

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

+ + + + +

ADVISORY BOARD ON RADIATION  
WORKER HEALTH

+ + + + +

KANSAS CITY PLANT WORK GROUP

+ + + + +

THURSDAY  
JULY 16, 2015

+ + + + +

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