it's not
2 true.

3 MR. KNOX: But average data doesn't
4 tell me anything.

5 MR. DARNELL: Well, I'm sorry that you
6 have -- you're objecting to the way the data was
7 presented.

8 Is there something that we can do for
9 you?

10 MR. KNOX: Looking at the raw data.
11 That's what I'm asking for.

12 Now, I know you can't give it to me.

13 MR. DARNELL: Sure. Send us a written
14 request and we will be glad to send you copies of
15 our data. Whatever that we can provide, we will
16 provide you. But you have to ask for it in writing
17 as part of a Freedom of Information Act.

18 MR. KNOX: That's what I'm doing. And
19 I've gathered my little team now and we're going
20 to go through all of this stuff.

21 MR. DARNELL: Okay.

22 MR. KNOX: Number 12, the HVAC system.

23 You had, good grief, maybe 100

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1 different short stacks on that roof. You have
2 people that were continuously working on the
3 rooftop. And --

4 MR. DARNELL: We've got pictures of the
5 roof in the Site Research Database.

6 There were a lot of stacks. It wasn't
7 hundreds. There was an office on the roof and
8 people assigned to do work on the roof.

9 When they were in radiation areas, as
10 we discussed and repeatedly said, they had to be
11 monitored. They had to be part of the medical
12 monitoring. They had to have special training to
13 do it.

14 The rest of the workers up there had
15 basic industrial hygiene requirements that had to
16 be made for the environmental health programs that
17 they had.

18 I don't understand what your issue is.

19 MR. KNOX: The issue is that
20 radioactive material was being released through
21 those vents.

22 From what I understand in talking to
23 workers they had no HEPA filtration on the systems

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1 and they were short vents at breathing height.

2 MR. DARNELL: When you were speaking
3 with these workers, did you ascertain whether they
4 had a need to know about the classified systems that
5 were being used, and whether they had knowledge of
6 what you were asking them about?

7 MR. KNOX: I asked them about the
8 configuration of the HVAC system and the venting
9 system. And that's what I was told.

10 I looked at the picture, and you can go
11 in Google and you can see the top of the Building
12 1 there.

13 MR. DARNELL: Yes, and you certainly --

14 MR. KNOX: And they smelled a lot of
15 odors up on the roof. So, any kind of radioactive
16 material release through those vents could have
17 been inhaled by those workers.

18 In addition to that you had many
19 different --

20 MR. DARNELL: -- view if you had a site
21 that was doing a lot of radioactive material work.

22 That's not the case here. You had some
23 discrete projects that weren't going all the time.

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1 The uranium was the worst stuff that
2 they had. They had filtration. We saw the places
3 where they did the work. We saw the controls that
4 they had in place because the remnants of them are
5 still there.

6 We see that there's no survey data
7 showing uranium still being there and still spread
8 outside of the work area.

9 Because, you know, uranium half-life is
10 very long. If it was spread a lot it would still
11 be there. We would see it today. We're not seeing
12 it today.

13 They're not seeing it on the roof. The
14 other radioactive materials that could have gotten
15 to the roof are extremely low exposure potentials.
16 You're talking nickel-63, tritium.

17 You basically had to have your snout up
18 against the vent to get an appreciable dose to begin
19 with for those radioactive materials.

20 So, I'm trying to figure out why is this
21 an issue to you. We've got workers in a program.
22 We've got workers that were monitored. We have
23 systems for the bad actors that had the filtration.

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1 I don't even know whether the off-tritium work had
2 filtrations every time, but we have a dose bounding
3 for it and it's on the order of millirem per year
4 if they took the entire amount of tritium that was
5 used. So where's your problem?

6 MR. KNOX: I don't know. There is an
7 issue with monitoring.

8 I think there is an issue associated
9 with monitoring for tritium, based upon the quality
10 of health physicists you had there.

11 And the facility -- controlling tritium
12 is very hard. Filtering it, hey. It doesn't work
13 that way.

14 CHAIR BEACH: So, is that an item that
15 you can listen to the discussion on tritium
16 tomorrow during our Work Group session? And read
17 the report that's out.

18 MR. KNOX: Yes.

19 CHAIR BEACH: Okay. And then the HVAC
20 system, that covers that, correct?

21 MR. KNOX: Yes.

22 CHAIR BEACH: Okay. How about 13,
23 assay of the reported DU?

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1 MR. KNOX: Yes. We spread around a lot
2 of recycled uranium.

3 And the question I have is, was any of
4 that recycled depleted uranium?

5 MR. DARNELL: I'm not sure I understand
6 what you're asking. I'm sorry.

7 MR. KNOX: You had uranium. Did you
8 have any recycled depleted uranium?

9 MR. MCCLOSKEY: What we fall back on
10 here is we use TBD-6000 in the Site Profile.

11 And so we use that in our ER to bound
12 doses.

13 And it makes an assumption that if
14 there's --

15 MR. KNOX: I hate to do this, but I did
16 not take my old man's pill this morning.

17 MR. MCCLOSKEY: Okay. You want me to
18 pause while you --

19 MR. KNOX: Would you like to pause?

20 MR. KATZ: Okay, we're just on a brief
21 break here for folks on the phone.

22 (Whereupon, the above-entitled matter
23 went off the record at 3:28 p.m. and resumed at 3:31

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1 p.m.)

2 CHAIR BEACH: Okay, so we're back.

3 (Simultaneous speaking)

4 MR. MCCLOSKEY: Okay, so you make a
5 good point with DU. After a certain point in time
6 there's other contaminants in there.

7 And it actually came up as an issue that
8 this Work Group has been working on. We call it
9 issue number 5 on our issues matrix. We titled it
10 Recycled Uranium.

11 And what we relied upon in our
12 Evaluation Report for this SEC was a Site Profile
13 known as TBD-6000 written by Battelle. You can go
14 to the NIOSH website and find it and pull it up.

15 CHAIR BEACH: I was going to say the
16 matrix is listed for tomorrow's meeting. So you
17 can pull the full document and see the work that's
18 been done on all these issues.

19 MR. MCCLOSKEY: So you make a good
20 point. I mean, that is something that we were
21 concerned about.

22 And when you get to Battelle 6000 you'll
23 find Table 3.2 and it shows all the other nuclides

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1 that we would consider were included in those
2 exposures after 1952 and we included all these with
3 the DU exposures.

4 CHAIR BEACH: And we concluded our work
5 on that and agreed that what's been done for that
6 particular incident has been well thought out and
7 closed.

8 The agenda that we gave you that's
9 listed the different issues, those are the ones
10 that are still open of the 21 that we are still
11 working on to come to some conclusion and
12 resolution on.

13 Everything else that's not listed on
14 here from 1 to 21 has been closed by the Work Group,
15 or put on what we call a TBD. And that will be
16 worked through a TBD Site Profile. That will be
17 changed in that process.

18 So, just for a little more
19 understanding there.

20 Okay, so where are we at? So, 13 we're
21 done with. Fourteen.

22 MR. KNOX: Fourteen.

23 CHAIR BEACH: Is there anything more to

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1 say?

2 MR. KNOX: We're back to that. And I
3 have to do some more investigation in that.

4 I'll go over to Burt Hall and do some
5 research on that.

6 CHAIR BEACH: So, for those of you on
7 the phone, if you don't have this list, number 14
8 was on the nuclear reactor development testing and
9 indicators, and Burt Hall nuclear reactor.

10 It is our understanding there was not
11 a nuclear reactor ever at KCP. So, that's our
12 stand on that.

13 And Wayne, you said you want to do some
14 more research on that. And that's fine. Okay.

15 So, 15, the Ferguson Bendix president
16 testimony before congressional hearing committee.
17 What was your issue with that for us?

18 MR. KNOX: Well, if you read the -- now,
19 I understand you have a different interpretation
20 of what he said in his testimony.

21 But it indicated that they had hired 100
22 nuclear workers from the failed airplane reactor
23 and indicated that they were developing nuclear

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1 technology.

2 And there were indications that it was
3 being done at the Kansas City Plant, at least part
4 of it. Not all of it, but part of it was being done
5 at the Kansas City Plant.

6 CHAIR BEACH: Okay. And we have found
7 no proof of that and have no documentation on that.
8 So this, from where we're at we, don't believe there
9 was one, correct? Okay. So that one we're done
10 with also.

11 MR. DARNELL: Malcolm P. Ferguson was
12 the president of Bendix Detroit.

13 CHAIR BEACH: Right. He was the
14 president of Bendix Detroit. So, okay.

15 So, it may have happened, but it was not
16 at the Kansas City Plant. That's our
17 understanding so that's the stand we'll take on
18 that, okay?

19 So, number 16, use and monitoring of
20 special nuclear materials.

21 MR. KNOX: With this one, you didn't
22 have any.

23 CHAIR BEACH: There was none. Yes,

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1 that follows with the -- okay. So, at this time
2 we have found no proof or documentation of any
3 nuclear material sources, no reason for it to be
4 there. They weren't doing anything with special
5 nuclear materials at Kansas City.

6 MR. KNOX: And that the DOL SIMS is
7 incorrect.

8 CHAIR BEACH: I think you're
9 misinterpreting the way that is being used. So,
10 that's just my view of that.

11 MR. MCCLOSKEY: They keep listing on
12 there their PuBe source, right? It's a
13 plutonium-beryllium source, plutonium-239.

14 And plutonium-239 is a special nuclear
15 material. But in this case it's used as a tool,
16 right? It's just a source. They liked the way
17 that it emits neutrons. They used that for that
18 purpose.

19 CHAIR BEACH: And we have a list of all
20 the sources that were used from the beginning of
21 time at Kansas City Plant.

22 I mean, we've seen it, we've all looked
23 at it. Okay.

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1 So that one -- so the next one is number
2 17, Mallinckrodt versus Battelle.

3 Okay, so this is back to the TBD-6000.
4 What was your issue there, Wayne? That was not
5 clear.

6 MR. KNOX: The issue was that in this
7 Mallinckrodt document, it listed Battelle as a --
8 I mean it listed Bendix as a fuel-handling
9 facility.

10 And I felt that that was the one that
11 should be used in characterizing the exposure.

12 But even if you use Battelle's 6000 you
13 get some reasonable doses. So, they're not that
14 far apart.

15 CHAIR BEACH: So, Joe, excuse me for a
16 second. Joe, that was one that SC&A looked at. I
17 think you had Ron look at it. I have a paragraph
18 on it but I don't know.

19 MR. FITZGERALD: Well, we have a
20 discussion tomorrow too. So, I don't know how you
21 want to handle that.

22 Ron will be on the phone tomorrow for
23 some detailed discussion. He can answer

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1 questions. That might be a better way to do it.

2 CHAIR BEACH: Okay. So, save some of
3 that --

4 MR. FITZGERALD: I would save it, since
5 he's going to be right available.

6 CHAIR BEACH: Okay.

7 MR. KNOX: The only argument that I had
8 was that since this document, the Mallinckrodt
9 document listed Bendix as the fuel-handling
10 facility. That one should be used versus
11 Battelle.

12 MR. MCCLOSKEY: Oh, I see.

13 MR. DARNELL: I'm sorry, we can't do
14 that.

15 MR. MCCLOSKEY: Yes, we have strict
16 rules about what can apply to a work site.

17 We're allowed to use TBD-6000 for --

18 MR. DARNELL: But we can't -- unless
19 there is a technical position stating why a method
20 contained within the technical basis calculation
21 for Mallinckrodt would apply to Kansas City, then
22 we can't use it. It's against our rules.

23 MR. KNOX: Well, the general rule was

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1 that the regulations that exist at the time of the
2 incident are the ones that should be used. The
3 regulations that exist at the time of the event are
4 the ones that should be used.

5 MR. DARNELL: That's absolutely wrong.
6 What we do is go back in and recalculate the doses
7 according to the best methods and procedures we
8 have today.

9 If I went back and did it the way they
10 did it in the 1950s, you'd have no doses, you'd have
11 no SECs, you'd have no problems.

12 MR. KNOX: That's true.

13 MR. DARNELL: Okay? So what you're
14 saying is absolutely incorrect.

15 MR. KNOX: But from the fact that they
16 were designated as a fuel-handling facility.

17 MR. MCCLOSKEY: Well, first of all --

18 MR. KNOX: The problem is that --

19 MR. DARNELL: It's not a fuel-handling
20 -- Kansas City Plant is not a fuel-handling
21 facility. It never has been, never will be, never
22 going to be.

23 MR. MCCLOSKEY: I believe that Bendix

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1 reference in that Mallinckrodt document is not the
2 Bendix in Kansas City.

3 And a lot of thought goes into the
4 development of these procedures to make sure they
5 apply to each facility we use.

6 CHAIR BEACH: So, on that particular
7 one, Joe had asked Ron to do some work on it.

8 I just gave him that paragraph.

9 MR. FITZGERALD: I guess we had the
10 same reaction. It didn't seem like there was
11 anything in the TBD that referenced Mallinckrodt
12 so much.

13 There was a reference to an MDA value
14 which the Kansas City TBD uses the greater of any
15 of the values for the uranium, 10 micrograms per
16 liter.

17 And it's not clear what your issue is
18 I guess is the real problem here.

19 MR. KNOX: The main concern was that
20 that document, that is, the Mallinckrodt document
21 identified Bendix as a fuel-handling facility.

22 CHAIR BEACH: Bendix Kansas City?

23 MR. FITZGERALD: See, that's the

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1 problem. I don't think it's Bendix Kansas City.
2 I think we're back into the issue of which Bendix
3 because Bendix is a large company, has all these
4 different facilities.

5 And we've gone into this issue before,
6 that it's not the Kansas City division. It's
7 probably another division that you're referring
8 to.

9 I think one thing we need to do is
10 clarify which division of Bendix is being
11 referenced in the Mallinckrodt document.

12 I suspect -- in fact, we confirmed it,
13 that they did not receive any fuel from anywhere
14 at Kansas City.

15 We checked the classified inventory to
16 make sure there was nothing in the way of enriched
17 uranium or plutonium or anything of that sort and
18 confirmed that was the case.

19 And these are classified records, and
20 found nothing. So, if there would have been
21 anything, any fissile material, any fuel, that
22 would have been very clear from that.

23 MR. MCCLOSKEY: We don't just trust one

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1 document. We go and we get all --

2 MR. FITZGERALD: Well, I think we
3 wanted to go and look at the classified database
4 just to really make sure there was nothing that was
5 going on.

6 MR. DARNELL: And we were also looking
7 for other things that were classified.

8 MR. FITZGERALD: Yes, yes, just to make
9 sure there was nothing that we wouldn't expect to
10 see at Kansas City.

11 We did not find anything that we didn't
12 expect to see at Kansas City.

13 And a lot of that was from, I think, the
14 original concerns that were expressed. We wanted
15 to confirm that even though nothing in the
16 unclassified documents spoke to it, nothing in the
17 classified did either.

18 CHAIR BEACH: All right. So then next
19 one, 18 is not applicable to what we're doing.
20 It's chemical. We're just talking radiological
21 exposure.

22 So, just for the record 18 is
23 synergistic effects of simultaneous chemical and

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1 radiological exposure by multiple pathways.

2 So, I don't know, I guess you can talk
3 about the radiological. We pretty much covered.
4 Is there something --

5 MR. DARNELL: What are you missing?

6 MR. KATZ: Wayne just left the room for
7 a moment so we're just going to break again.

8 (Whereupon, the above-entitled matter
9 went off the record at 3:44 p.m. and resumed at 3:49
10 p.m.)

11 CHAIR BEACH: Okay, so we were talking
12 about 18, radiological exposure by multiple
13 pathways.

14 We eliminated the first part because
15 we're not here to discuss chemicals.

16 Is there anything more that we need to
17 talk about on that one, Wayne?

18 MR. KNOX: No, no. But that chemical
19 damage to the lungs can impact the uptake of
20 radioactive retention factors associated with the
21 lungs.

22 CHAIR BEACH: I understand, but it's
23 not something we can cover here. So that one is

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1 off the table then? All right.

2 So the next one, absorption/injection
3 pathways, DR.

4 MR. KNOX: A lot of those workers have
5 cuts. If you look at their records they have a lot
6 of cuts and scrapes.

7 And you will have the injection
8 particles of radioactive material into their skin,
9 especially those who work with the lathe.

10 And I know that produces a lot of skin
11 cancers which are not really covered under this
12 act.

13 CHAIR BEACH: Well, I think most rad
14 workers are trained that if they have open wounds
15 they are supposed to have them covered.

16 Whether they did or not I can't say, but
17 I know that that's pretty ABC training.

18 MR. MCCLOSKEY: Early on at the Kansas
19 City Plant, this is that same document I showed you
20 earlier with the procedures that were in place.

21 And so this began in 1951 is the date
22 on this one.

23 And Section 1.06 says, First aid and

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1 treatment following accidents.

2 Minor lacerations. Any minor
3 laceration received on the hands or body as a result
4 of contact with the uranium-238 will be treated in
5 the following manner.

6 Wash the hand -- affected area. Wash
7 the affected area thoroughly with soap and water.
8 Check the affected area for contamination with an
9 alpha counter.

10 Report to first aid where the wound will
11 be examined thoroughly with a high-powered
12 magnifying glass and all foreign bodies removed.

13 So, I mean they had procedures in place
14 to address, and it goes on.

15 A periodic recheck will be made by the
16 medical department until the wound is completely
17 healed.

18 It is permissible to continue working
19 with uranium with very small lacerations on the
20 hand provided they are bandaged and gloves are
21 worn.

22 So if you show up to medical with one
23 of these cuts, they're going to make sure you get

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1 a bandage on it.

2 And you have to wear additional PPE,
3 i.e., gloves. So they had at the very beginning,
4 the very onset of their radioactive work there
5 procedures in place to address cuts, wounds.

6 MR. KNOX: Okay.

7 MR. MCCLOSKEY: That was SRDB 128346.

8 MR. KNOX: I'm going to request a copy
9 of that too.

10 MR. MCCLOSKEY: Sure. And that's just
11 one iteration of the health and safety procedures
12 required to enter the radioactive areas where they
13 did the radioactive work.

14 I have many iterations of those
15 procedures over the years as they were revised as
16 you would expect.

17 MR. KNOX: Did you find, number 20, did
18 they do a lot of radiography work there with
19 sources?

20 MR. DARNELL: As far as finding records
21 of radiography work, I don't remember finding that
22 much.

23 It was an industrial plant, so I would

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1 assume yes, they did.

2 MR. FITZGERALD: Well, they had a lot
3 of sealed sources. They did some radiography.

4 We did check on iridium and on cobalt.
5 We didn't find any iridium, but certainly found
6 references to cobalt-60 use at the plant for that
7 purpose.

8 So yes, they did do those kind of
9 procedures using cobalt-60.

10 And it's an industrial plant so it's not
11 too surprising they would be using gauge sources
12 to do that.

13 MR. KNOX: What about the procedures
14 established in the boundaries?

15 MR. FITZGERALD: Yes. I mean, we saw
16 the documentation for use of those sources. And
17 they certainly had a program for that. And they
18 were sealed sources.

19 In terms of radiography they had
20 radiography procedures. And those were
21 documented. We certainly can make those
22 available. I mean, that's part of the record.

23 Now, granted it was part of this

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1 integrated safety program including industrial
2 hygiene, health physics and industrial safety was
3 all together until I guess it was -- was it '87?
4 Something like that.

5 So, it was managed that way. But
6 nonetheless the plant had experience and did, in
7 fact, manage a radiography program, sealed source
8 program, did those kinds of procedures.

9 Had a fairly good record. They had a
10 couple of incidents the worst of which was the
11 promethium incident and you're familiar with that.

12 But other than that there's a pretty
13 documented history of that. That's fairly well
14 documented.

15 MR. MCCLOSKEY: You can look in the SEC
16 Evaluation Report. Tables 5.2 and 5.3 show all the
17 different types of sources that were used at the
18 site and how they were used.

19 MR. FITZGERALD: As I recall it's also
20 cesium and cobalt are the two that seem to be the
21 prominent sources.

22 They did have plutonium-beryllium
23 sources, but they were not very -- they were only

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1 I think used sparingly. It was mostly cobalt and
2 cesium.

3 MR. KNOX: But I was also concerned
4 about the exposure of people on the roof.

5 Because when you set up those
6 boundaries, and I've seen this where they set up
7 the boundaries downstairs and they forget about the
8 exposure to people that are on the roof.

9 MR. FITZGERALD: We looked at
10 incidents and we actually did not find any
11 experience with exposures like that.

12 They did inadvertently expose
13 individuals in an adjacent room. We did look at
14 that incident. And certainly there were some
15 exposure to those individuals, but it wasn't very
16 high.

17 But it was an accident. It was written
18 up as an accident.

19 So, over the history of radiography use
20 it was fairly good except they did have, in fact,
21 that one.

22 It was an incident where they had
23 individuals who were not part of the radiography

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1 operation in an adjacent room.

2 And the way the beam was set up they were
3 exposed.

4 And that was written up pretty much as
5 an incident.

6 We did investigate that because that
7 would have been a potential -- if it weren't
8 investigated and the doses weren't estimated that
9 could have been an unmonitored exposure.

10 So, we chased that one down because that
11 certainly could have been potentially a high
12 exposure.

13 It turned out it was not in terms of
14 where the individuals were.

15 The potential was there. But the
16 individuals were not positioned so that they were
17 exposed.

18 So, we did look at the incident record
19 primarily because of the way the program was set
20 up.

21 When you have radiography like that
22 it's not -- you don't have a routine exposure
23 monitor. You have external badging, but you don't

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1 have routine exposure monitors.

2 We looked at what the history of
3 inadvertent exposures might have been and whether
4 or not there was a history of that thing going on.

5 But they had set it up where the
6 radiography was being done in a very controlled
7 environment in a certain room.

8 They had indicated where the shielding
9 would have been, where the workers would have been
10 positioned.

11 And they were pretty careful about it.
12 They slipped up once that we can find. We didn't
13 find any other experiences where they had slipped
14 up.

15 And certainly in terms of the beam going
16 up, that would have been a major issue since they
17 were doing beams horizontally.

18 So, there was no evidence that they, in
19 fact, had an inadvertent beam going up to the roof.

20 But if you're interested we can
21 certainly get the document. We did look at that
22 one that we did turn up.

23 MR. KNOX: Okay. Related to that is

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1 the exposure from all of these
2 radiation-generating machines.

3 Did they use NCRP 49 or some other
4 method of procedure for determining the exposure
5 of people?

6 MR. FITZGERALD: I'd have to go back
7 and see what the actual standard referenced. They
8 did have a proceduralized program.

9 Now, that changed over time. They
10 started fairly far back, in the sixties using
11 radiography. So, as they moved forward those
12 standards shifted and were updated.

13 So, whether it was NCRP 49 at some point
14 in that continuum of time I'm not positive.

15 But I certainly -- one thing we can do
16 as an action is make sure you have that timeline
17 of which radiography procedures would have been at
18 any time from the early sixties through almost
19 current time, actually.

20 CHAIR BEACH: Excuse me. Sorry,
21 Wayne. Timeline for when --

22 MR. FITZGERALD: If that's of
23 interest, radiography used at the plant and what

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1 the basis of the procedures would have been at the
2 time.

3 Now, a lot of these were based on DOE
4 orders that were, in fact, based on standards. So,
5 you could certainly paint the picture it was DOE
6 order XXY that had this particular standard
7 referenced as the standard of practice for
8 radiography.

9 But I'll tell you from history that
10 radiography was pretty, you know, it was used
11 almost everywhere at DOE and AEC before that.

12 So, there was a pretty standardized
13 procedure on how one does that and how you design
14 facilities so you do it safely.

15 So, that's something that I think we
16 would certainly -- we did look at that. And like
17 I said, it was pretty much consistent with practice
18 elsewhere.

19 MR. KNOX: So, they did the shielding
20 design studies.

21 MR. FITZGERALD: Yes, you had the --
22 when you're using cobalt-60 in this kind of
23 radiography, obviously, you have to have the

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1 engineering right, have the beam and the target in
2 the right locations.

3 You have to have even occupancy in
4 rooms. That's where they slipped up. They had
5 occupancy in a room that shouldn't have been
6 occupied when they were shooting the beam.

7 So, those kind of things needed to be
8 proceduralized.

9 CHAIR BEACH: Is that your action or
10 NIOSH?

11 MR. FITZGERALD: I'll give it to NIOSH.
12 No.

13 (Laughter)

14 MR. FITZGERALD: Whatever the Work
15 Group wants to do.

16 CHAIR BEACH: What do you say, NIOSH?
17 Do you want that action?

18 MR. DARNELL: Not really.

19 CHAIR BEACH: It sounds like you have
20 it pretty well covered.

21 MR. FITZGERALD: We can do it.

22 MR. KATZ: Wayne just stepped out so
23 we'll break again.

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1 (Whereupon, the above-entitled matter
2 went off the record at 4:00 p.m. and resumed at 4:02
3 p.m.)

4 CHAIR BEACH: Okay. So, there's one
5 more item on our list, 21, radiation generating
6 machine exposure and shielding design study.

7 Wayne, what was your thought on that?

8 MR. KNOX: We just basically talked
9 about that.

10 CHAIR BEACH: I thought so but I wanted
11 to make sure.

12 So, anything else then?

13 MR. KNOX: No. No, not today.

14 CHAIR BEACH: Okay, from this list I've
15 got a couple of actions. The one we just talked
16 about on the timeline for the radiography and
17 procedures in place. SC&A is going to take that.

18 For Mr. Knox, if you want the raw data,
19 you'll have to FOIA NIOSH.

20 And the nuclear fleas on the filtration
21 system, that's also for you to provide
22 documentation to us.

23 As far as the equipment that was sold

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1 to the public and you asked if we had survey reports
2 for them, I'm not clear on what would be an action
3 there, or if there would be one.

4 MR. MCCLOSKEY: We can show you
5 examples of surveys of equipment. I don't know
6 that anything got to the public based on what Josie
7 just said there equipment-wise.

8 CHAIR BEACH: So, would you be content
9 with a memo on that? Or what are you looking for
10 there? Do you want to see the actual survey?

11 MR. KNOX: That's what I would --
12 ideally I would like to see the actual survey
13 results.

14 CHAIR BEACH: Is that a FOIA request
15 then?

16 MR. DARNELL: Yes, it has to be.
17 That's a FOIA request to Kansas City.

18 CHAIR BEACH: Okay. Because we can
19 provide you with a memo, but if you want the actual
20 surveys you'll have to FOIA that.

21 MR. KNOX: Okay.

22 CHAIR BEACH: And then the exit
23 surveys, you talked about that, from the rad areas.

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1 We showed you a procedure. Does that
2 take care of that? Or is there something more that
3 we need to do?

4 The procedures in place that said what
5 the procedure was for people to do when they exited
6 the areas, when they were injured.

7 Are you okay with that, or do you need
8 more?

9 MR. KNOX: Well, I'm not -- based upon
10 what I have been told they did not do it.

11 The people that came over there from --
12 when they went out to lunch, they did not perform
13 an exit survey. When they brought tools over there
14 from GSA and they worked on contaminated systems,
15 they said they did not survey the equipment.

16 CHAIR BEACH: There's no way for us to
17 prove they did or didn't other than what procedures
18 were in place at the time, unless you can think of
19 something else that would help you there.

20 MR. DARNELL: The other thing you
21 really need to remember when you're talking to
22 these workers. You have to ascertain whether they
23 know what they were actually working on or not.

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1 In a lot of cases because of the way
2 security was set up at Kansas City, these workers
3 had no idea.

4 So it would be for more than -- my guess
5 would be that more than 95 percent of them would
6 never survey in or out of anywhere because they
7 weren't working with radioactive materials.

8 But they never knew whether they were
9 or were not to begin with.

10 That's the only thing I can tell you.
11 It doesn't surprise me that you hear from the
12 workers that they didn't survey. Because it would
13 be my venture to guess they weren't working with
14 it anyway.

15 Like I said, very small footprint of
16 where the actual radioactive work took place on
17 that site.

18 One little corner of a huge upper level
19 of the Bendix facility was where the work was done
20 in the 1950s.

21 And it was no bigger than, what, 40
22 feet?

23 CHAIR BEACH: Yes, it was a pretty

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1 small area.

2 MR. DARNELL: Very small area compared
3 to the rest.

4 Department 20. Metal walls. HEPA
5 filters. Filtration in place. You can still see
6 it. You can still see the boxes where the filters
7 were in the facility.

8 You can -- we had the rad tech people
9 standing there telling us we did these surveys.

10 And then we're explaining to him how he
11 needs to do some more. You need MARSSIM.

12 But they're not finding any
13 contamination. They're not finding uranium.

14 We go to one small area that's about 6
15 by 12 and they're finding some contamination 6
16 inches down in the cement.

17 But they're looking for it. It's just
18 not being found, okay?

19 So your workers telling you they didn't
20 get surveyed, they didn't do their surveying, I
21 believe them. I believe you.

22 But I also know and believe that they
23 probably weren't ever working with the radioactive

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1 material simply because of not only what we've
2 seen, but what we know about how the radioactive
3 material was used at the plant.

4 CHAIR BEACH: Okay, so that is the list
5 that you gave us prior to the January 20 meeting.

6 You still have time but I wanted to
7 check again to see if Mister -- [identifying
8 information redacted], if you're on the phone?

9 (No response)

10 CHAIR BEACH: Okay. So, Wayne, the
11 floor is yours.

12 MR. KNOX: Okay. There were -- I don't
13 know how much time you want to spend with this, but
14 there were some other issues.

15 I have to do some more research on this,
16 but looking at air flow characterization studies
17 and air balance.

18 Looking at the met data and looking at
19 the intakes of facilities around that.

20 CHAIR BEACH: For facilities outside
21 of Kansas City Plant? Is that what you just said?

22 MR. KNOX: Yes, facilities -- you had
23 a number of buildings around the Kansas City Plant.

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1 Some were owned by DOE.

2 It wasn't just the main building.
3 There were others.

4 So, I was just looking at what is the
5 possibilities of the releases occurring there from
6 the main building and moving into another facility.

7 CHAIR BEACH: Based on the sources that
8 we've been looking at, I would say it's very small
9 if nonexistent possibility.

10 MR. DARNELL: Again, we've not found
11 the spread of contamination. We've not found
12 contamination anywhere that it wasn't supposed to
13 be.

14 MR. MCCLOSKEY: We have a blurb in our
15 ER about their environmental monitoring program,
16 about their staff monitoring and stuff. I'll see
17 if I can find it.

18 MR. DARNELL: What is it you're trying
19 to say in this regard?

20 MR. KNOX: The people at Hanford when
21 I came there, and just like at this plant here, you
22 had -- we had actual health physicists there.

23 But the HAMTC workers, we got the

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1 radiation technicians from HAMTC. And they were
2 the lowest qualified people at HAMTC.

3 They did not do a good job because they
4 were not qualified to do it. They were not
5 trained. They didn't have the education to do it.

6 And I'm saying what I think happened at
7 Kansas City. You don't give people the equipment
8 to do their job. You don't give them the training
9 to do their job.

10 And therefore you don't see the
11 radiation. You don't see the radiation exposure
12 because you're not measuring it. You don't give
13 them the proper equipment to do it.

14 MR. DARNELL: What is the half-life of
15 uranium?

16 MR. KNOX: Long. I should say it
17 depends upon which isotope you're talking about.

18 MR. DARNELL: Depleted uranium,
19 natural uranium, very long half-life.

20 MEMBER LOCKEY: Four and a half billion
21 years.

22 MR. DARNELL: Yes, okay. Very long
23 half-life.

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1 We can agree that the Kansas City Plant
2 has not been there longer than one half-life.
3 Okay?

4 So, if I have a release of uranium
5 through a stack onto a roof with thick tarring
6 material like any other roof that's built, I
7 release uranium up there. It's been less than 4
8 and a half billion years. I should still find it.

9 MR. KNOX: My basic concern is that I'm
10 not associating with people who are being honest,
11 and actually made appropriate surveys.

12 MR. DARNELL: I can't help you with
13 that. That's your feeling.

14 MR. KNOX: That's my honest opinion.

15 MR. DARNELL: Okay. Thank you for
16 your opinion, but that really has no bearing on what
17 we're doing here.

18 MR. KNOX: Anyway, let's just end it.
19 I apologize, but this is unexpected.

20 MR. DARNELL: Are you sure I can't take
21 you to the hospital or to a pharmacy?

22 MR. KNOX: We can go to Costco because
23 that's where I have the --

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1 MR. KATZ: We're breaking again.

2 (Whereupon, the above-entitled matter
3 went off the record at 4:13 p.m. and resumed at 4:21
4 p.m.)

5 MR. KATZ: Pat wants to report out some
6 of the work he did in response to petitioner issues.
7 So if you could that, then we'll close.

8 MR. MCCLOSKEY: At the January meeting
9 we were taking notes on some of the things that you
10 and [identifying information redacted] brought up.

11 You gave us a list of names of people
12 to interview. I don't remember if it was you or
13 [identifying information redacted], but we went
14 and interviewed those folks. And we're going to
15 talk about some of that tomorrow.

16 I know it was [identifying information
17 redacted] said to go look for these documents
18 called Engineering Process Controls documents
19 because they'll have some of the procedures there.

20 We sent a list of keywords to the site,
21 to Kansas City Plant. The Work Group and NIOSH all
22 worked together on generating these lists.

23 And the site pulled out boxes that were

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1 responsive to those keywords. And we pored over
2 thousands of pages there in March. I didn't
3 actually make the trip. A number of people in this
4 room did, and others.

5 We did all those interviews for you
6 guys.

7 And one of the things also that
8 [identifying information redacted] brought up was
9 this place that he referred to as the lab. I don't
10 know if you remember that conversation. He said
11 it was underneath the -- I was hoping he would be
12 here to hear this as we're showing what I found.

13 He said it was in the basement south of
14 the cafeteria. And he said, I had to go down there
15 and clean that area out, and I want you guys to learn
16 what was in there and find out what I was handling
17 when I was in that area.

18 And so we sent them the keywords and
19 they pulled all the documents.

20 And one document I found, and we're
21 pretty sure we have the area because at that
22 meeting, I don't know if you remember, but I walked
23 over to [identifying information redacted] and I

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1 had him point to where it was on the map.

2 And I gave the site, the Kansas City
3 Plant the actual post numbers. I said look for
4 anything within this area, any documents you can
5 find.

6 And so this document confirmed that we
7 were talking about the same area.

8 And they referred to it as the lap shop,
9 L-A-P. And I was going to ask [identifying
10 information redacted] if there was any chance he
11 over the years got it remembered wrong or
12 something.

13 But it was a machining area. And it was
14 pretty secure. They were working on one of the
15 weapons programs down there, but there was no
16 radioactive material.

17 Now, there could have been a source
18 taken down there to be used to take measurements.
19 I didn't find any record of that. But there was
20 no machining of radioactive material down there,
21 but they did clean it out and convert it over to
22 a different purpose.

23 And for anyone that wants to read this

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1 report it's SRDB reference 142000.

2 MR. KNOX: SRDB --

3 MR. MCCLOSKEY: One four two.

4 MR. KNOX: One four two.

5 MR. MCCLOSKEY: Zero zero zero. It's
6 one of the ones we retrieved from the site in March
7 of this year.

8 So they cleaned out this area. I think
9 I can tell you some of the machines they had there
10 -- it would have been best for [identifying
11 information redacted] to hear.

12 So, the above lap shop support items
13 could be removed to the southwest corner of the lap
14 shop and provided the southeast corner a partition
15 to prevent contamination of the main lap shop area.
16 Adequate space is made.

17 So they talk about, you know, can they
18 give up part of the cafeteria area down there in
19 the basement to make room for this machine.

20 And so several people went down there.
21 And there's maps that show what they were taking
22 out.

23 So maybe [identifying information

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1 redacted] can get hold of that document, confirm
2 what he remembers from that time period.

3 MR. KATZ: Sounds like it's right on
4 target from that discussion.

5 CHAIR BEACH: Yes, it does.

6 MR. KNOX: Yes, it does.

7 CHAIR BEACH: Thank you. Okay, Work
8 Group Members. Any questions, comments? Any
9 issues you have or topics you want more information
10 on?

11 [Identifying information redacted],
12 sorry you feel like you were caught off guard and
13 are not feeling well. I mean Wayne, I'm sorry. I
14 was just writing [identifying information
15 redacted] down here.

16 So, Wayne, any other issues you'd like
17 to cover? It's not quite 5.

18 MR. KNOX: Well, there's always my --
19 when I got trapped in was thoriated rods crapping
20 up my plutonium facility.

21 They have those rods and they do welding
22 that releases radioactive material to the air.

23 CHAIR BEACH: Did KCP have thoriated

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1 rods? I think we looked at that issue.

2 MR. KNOX: I don't know. I don't know
3 if they had it.

4 MR. FITZGERALD: I don't recall. You
5 know, that would have been, if they did any welding
6 it would have --

7 CHAIR BEACH: Right, of course.

8 MR. FITZGERALD: We didn't notice
9 anything, obviously.

10 MR. KNOX: Yes. And I'm still
11 confused at why they label this a non-nuclear
12 facility when clearly it was not.

13 MR. FITZGERALD: Well, this gets into
14 the nomenclature DOE and AEC used. They had
15 different classifications and they based it on a
16 facility safety assessment.

17 And they had nuclear facilities. But
18 to be a nuclear facility in the DOE-AEC world you
19 had to have certain sources of nuclear material.

20 And plants like Kansas City, Pinellas
21 and some others did have some radiological sources,
22 but not to the extent and scope that they would have
23 classified them as nuclear.

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1 Nuclear meaning that you would have had
2 to have engineered safeguards. You would have had
3 certain facilities like they had at Rocky Flats,
4 Los Alamos that were rigorous enough to control
5 radiation.

6 Places like Kansas City, they had
7 radioactive sources, but they were almost
8 incidental to a non-nuclear mission.

9 They actually -- Kansas City built the
10 non-nuclear components of weapons. So they
11 focused on that.

12 But to do that they needed to have some
13 sources because they had to have, as we point out,
14 radiography to make sure that the metals were
15 joined the right way, the welds were correct and
16 all the rest.

17 They had -- in the very early days
18 before they got into the regular mission they, like
19 most of the other atomic energy facilities,
20 participated in producing rods.

21 Because back in the early Cold War,
22 there was a rush to produce plutonium. So
23 everybody practically did uranium slugs and sent

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1 them over to be irradiated in Savannah River. So
2 that was just a sign of the times.

3 But their mission after that rush in the
4 early fifties was basically non-nuclear.

5 But when they classify a complex, a site
6 as non-nuclear that doesn't mean they had nothing
7 on the site that had something to do with
8 radiological.

9 They had some radiological. Not to the
10 extent that you would have a nuclear classification
11 and everything that goes with it.

12 It comes down to the facility safety
13 analysis. That's where the classification comes
14 from.

15 So they were classified as a
16 non-nuclear facility. And there were others that
17 were non-nuclear facilities as well in DOE.

18 But again, all those had some
19 radiological sources. They just weren't as --
20 they weren't designed to be as rigorous with
21 controlling the plutonium, the uranium.

22 They weren't fabrication facilities
23 like Portsmouth and Paducah. They weren't testing

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1 facilities like Nevada Test Site. They weren't
2 laboratories like Lawrence Livermore and Los
3 Alamos.

4 So, they didn't have that.

5 MR. KNOX: What really -- maybe I
6 shouldn't get into that.

7 MR. DARNELL: No, please. This is
8 what we're here for.

9 MR. KNOX: Well, back in the good old
10 days we retrieved materials from our friends as
11 well as our enemies. And I was a part of that
12 process.

13 And you didn't know the whole pathway.
14 You knew that the materials were obtained, and they
15 went back to the U.S. Where they went you didn't
16 know.

17 And that the Kansas City Plant to me
18 would have been a great cover facility. It's
19 designated as a non-nuclear. It has all of these
20 -- it has a railroad that goes by it and has tunnels
21 underground, all these big facilities.

22 And it's located in the city. No one
23 would ever suspect that we were doing all of this

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1 work there.

2 Well, this is just me.

3 MR. FITZGERALD: Let me just answer you
4 your concern this way. Because certainly one of
5 the reasons we spent a great deal of time looking
6 at the classified information, what would be
7 considered Secret information and documents at
8 each of the sites is to be absolutely sure that
9 there weren't any programs that weren't public, but
10 were nonetheless involving radioactive materials
11 that would have presented some exposure to the
12 workers.

13 And for Kansas City, and I can tell you
14 directly because I actually went through those
15 files, I went and looked at the total nuclear
16 inventory, classified nuclear inventory for Kansas
17 City over the years, just to be sure in my own mind
18 as well as for the Work Group that there weren't
19 any materials that was somehow surreptitiously or
20 maybe in a military program that was classified
21 that was coming onsite and being applied.

22 To be absolutely sure of that. Because
23 we can look at the public record. But I think that

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1 for some of the concerns you have, that back in the
2 Cold War there weren't any instances where this
3 material was somehow finding its way on the site.

4 And I can say for Kansas City we did look
5 very, very closely at the classified database and
6 did not see anything that would lead us to believe
7 that there were any sources of material coming on
8 the site that way.

9 Now, that's not to say that there were
10 not programs that brought back things like Russian
11 plutonium, what have you, as part of the
12 non-nuclear program as one of those programs that
13 did that.

14 But there were other places in DOE that
15 went to. And they were engineered in a way that
16 could receive that material safely.

17 DOE's system, and we'll just mention
18 that, had a facility safety system where you could
19 not receive materials unless your facility was
20 classified as one as being engineered to safely
21 receive it.

22 You just could not possess or keep that
23 material there unless you had that kind of

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1 assessment that was already done.

2 And if nothing else, that system got
3 more and more rigorous over the years.

4 So, a lot of our attention is to make
5 sure going back in time that when things were looser
6 that some of this material, whether it was fissile
7 material or it was something else, didn't get
8 onsite in some form or some program that would have
9 led to an exposure that wasn't a public exposure
10 -- wasn't publicly known.

11 So, that's how I would answer your
12 question.

13 We didn't take it for granted that
14 Kansas City never received anything just because
15 the public record said it did not. We went and
16 looked at a lot of these records that aren't public
17 to be absolutely sure about that.

18 MR. MCCLOSKEY: Prior to you guys
19 filing a petition in 2013 and [identifying
20 information redacted], none of our documents, our
21 Site Profile, noted machining of natural uranium.

22 That wasn't listed anywhere, and
23 neither was the mag-thorium machining. It wasn't

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1 listed.

2 Because you guys filed that petition,
3 we went to the site and said tell us again about
4 all of these materials.

5 And we discovered something they had
6 forgotten about, or maybe from need to know, you
7 know, they just didn't include it in their
8 documents that they had machined uranium or
9 mag-thorium.

10 And now we know about that because we
11 went through this process.

12 MR. FITZGERALD: I would even add to
13 that, and you'll hear about this tomorrow with
14 tritium and nickel-63.

15 That was identified and pursued based
16 on our going through weekly activity reports that
17 were written in the 1960s week by week by week in
18 microfilm.

19 That's how we picked that up. Because
20 we went through reels and reels and reels and
21 happened upon a mention that tritium was being
22 handled in 1963.

23 And that led to, frankly, uncovering a

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1 program that everybody had really forgotten about.
2 You know, this was 50 years ago.

3 And that's kind of the investigation
4 that we go through. We go through the records.
5 Even if nobody says anything about any of these
6 programs, what records exist, even if they're 50
7 or 60 years old, if there's any mention that opens
8 up an investigation into that particular program.

9 So, that's how tritium came about. And
10 we're just mentioning how these others were
11 identified, mag-thorium and the uranium cores.

12 I mean, that's all based on the
13 investigation going through these documents.

14 Many of the people who would have been
15 familiar with those are no longer available. So,
16 really that's the process you have to go through.

17 MR. MCCLOSKEY: There's a lot of work
18 that goes on behind the scenes when you guys give
19 us something like the lab, or a name of a person
20 to interview.

21 There's a lot of work that goes on for
22 us to get that information from that site or from
23 that person.

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1 MR. KNOX: By my nature as an auditor
2 and my intelligence training and experience, I'm
3 suspicious.

4 MR. FITZGERALD: As am I. I was an
5 auditor for almost 30 years.

6 MR. KNOX: And I still have some things
7 that I'll work on, but I think we should -- if you
8 could run me by Costco.

9 MR. DARNELL: Costco is about 40
10 minutes from here.

11 MR. MCCLOSKEY: Anything else that
12 will work?

13 CHAIR BEACH: Okay, so wait, before we
14 get onto that discussion, is there anything from
15 anybody on the line?

16 We're talking about closing the session
17 out today. Does anybody have anything to add or
18 say?

19 MEMBER CLAWSON: No. This is Brad.

20 CHAIR BEACH: Thank you, Brad.
21 Hearing none, then I will call this meeting
22 adjourned. Thank you, everybody.

23 MR. KATZ: Thanks, everybody, and

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1 we'll speak to you all tomorrow.

2 CHAIR BEACH: Nine o'clock tomorrow.

3 MR. KATZ: Eastern time.

4 (Whereupon, the above-entitled matter
5 went off the record at 4:36 p.m.)

6

7