

UNITED STATES OF AMERICA

CENTERS FOR DISEASE CONTROL

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NATIONAL INSTITUTE FOR OCCUPATIONAL  
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH

+ + + + +

108th MEETING

+ + + + +

THURSDAY  
NOVEMBER 19, 2015

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The meeting convened at 8:15 a.m.,  
Pacific Time, in the Waterfront Hotel, 10  
Washington Street, Oakland, CA, James M. Melius,  
Chairman, presiding.

PRESENT:

JAMES M. MELIUS, Chairman  
HENRY ANDERSON, Member  
JOSIE BEACH, Member  
BRADLEY P. CLAWSON, Member  
R. WILLIAM FIELD, Member\*  
DAVID KOTELCHUCK, Member  
WANDA I. MUNN, Member  
JOHN W. POSTON, SR., Member\*  
GENEVIEVE S. ROESSLER, Member  
PHILLIP SCHOFIELD, Member  
LORETTA R. VALERIO, Member\*  
PAUL L. ZIEMER, Member\*  
TED KATZ, Designated Federal Official

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LIN, JENNY, HHS  
NETON, JIM, DCAS  
RUTHERFORD, LAVON, DCAS  
STIVER, JOHN, SC&A  
TAULBEE, TIM, DCAS

\*Participating via telephone

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Adjourn

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

2 8:29 a.m.

3 CHAIRMAN MELIUS: Welcome, everybody.  
4 Day 2 of the Meeting Number 108 and let me turn it  
5 over to Ted to do the -- to knock over the glass  
6 and do the roll call.

7 MR. KATZ: Welcome, everyone. I hope  
8 I do roll call more smoothly than I managed  
9 yesterday.

10 Folks on the phone, just to let you  
11 know, the materials for today's meeting are on the  
12 NIOSH website under the Board section, meetings,  
13 today's date. So, you can go on there and see all  
14 the materials that we discuss today. Pull up those  
15 presentations and read them.

16 Alternatively, the agenda's there,  
17 too, and on the agenda, there's a link for the  
18 address and code for Live Meeting and if you can  
19 deal with a Live Meeting, then you can join that  
20 way and watch the slides as they're presented here.  
21 So, that's an option, too.

22 Roll call, I'm just going to run --  
23 there are no conflicts of interest today to

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1 address. So, we don't have that in the way and I'm  
2 just going to run down and I can actually speak for  
3 the people I can see. I'll run down the list.

4 (Roll call.)

5 MR. KATZ: Let me remind everyone to  
6 mute your phone. Everyone on the line, mute your  
7 phone and if you don't have a mute button, press  
8 \*6. \*6 will take your phone back off mute for this  
9 call and please don't put the call on hold at any  
10 point, but hang up and dial back in if you need to  
11 leave the call for a piece.

12 And with that, Dr. Melius, it's your  
13 meeting.

14 CHAIRMAN MELIUS: Okay. Thank you,  
15 Ted and let's start with -- we have Blockson  
16 Chemical Special Exposure Cohort petition and Jim  
17 Neton will be doing the presentation.

18 If the petitioners are on the line, just  
19 to let you know, how we usually do this is we'll  
20 have a presentation from NIOSH on their petition  
21 evaluation. That will be followed by questions  
22 from Board Members about the evaluation and then  
23 we'll give an opportunity for the petitioners to

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1 speak, provide comments on the evaluation if they  
2 wish to do so. Not required to do so, but if you  
3 wish, you may. So, that'll be the order and then  
4 the Board will conduct further deliberations on  
5 what to do in regards to the Evaluation Report.

6 So, Jim.

7 DR. NETON: Thank you, Dr. Melius.  
8 Happy to do a presentation at the beginning of the  
9 day. Usually, I seem to draw the after-lunch  
10 presentations when people are slightly less alert.

11 But, I'm here to present the Blockson  
12 Chemical Company Special Exposure Cohort Petition  
13 Number 225 today.

14 Overview of the petition, it was an  
15 83.13 petition that was received by NIOSH about  
16 nine months ago, February of this year and the  
17 Petitioner Class Definition as you see on the  
18 screen here is all maintenance and operations  
19 personnel who worked in any area of Blockson  
20 Chemical during the period July 1st, 1960 through  
21 the end of 1991, December 31st, '91.

22 I should say at the outset that this  
23 time period is totally within the residual

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1           contamination period of Blockson.  If you recall,  
2           there was a covered exposure period where they did  
3           AEC work from 1951 through the end of June in 1960.

4                        A few months after we got the petition  
5           in May, we qualified the petition and the basis for  
6           the qualification is radiation exposures were  
7           incurred by members of the Class and they were not  
8           monitored either through personnel or area  
9           monitoring.

10                      Of course, this is what you'd pretty  
11           much expect during a residual contamination  
12           period.  The AEC operations are over and there's  
13           some contamination left and I'm hard pressed to  
14           think of any AWE that was not involved in  
15           radiological operations as a norm that had a  
16           personal monitoring program.  Although, we do have  
17           some area monitoring data that I'll discuss later  
18           that we intend to use to bound the exposures in the  
19           residual contamination period.

20                      1991, by the way, is the year production  
21           stopped, commercial production stopped at  
22           Blockson.

23                      So, the Class evaluated by NIOSH was all

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1 employees who worked. We modified it from the  
2 maintenance and operations to all employees, which  
3 is typically what we'd do. Looked at the entire  
4 workforce who worked in any area of the Blockson  
5 site in that same time period, July 1st, 1960  
6 through December 31, '91.

7 Like I said, this is in the residual  
8 contamination period, although Blockson Chemical  
9 made some type of phosphate products starting in  
10 1930 all the way through 1991. So, it's a long  
11 period of operation with a little punctuated period  
12 of ten years where they made uranium for the AEC  
13 which I'll talk about later.

14 Just to refresh your memories, during  
15 that early period, we see the petition in SEC 58  
16 I believe. The petition for 1951 through '61, that  
17 covered time period and the Board -- after -- we  
18 received that in 2006 and after much deliberation  
19 if you recall about these various radon models and  
20 such, it was decided by the Board that we couldn't  
21 reconstruct dose in Building 40 which is the main  
22 operations facility at the site and an SEC was added  
23 in 2010. So, it took four years of deliberation

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1 to add that Class.

2 Now, I will note that if you see the  
3 petition was from '51 to '62, there is a disconnect  
4 between what we're looking at today. Because just  
5 before that Class was added, the Department of  
6 Labor reduced the covered period from 1962 to 1950  
7 based on some documentation that NIOSH had  
8 discovered during our evaluation of the petition  
9 itself and since then, there's been some other  
10 documentation identified that corroborates the  
11 1960 completion date.

12 So, again, remember the early period  
13 was now 1951 to '60 not '62.

14 The data sources that we used -- almost  
15 entirely what I'm going to talk about today is based  
16 on what's in the Technical Basis Document that was  
17 reviewed by SC&A back in the 2007 time frame. We  
18 have a Technical Basis Document TKBS-0002, which  
19 is the Technical Basis Document for the Blockson  
20 Chemical Facility.

21 It was originally issued in 2006. I  
22 believe we're up to Rev 4 now. That was issued in  
23 2014. So, it's a fairly current document.

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1           We also looked at Technical Information  
2     Bulletins. There are several generic ones out  
3     there that deal with reconstructing dose from radon  
4     exposures and there's a TIB on exposures at  
5     phosphate plants. So, there are a few TIBs that  
6     were involved here.

7           We also relied on information from  
8     petitioners and former workers. The petitioner  
9     provided some information on Residual  
10    Contamination studies and such and we interviewed  
11    -- not for this particular petition but for the  
12    earlier petition, SEC 58 Petition, we did interview  
13    five workers from the site to develop our approach  
14    that's outlined in the TBK -- the Technical Basis  
15    Document for Blockson.

16           And also in the 2007 time frame, we had  
17    two meetings in Joliet. One was a worker outreach  
18    meeting and one was a town hall-type meeting where  
19    we also received some information from workers.

20           Of course, we also relied on the Site  
21    Research Database. There's something like 1400  
22    documents in there related to, as you can imagine,  
23    the history of the plant, chemical processing,

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1 procedures and such and that sort of thing,  
2 contracts. So, we relied on that and then also,  
3 as usual, we looked at previous dose  
4 reconstructions.

5 This slide shows you the status of the  
6 dose reconstruction as of, I think it's August  
7 19th, a few months ago. But, I checked. As of  
8 Friday, that number's still good. We have 143  
9 petitions we've received for Blockson.

10 And the slide says we have 130 cases for  
11 employees who worked during the period under  
12 evaluation. That's '60 to 1991.

13 That's somewhat misleading because  
14 remember I said there's an earlier SEC. Of those  
15 130, 110 also have employment in the earlier SEC  
16 period. So, in reality, these numbers aren't  
17 perfect, but this evaluation will probably end up  
18 affecting 20 or so workers, not 130. Because many  
19 of -- as I would say, assume that many of the 110  
20 with earlier employment were covered under the  
21 previous SEC. Not perfect because there may be  
22 some employment issues there.

23 We've completed 127 dose

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1 reconstructions. So, we have three active cases  
2 in house.

3 And as I stated earlier, we have no  
4 internal or external monitoring records for  
5 workers during the residual period at all.

6 Just to refresh your memory about the  
7 background at Blockson. They processed Florida  
8 phosphate rock into phosphoric acid and from that  
9 phosphoric acid, they made various forms of  
10 phosphates, di- and tri-phosphate-type materials  
11 and the plant ran through, at least during this  
12 period, about 6,000 tons of phosphate rock per  
13 week. Pretty good workload.

14 Since the phosphate rock was known to  
15 contain about .012 percent uranium by weight and  
16 the AEC was looking for any source to develop their  
17 inventory of uranium supply, they turned to  
18 Blockson Chemical and thought, well, maybe you  
19 could extract the uranium as part of your process.  
20 Which they eventually issued a contract and  
21 developed a process to recover the uranium.

22 In 6,000 tons of uranium, there's about  
23 -- or phosphate rock, there's about 1400 pounds of

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1 uranium, which gives you an idea of the scale. A  
2 lot of material went through that plant to extract  
3 the uranium.

4 Blockson did modify their process and  
5 actually built Building 55, which is a separate  
6 building, standalone building, one story, like 100  
7 by 175 foot brick building or block building where  
8 all the operations relevant to extracting the  
9 uranium occurred. So, the source term actually is  
10 Building 55 when we're talking about uranium.

11 I mentioned they did use a wet process.  
12 This phosphate rock was originally -- was calcine.  
13 They just heated it up to drive off the organic  
14 material and that was done outside of Building 40  
15 and then transferred into Building 40.

16 The rock was pulverized, digested in  
17 sulfuric acid. The uranium actually went with the  
18 sulfuric acid and so, the sulfuric acid stream was  
19 diverted into Building 55 where they precipitated  
20 out the uranium into drums. Chemical process  
21 steps in the middle there, but that's basically the  
22 gist of it.

23 The waste, of course, this uranium in

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1 the ore was in essentially equilibrium with all of  
2 the uranium decay chain. U-234, thorium-230,  
3 radon, radium. So, there was equilibrium there.  
4 The radium in that ore actually went with the waste,  
5 which was called the phosphogypsum and that was  
6 deposited outside in these large piles.  
7 Eventually, it grew to a 227-acre 90-foot high  
8 pile. Not real close to the facility, but on their  
9 1,000-acre property. So, it was a huge amount of  
10 material there.

11 I did a rough calculation and it seems  
12 to me that only about 8 percent of that pile is  
13 related to AEC activities. Because if you know the  
14 volume of the pile and the density of the material,  
15 you can kind of do a calculation that will give you  
16 an idea and so, maybe 8 to 10 percent of the pile  
17 was related to AEC activities. The rest was due  
18 to the commercial operations that started in 1930  
19 and ended in 1991.

20 So, there's some issues there with how  
21 you treat that residual contamination since you've  
22 got this radium sort of buried in the middle of this  
23 huge 227-acre pile.

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1 I mentioned already the phosphoric acid  
2 stream contained uranium. That was done and  
3 processed in Building 55. I've kind of gone over  
4 this slide already. Got a little bit ahead of  
5 myself.

6 Okay. The uranium concentrates were  
7 digested, packaged and the final product was  
8 essentially some form of yellowcake, ammonium  
9 diuranate, something like that. I was about 40 to  
10 50 percent uranium by weight and it was shipped off  
11 to the AEC facilities.

12 As I mentioned, production ended in  
13 1960 and ultimately, Blockson recovered 118 tons  
14 of uranium in that time period. Quite a bit of  
15 uranium was processed through there. But, as I  
16 mentioned, there was 6,000 tons of this rock going  
17 through the plant at the same time per week.

18 So, as I just described the process, you  
19 can imagine the sources of internal and external  
20 -- the sources of residual contamination are going  
21 to be the internal/external doses from the uranium  
22 contamination that was in Building 55.

23 What you also have is a dose from the

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1 progeny: the radon, the radium. There was  
2 actually -- uranium was there in equilibrium, but  
3 there was also some thorium in this ore and our  
4 calculation, it's in the top line of the TBD, is  
5 about one-thirtieth. The thorium was about  
6 one-thirtieth the activity of the uranium.  
7 Thorium-232. So, we've included that in our  
8 calculations.

9 So, how are we going to bound the  
10 sources of this residual contamination? This is  
11 after 1960. Is we use -- again, this is in the TIB,  
12 the TBD. Building 55 is used to bound the dose from  
13 the residual AEC-related contamination, that is,  
14 the uranium that is in that building.

15 You remember they're still processing  
16 6,000 tons of this rock through the plant. So the  
17 residual contamination is somewhat diluted almost  
18 immediately with the commercial operations that  
19 are going through the plant.

20 And so, we're going to use Building 55  
21 to bound the uranium doses and the phosphogypsum  
22 stacks are going to be used to bound the radon  
23 exposures from the AEC-related activity. That 8

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1 to 10 percent of the pile that's still generating  
2 radium and is still there today as far as I know.

3 So, what kind of data do we have  
4 available for us to do these bounding-type  
5 calculations? Well, we had bioassay data from the  
6 uranium recovery workers. HASL, the Health and  
7 Safety Lab for the AEC, actually did uranium  
8 measurements on 25 workers. They collected a  
9 total of 122 samples between 1954 and '58.

10 We also have some air sampling results  
11 that were performed in 1978 and '83. In 1978,  
12 Argonne National Laboratory did an on-site survey  
13 in Building 55 as part of the FUSRAP program and  
14 did some particulate air sampling which didn't  
15 detect any long-lived activity above background,  
16 by the way.

17 And in 1983, Olin Mathieson who by that  
18 time owned Blockson Chemical contracted with  
19 Herman Cember, who most of you probably know of,  
20 to do some radon and particulate measurements as  
21 well. They did -- I think 11 workers had BZ samples  
22 that they took. None of those detected activity  
23 except for one which is a very small amount of

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1 activity on the BZ sample. Breathing Zone  
2 Sampler.

3 Argonne also did extensive  
4 contamination and radiation surveys in that 1978  
5 survey. This is in Building 55 only. I think they  
6 surveyed 95 percent of all the floor area of that  
7 building and 90 percent of the walls and did a  
8 number of contamination surveys. I think they  
9 found contamination above background, removable  
10 contamination in 70 spots in that building.

11 We also had some radon monitoring data.  
12 I mentioned Argonne did particulate surveys. They  
13 also did some radon measurements as well in '78,  
14 but not on the phosphogypsum pile. This was in  
15 Building 55.

16 And the 1983 survey also did this  
17 measurement -- four or five measurements on site  
18 of radon and I'll talk about those in a little bit.

19 The last bullet is cut off here, but  
20 what that says is we also have flux measurements  
21 from the phosphogypsum piles taken in 1993. Flux  
22 measurement is sort of an exhalation rate of the  
23 radon. It's picocuries per square meter per

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1 second. It's taken, and I'll talk about this  
2 later, to demonstrate compliance with EPA  
3 regulations concerning radon flux coming off of  
4 phosphogypsum piles. There were about 300  
5 measurements taken in 1993, in November of 1993.

6 So, to bound the internal dose at this  
7 site, we're going to use the TBD approach which  
8 provides intakes of uranium during operations. We  
9 have bioassay data and we estimated the chronic  
10 exposure of these workers and at the end of  
11 operations, we estimate that the workers were  
12 taking in about 13 picocuries of uranium per day.

13 So, we're going to assume that that's  
14 the start. You know, there's not a sharp line  
15 there. So, at the end of operations, we're going  
16 to assume that's what people are breathing day one  
17 of the residual period. So, that's our starting  
18 point.

19 I also mentioned we have contamination  
20 data from Building 55 in 1978 taken by Argonne and  
21 the highest area of concentration they measure for  
22 alpha was 640 dpm per 100 square centimeters. So,  
23 if you take that 640 dpm per 100 square centimeters

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1 and re-suspend it, the re-suspension factor of 1  
2 times 10 to the -6, you can estimate the air  
3 concentration in 1978 which comes out to an intake  
4 of about .28 picocuries per day.

5 So, you have the TIB-70 approach where  
6 you have a starting concentration, an ending and  
7 you connect an exponential curve between the two  
8 and so now we can estimate the uranium intake at  
9 any time between 1960 and '78 and beyond because  
10 we're going to assume the slope continued down  
11 through 1991, and it worked out fairly nicely.

12 This TBD was actually developed before  
13 TIB-70 and this approach is pretty much in line with  
14 what was in TIB-70 ultimately. It's become a very  
15 standard approach in residual contamination  
16 periods.

17 As I mentioned, these values, we used  
18 -- compare -- Even though it didn't use TIB-70, they  
19 compare very favorably with what we would get if  
20 we used the TIB-70 approach today.

21 This may be even a little higher.  
22 Because again, we took the highest contamination  
23 survey value in 1978 and we assumed that the workers

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1 were breathing 13 picocuries in 1960. Which was  
2 the median intake by the way. Not the 95th  
3 percentile of the workers.

4 As usual, we can include ingestion  
5 pathways as well. We use that same bioassay data  
6 and say, well, if they weren't inhaling the  
7 material and they ingested it, how much would they  
8 have to ingest in order to excrete 13 picocuries  
9 per day. That's the starting point and that came  
10 out 41 picocuries per liter or 41 picocuries per  
11 day ingestion and then we used the same exponential  
12 clearance function that we developed for the  
13 inhalation intake, the amount in any given year.

14 I mention though that the uranium is in  
15 equilibrium with U-234 and thorium-230. We  
16 assumed for this, and this is in the TBD, that it  
17 stayed in equilibrium through the entire process  
18 even though it's probably not necessarily true.  
19 So, any intake of uranium would give you a  
20 corresponding intake of uranium-234 or  
21 thorium-230. So, we've assumed that the uranium  
22 that was being drummed essentially was  
23 contaminated with thorium-230.

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1           Okay.    External dose, Argonne did  
2           measurements in '78, like I said.  They surveyed  
3           about 95 percent of the floor area and they went  
4           and surveyed the hot spots, the areas where they  
5           found contamination on the floor.  I think they  
6           ended up with 70 hot spots.  I think they did 63  
7           spots, only seven of which had measurements above  
8           background.

9           The building background was about .02  
10          to .03 mR per hour.  Which those of you who know  
11          on an environmental level is about two to three  
12          times what you consider ambient background, 10  
13          micro R per hour, or .1 mR per hour.

14          So, general background was around .02  
15          to .03.  The hot spots went from .04 to .2 mR per  
16          hour.  The seven.  But, a number of them were sort  
17          of in inaccessible areas where you wouldn't expect  
18          a worker to be standing most of the time.  Like they  
19          were inside of a pipe scale or on top of a digester  
20          tank, that sort of thing.

21          Nonetheless, we used these hot spots to  
22          develop our external dose exposures and we ended  
23          up assigning them as a log-normal distribution with

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1 a median value of .03 mR per hour with a 95th  
2 percentile equal to .2 mR per hour, which is one  
3 of the highest values that was measured on the hot  
4 spots. That equates to a GSD, geometric standard  
5 deviation, of I think around 3.

6 So, the median value is .03 mR per hour,  
7 then your annual photon exposure, your best  
8 estimate is about 60 millirem per year external  
9 dose from the residual contamination period.

10 We looked at the contamination levels  
11 based on alpha -- based on dpm per 100 square  
12 centimeters and the beta dose from the  
13 contamination levels that were there were pretty  
14 trivial. They were like 1 or 2 mR per year. Not  
15 much. So, we were just assuming that 60 mR per year  
16 bounds, incorporates the beta exposure to the skin  
17 as well.

18 And again, the amount we're ascribing  
19 to the beta is favorable in comparison with the dose  
20 estimates based on a general contamination survey.  
21 If you take the FGR11 -- 13 numbers, EPA document,  
22 you can calculate the external exposure rate from  
23 surface contamination and it's pretty small.

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1           But, remember that these measurements  
2           also include the commercial operations that were  
3           continuing after 1960. So, this is a somewhat  
4           conservative estimate because AEC operations ended  
5           in '60 and we have evidence that Building 55 was  
6           used through 1978 for commercial activities. So,  
7           the contamination here is not necessarily related  
8           to the AEC activities, but we're going to assume  
9           it is because we can't differentiate, you know,  
10          between the two.

11           Okay. Let's move over to radon  
12          exposures. Again, I mention radon was measured in  
13          '78 and '83. The Argonne measurements in Building  
14          55 range from .14 to .61 picocuries per liter.

15           The 1983 survey measurements, they  
16          didn't -- they gave -- unfortunately, they reported  
17          results in counts per minute which is kind of  
18          interesting. But, they did say that of the four  
19          or five measurements that were made, the highest  
20          value was .042 working levels and that was not the  
21          phosphogypsum pile. So, the phosphogypsum pile by  
22          definition then is less than .042 working levels.  
23          Which if you assume 70 percent equilibrium for

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1 outdoor air, it's about six-tenths of a picocurie  
2 per liter on the phosphogypsum pile.

3 Of course, you know, I mention the radon  
4 from the active phosphate work is not applicable,  
5 but we have no way of differentiating AEC radon on  
6 a phosphogypsum pile from the commercial  
7 activities. There's just no way. So, you got  
8 this 10 percent or 8 percent chunk in the middle.  
9 How much of that is AEC? We're assuming it's all  
10 AEC-derived.

11 I talked about these radon flux  
12 measurements, the 300 that were taken in November  
13 during various weather conditions and such during  
14 November of 1993 and the highest flux measurement  
15 was 10.1 picocuries per meter squared per second.

16 It was the highest mean value. They  
17 did multiple measurements at individual sites.  
18 So, that's why it's called the highest mean. It  
19 was 10.1 in '93. The average -- weighted average  
20 value of all the measurements was around 4.

21 Unfortunately, even with all these  
22 great 300 measurements, they did not report a radon  
23 air concentration value and there's no really good

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1 way to convert that directly to a radon air  
2 concentration although we do know that in 1983 it  
3 was less than four tenths of a -- less than about  
4 six tenths of a picocurie per liter.

5 So, we looked at Texas City Chemicals  
6 which had an inactive phosphogypsum pile as well  
7 and they had similar radon flux measurements that  
8 were made because of the EPA requirement and they  
9 also provided radon concentration measurements in  
10 addition to the flux measurements.

11 So, the Texas City Chemical flux was --  
12 the average value was 10 compared to the highest  
13 value which is 10 at Blockson. So, you would think  
14 it would be somewhat conservative to use that value  
15 because their mean value is 10. I'm sorry. Their  
16 mean value was 10. The highest at Blockson was 10.

17 And it seems to compare pretty  
18 favorably with what happened at Blockson. It's  
19 phosphogypsum pile. It used the same Florida  
20 phosphate ore that had the very same concentration  
21 of uranium. They used a wet chemical process. It  
22 was an inactive pile. They're both inactive.  
23 Very similar operations and the value measured at

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1 Texas City Chemicals was .42 picocuries per liter.  
2 The highest value measured.

3 So, we're proposing to use that as the  
4 value to bound exposures at Blockson Chemical in  
5 1993.

6 Now, I mentioned that they were both  
7 inactive fly ash piles. Well, inactive fly ash  
8 piles, according to EPA research, tend to vent less  
9 radon because a crust develops over the top and by  
10 the EPA research, it's about a factor of five  
11 difference in the ventilation rates.

12 So, if we adjust for the active to  
13 inactive, you end up with 2.1 picocuries per liter  
14 which we're going to use as the upper-bound  
15 estimate for Blockson in 1960. So, you have 2.1  
16 picocuries per liter in 1960 and .4 in 1993. You  
17 connect the dots and you can estimate the radon  
18 concentration any time in between those two dates.

19 Like I said, we do an exponential  
20 depletion rate and presume to connect 1960 and '93  
21 values and it is our opinion these annual exposures  
22 that we're assigning based on this model or method  
23 bound all available radon data for Blockson.

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1                   And again, we didn't just use the Texas  
2                   City data. We also have some corroborating values  
3                   at the site which seem to put it in the right  
4                   ballpark. There's also some Florida Institute of  
5                   Phosphate Research data that indicates that active  
6                   phosphogypsum piles are around 1.7 picocuries per  
7                   cubic meter. So, it all kind of fits in that  
8                   general ballpark.

9                   So, in summary, we believe that we can  
10                  bound the exposures for internal dose from the  
11                  uranium and its progeny during this period. We  
12                  have a method to bound the radon exposures. We can  
13                  bound the external exposures.

14                  Medical exposures are not covered in  
15                  the residual contamination period so we don't have  
16                  to reconstruct those. So, it's not applicable  
17                  here.

18                  And that concludes my presentation.  
19                  I'm sure there are some questions because I kind  
20                  of breezed through a 50-page document in pretty  
21                  short order.

22                  Thank you.

23                  CHAIRMAN    MELIUS:            Board    Member

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1 questions?

2 MR. BURKHART: Yes. I had a question,  
3 if I could.

4 CHAIRMAN MELIUS: Who's this?

5 MR. BURKHART: My name's Harry  
6 Burkhart.

7 CHAIRMAN MELIUS: No. No. Please  
8 until the Board Member asks their questions.  
9 We'll get to petitioners --

10 MR. BURKHART: Okay. Thank you.

11 CHAIRMAN MELIUS: -- later.

12 MR. BURKHART: Thank you.

13 CHAIRMAN MELIUS: Do Board Members on  
14 the phone have any questions? Yes. Gen, you had  
15 --

16 MEMBER ROESSLER: So, SC&A reviewed  
17 the TBD in the previous evaluation of Blockson and  
18 have they reviewed this recent --

19 DR. NETON: No. Well, they haven't  
20 reviewed any -- they reviewed Rev 0, I believe.  
21 Which was -- or Rev 1 possibly back in 2007.  
22 There's a couple of iterations since then, but it  
23 has not changed substantively since that point.

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1           Most of the revisions -- one of the  
2           revisions had to do with adding the SEC Class.  
3           There was another one that was added because there  
4           was a mistake in one of the tables. I don't think  
5           it's substantively changed from the original  
6           version that was issued in 2006.

7           MEMBER ROESSLER: I think we need to  
8           hear from them as to what --

9           DR. NETON: Yes, and I honestly don't  
10          have in my head what the findings were and all the  
11          resolutions, but I know they did review this  
12          document or the TBD a long time ago.

13          CHAIRMAN MELIUS: But, not its  
14          application to this time period.

15          DR. NETON: No. No, that's correct.

16          CHAIRMAN MELIUS: Yes.

17          DR. NETON: Yes, they were focusing  
18          primarily on the covered period.

19          CHAIRMAN MELIUS: Right.

20          DR. NETON: You know, the covered  
21          years. Not necessarily residual contamination  
22          period. Although as I mentioned, our starting  
23          point is based on what we did during the covered

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1 period. But, either way, they haven't looked at  
2 it closely from a residual contamination  
3 perspective.

4 CHAIRMAN MELIUS: Josie.

5 MEMBER BEACH: I don't really have so  
6 much of a question as more of some comments.

7 When I read through the document, it was  
8 really clear to me that there are several issues.  
9 One being the complication between the residual  
10 period and then the commercial period. That's a  
11 little complication. Which you mentioned.

12 DR. NETON: Well, I'm sorry. You mean  
13 as far as the covered dates?

14 MEMBER BEACH: Yes, the -- well, no,  
15 not the covered date.

16 DR. NETON: That's --

17 MEMBER BEACH: Just the fact that they  
18 did commercial work that's not covered. Yes.

19 DR. NETON: Okay. I see what you're  
20 saying. Yes.

21 MEMBER BEACH: So, no questions here.  
22 Just comments.

23 And then one question, though. Have

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1       you looked at the surrogate data against the Board  
2       criteria?

3                   DR. NETON:   Yes.   Yes.

4                   MEMBER BEACH:  And it meets?

5                   DR. NETON:   We believe it meets the  
6       criteria.

7                   MEMBER BEACH:  Okay.

8                   DR. NETON:   It's summarized briefly in  
9       the Evaluation Report.  I forget which section,  
10      but there was some bulletized lists and I kind of  
11      breezed through them about why it's the same  
12      chemical    process    and    the    same    uranium  
13      concentration.  That sort of thing.  Inactive  
14      pile.

15                   There's a ten-year discrepancy between  
16      the dates of the measurements.  Texas was '83.  
17      Blockson was '93.  But, phosphogypsum pile to  
18      phosphogypsum pile.  It's not like those  
19      engineering controls were different or something  
20      like that.  At least in my opinion.

21                   MEMBER BEACH:  And then there's the --  
22      there's some air sampling data from later years and  
23      then the sample data from earlier years.  My

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1 suggestion would be just to have SC&A look at it  
2 in a Work Group, maybe, meeting. That's --

3 CHAIRMAN MELIUS: Yes. Let's get to  
4 that in a second.

5 MEMBER BEACH: Okay.

6 CHAIRMAN MELIUS: A little early.  
7 Jumping the gun here.

8 MEMBER BEACH: Oh, I --

9 CHAIRMAN MELIUS: Yes. Gen.

10 MEMBER ROESSLER: If that happens,  
11 it'll probably take care of this. There's  
12 probably a little question, but you're talking  
13 about those big old phosphogypsum stacks out there  
14 being a source of exposure and I think you said your  
15 calculations are all based on assuming they're  
16 inactive and --

17 DR. NETON: Well --

18 MEMBER ROESSLER: -- or were inactive  
19 during that period.

20 DR. NETON: Yes, that's correct.

21 MEMBER ROESSLER: And I was just  
22 wondering if that's verified that they were  
23 actually?

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1 DR. NETON: Well, production stopped  
2 in 1991. The commercial operations stopped in  
3 '91. The measurements were made in '93. So, they  
4 were inactive for at least two years or about two  
5 years.

6 MEMBER ANDERSON: But, they weren't  
7 disturbed at all?

8 DR. NETON: I don't know. I can't --  
9 I can't -- yes, that would be --

10 MEMBER ANDERSON: Assumption of the  
11 crust, they were --

12 DR. NETON: Yes, I don't know the  
13 answer to that.

14 MEMBER ANDERSON: -- selling it or  
15 using it in some way to get rid of it.

16 DR. NETON: Yes.

17 MEMBER ANDERSON: I mean it's a big  
18 pile.

19 DR. NETON: Remember. One could  
20 almost make the argument that, you know, how far  
21 is the radon that's in the middle of the pile going  
22 to diffuse out of it. It's maybe none, but we're  
23 assuming that it's all related. This entire

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1 227-acre pile is related to AEC activities. Yes,  
2 it's confusing.

3 CHAIRMAN MELIUS: Yes. Do that.  
4 Well, Henry.

5 MEMBER ANDERSON: Yes, the other is I  
6 don't remember the location. The weather  
7 conditions in the two. Blockson area versus this  
8 area.

9 DR. NETON: Yes, it's a valid point.  
10 We didn't examine that.

11 CHAIRMAN MELIUS: And if you remember,  
12 Texas City was an SEC --

13 MEMBER ANDERSON: Yes.

14 CHAIRMAN MELIUS: -- and it was  
15 based -- there was lack of --

16 DR. NETON: Radon. Well, the same as  
17 Blockson for radon --

18 CHAIRMAN MELIUS: Yes.

19 DR. NETON: -- in the commercial  
20 operation. But, we can't confuse the radon that  
21 we can't reconstruct in Building 40 which is not  
22 applicable anymore to the radon in the pile.

23 CHAIRMAN MELIUS: Right. Right.

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1 Yes. Yes. Yes. But, what I was saying is I don't  
2 think we had ever done -- because Texas City became  
3 an SEC was not --

4 DR. NETON: That's correct.

5 MEMBER ANDERSON: Didn't explore very  
6 --

7 CHAIRMAN MELIUS: -- explore it in  
8 great detail.

9 DR. NETON: That's correct.

10 CHAIRMAN MELIUS: And so forth. So,  
11 there's probably information, but it's been a while  
12 since any of us have looked at that report.

13 MEMBER MUNN: It was all radon.

14 CHAIRMAN MELIUS: It was -- yes. Yes.

15 MEMBER ANDERSON: And it's clearly  
16 similar. So.

17 CHAIRMAN MELIUS: Phil.

18 MEMBER SCHOFIELD: I have a question.  
19 The pile of the spent phosphate rod, was that  
20 covered or was that just dumped loosely out there.  
21 My thinking is wind has dried out and blow it around  
22 or particularly, up there, they probably got a lot  
23 of moisture that may be leaching some stuff out as

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1 -- was there any concern about those?

2 DR. NETON: I don't know that it was  
3 covered or not. I can't imagine they'd cover 227  
4 acres, but remember, the surface contamination is  
5 not relevant to our residual period because it's  
6 been buried. I mean over time the cover gets --  
7 it's covered with commercial activities. So, I'm  
8 not sure that would be a source term in the residual  
9 period.

10 MEMBER SCHOFIELD: Interesting.

11 DR. NETON: Yes, it's --

12 MEMBER SCHOFIELD: How you parse that  
13 as a -- yes, into that.

14 CHAIRMAN MELIUS: Board Members on the  
15 phone have any questions?

16 MEMBER FIELD: Jim, I got a question.  
17 This is Bill.

18 DR. NETON: Yes, sure, Bill.

19 MEMBER FIELD: Can you go to slide 19?

20 DR. NETON: I'm sorry, Bill. I didn't  
21 hear the question.

22 MEMBER FIELD: Yes, can you go back to  
23 slide 19?

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1 DR. NETON: Oh. Okay. I don't know  
2 what slide 19 is. But --

3 MEMBER FIELD: Okay. When you're  
4 talking about the measurements of the air  
5 concentrations near the stacks. Maybe your 19 is  
6 different than my 19.

7 DR. NETON: What's the title of it?

8 MEMBER FIELD: I don't know. It's  
9 moving while you move. So, every time you move it,  
10 it moves.

11 DR. NETON: Okay. Well, let me -- can  
12 you see --

13 MEMBER FIELD: Let me just ask you a  
14 general question. You were talking about there  
15 were air measurements made near the various  
16 phosphate stacks piles.

17 DR. NETON: Well, Argonne only made  
18 measurements in Building 55. There were only --  
19 there was only one measurement at Blockson made  
20 near the phosphogypsum pile and the value was not  
21 reported, but it was less than the highest  
22 concentration that was measured which was .004  
23 working levels. So, we don't --

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1                   MEMBER FIELD: Right. But, there were  
2                   measurements made there at Texas City Chemicals.  
3                   Right?

4                   DR. NETON: Oh, the ones near Texas  
5                   City Chemicals, the maximum value was .42  
6                   picocuries per liter. That's what we used.  
7                   Right.

8                   MEMBER FIELD: Right. And where were  
9                   they -- do you know how far away from the piles they  
10                  were measured?

11                  DR. NETON: I don't recall exactly, but  
12                  I thought they might have been on the piles. But,  
13                  I'd have to verify that. I don't recall for  
14                  certain.

15                  MEMBER FIELD: But the maximum .42  
16                  sounds -- like that sounds fairly low for me. I'm  
17                  surprised by that. But, otherwise, I think it's  
18                  -- you know, what you've come up here with is really  
19                  for the claimant-favorable.

20                  DR. NETON: Okay. Thanks. Yes, we  
21                  could certainly take a closer look at that. But  
22                  --

23                  CHAIRMAN MELIUS: Any other Board

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1 Members on the phone wish to ask questions? Okay.  
2 Go ahead.

3 MEMBER ZIEMER: This is Ziemer. I'm  
4 sorry. I was on mute. I have a question.

5 CHAIRMAN MELIUS: Okay. Go ahead,  
6 Paul.

7 MEMBER ZIEMER: All right. This is  
8 for Dr. Neton. Am I echoing or what?

9 DR. NETON: I can hear you fine.

10 CHAIRMAN MELIUS: You're fine.

11 MEMBER ZIEMER: Okay. So, the pile  
12 eventually gets pretty deep there with commercial  
13 stuff. Do we know the expected distance for which  
14 radon is actually able to escape from these piles?

15 DR. NETON: No, that's a good question  
16 though. I don't know the --

17 MEMBER ZIEMER: I mean in reality,  
18 there's a pretty high probability that the radon  
19 from that era never or almost never gets out if it's  
20 got a pretty heavy burden over the top of it --

21 DR. NETON: Yes.

22 MEMBER ZIEMER: -- from the commercial  
23 stuff.

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1 DR. NETON: Yes, we thought about that,  
2 but then we also figured if we maximize it based  
3 on the measurements that we had --

4 MEMBER ZIEMER: Right.

5 DR. NETON: -- that we'd also be  
6 claimant-favorable, but you're right.

7 MEMBER ZIEMER: Right.

8 DR. NETON: There's a good chance if  
9 you do the calculation the diffusion length may be  
10 so short that none of it would escape the piles.

11 CHAIRMAN MELIUS: Any other Board  
12 Members with questions? If not, let Ted. You  
13 wanted to --

14 MR. KATZ: Yes. I understand that the  
15 petitioners would like me to read a letter that they  
16 sent in for the record. So, if you're on the line,  
17 unless you don't want me to -- if you don't want  
18 me to do that, let me know and I'll let you go ahead  
19 and just speak. Otherwise, I'll do that. Okay.

20 So, this letter was addressed to staff  
21 here on behalf of sending it to the Board. So, the  
22 message is this.

23 If time allows, could you please refer

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1 to the following when evaluating Blockson Chemical  
2 and that's the SEC 88 for Texas City, SEC 177 for  
3 Vitro, SEC 133 for Mallinckrodt and SEC 185 for  
4 Ames.

5 All the above include provisions for  
6 residual contamination and possible unknown  
7 conditions that may have existed after the dates  
8 of production. It does not appear that this was  
9 the case in the original Blockson SEC that was  
10 changed from March 1962 to June 1960.

11 The one-page U308 document that was  
12 relied so heavily on, in fact, shows the contract  
13 ending on September 15th, 1960 and production  
14 ending in June of 1960. The SEC was dated as of  
15 June 1960.

16 This is in contrast to the above SECs  
17 that went to the end of their contracts even though  
18 there was known to be no production up to the end  
19 of their contract dates.

20 Although all dose reconstructions and  
21 all studies were based on an original contract date  
22 of 1962 including OCAS TKBS 2 page 4, this one-page,  
23 unsupported chart was considered sufficient enough

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1 to change the date making the previous ten years  
2 of research and data by the DOE and NIOSH incorrect.

3 Although NIOSH mentions in the SEC that  
4 there are multiple references to Olin contract  
5 ending in 1960, we have yet to see any of those  
6 documents being referenced. We have, however,  
7 requested on numerous dates copies of any documents  
8 supporting any earlier ending date including the  
9 written notice required when changing the contract  
10 date or ending production early.

11 At the very least, there would have to  
12 be written notice required to terminate production  
13 in June of 1960 as indicated in the one-page,  
14 unsupported chart, receipts of U308.

15 In March 2014, Ombudsman Malcolm Nelson  
16 reviewed our claim and responded to our concerns  
17 of changing ten years of research by DOE and NIOSH  
18 with a one-page document of unknown origin.  
19 Malcolm said in his letter that he would address  
20 this issue in the 2014 annual report to Congress.

21 He said in that report to Congress they  
22 will question DEEOIC's reliance on a one-page  
23 document and will stress that, quote, there appears

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1 to be a double standard, i.e., when it comes to  
2 evidence submitted by claimants, DEEOIC is usually  
3 fairly demanding in terms of evidence that it'll  
4 accept. It's hard to imagine DEEOIC crediting  
5 such evidence if it were submitted by a claimant,  
6 close quote.

7 There are other errors in this one-page  
8 document that was given such credence including,  
9 but not limited to the reference to Texas City  
10 production dates that do not correspond to dates  
11 referenced in the Texas City SEC 88.

12 At the very least, considering the  
13 questionable reliability of the one-page  
14 unsupported document, we would request that the  
15 original contract date of March 1962 be used in this  
16 SEC.

17 Dr. John Howard did mention in a letter  
18 January 13th, 2012 to the Honorable Adam Kinzinger,  
19 Member of the U.S. House of Representatives in  
20 response to our concerns that, quote, although the  
21 1958 amendment of the contract had a March 31st,  
22 1962 expiration date, the contract allowed for  
23 either party to terminate the contract without

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1 penalty provided there was a written six-month  
2 notice of termination. The early termination of  
3 the contract on September 15th, 1960 and the  
4 termination of production on June 30th, 1960 could  
5 have been at the discretion of Blockson or the AEC  
6 or both. NIOSH currently has had no information  
7 on which party initiated the early termination,  
8 close quote.

9 We believe this could indicate that  
10 there never was an early termination.

11 In keeping with the original spirit of  
12 EEOICPA, it would seem to be in the, quote, favor  
13 of the claimant, close quote, to at a minimum  
14 provide an SEC with an ending date reflecting the  
15 original contract date of March 31st, 1962.

16 It may, in fact, be more appropriate to  
17 extend the SEC coverage date to 1991 since all  
18 equipment used in the uranium removal process was  
19 still on-site.

20 According to the 1978 Argonne study,  
21 numerous, quote, hot spots, close quote, still  
22 existed. The 1978 Argonne study further stated  
23 based on their findings that few individuals are

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1 expected to acquire such radiation doses annually.

2 Also, a 1996 study conducted for Olin,  
3 indicated a yellow radioactive powder assumed to  
4 be yellowcake was still on-site.

5 And that concludes the letter.

6 CHAIRMAN MELIUS: Do the petitioners  
7 wish to make any more further comments at this  
8 point? Okay.

9 If not, contract end dates, that's not  
10 the purview of the Board nor of DCAS. So, it's  
11 noted for the record under that.

12 I think we're ready to move on. If  
13 there are any suggestions on what we should do with  
14 this, how we should handle this SEC evaluation.

15 Josie, you're --

16 MEMBER KOTELCHUCK: Just a question.

17 CHAIRMAN MELIUS: A question's fine,  
18 too.

19 MEMBER KOTELCHUCK: There was a  
20 reference in that letter to the one-page  
21 unsupported document. Could Dr. Neton tell us  
22 about what the claimant is referring to?

23 CHAIRMAN MELIUS: Petitioner.

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1 MEMBER KOTELCHUCK: Petitioner.

2 DR. NETON: I don't have it in the top  
3 of my head, but it was a shipping document, I  
4 believe. Receipts of uranium and such that listed  
5 numerous facilities. One of which was Blockson  
6 Chemical about how much uranium was produced at  
7 certain times. But, I don't recall the specifics  
8 of it. But, that document was used as evidence to  
9 move the completion date of the contract from 1962  
10 to '60.

11 The contract actually did go through  
12 '62, but I think there was some provision that the  
13 contract could be terminated at any time and it was  
14 terminated earlier in 1960. But, I don't recall  
15 the exact specifics of that document.

16 MEMBER KOTELCHUCK: What was --

17 DR. NETON: It's referenced in the  
18 Evaluation Report with an SRDB number. I could  
19 certainly --

20 MEMBER KOTELCHUCK: Okay.

21 DR. NETON: -- make it available.

22 MEMBER KOTELCHUCK: In your mind, was  
23 there any question about the official nature of the

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1 document? I mean was it a supported document?

2 DR. NETON: I had no reason to question  
3 it. Although, you know, we forwarded that  
4 information to the Department of Labor and as Dr.  
5 Melius indicated, they evaluated the merit of that  
6 document against, you know, the completion date.

7 But, I do think there was other -- as  
8 we heard, there's other supporting documentation  
9 that's surfaced since that time that indicates that  
10 that end date that we were using -- that the  
11 Department of Labor has established is actually the  
12 correct date. But, again, we don't --

13 MEMBER KOTELCHUCK: Thank you.

14 CHAIRMAN MELIUS: Yes, I mean, Dave, we  
15 have no -- and DCAS has no role other than providing  
16 information, but we don't adjudicate, you know --

17 MEMBER KOTELCHUCK: Right.

18 CHAIRMAN MELIUS: -- the end dates.  
19 That's in the legislation. Yes. Okay.

20 MEMBER KOTELCHUCK: Yes, I was just --

21 CHAIRMAN MELIUS: Well --

22 MEMBER KOTELCHUCK: -- I was just  
23 questioning is the document -- was the document

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1 verified as a material document.

2 CHAIRMAN MELIUS: Well, but, that's  
3 not --

4 MEMBER KOTELCHUCK: And it was.

5 CHAIRMAN MELIUS: It's up to DOL to do  
6 that.

7 MEMBER KOTELCHUCK: We don't -- right.  
8 DOL did it and that's --

9 CHAIRMAN MELIUS: Well, but I'm not  
10 sure it's appropriate that, you know, to expect Jim  
11 Neton to respond to that. That's sort of my sense.  
12 I think it's, you know -- he provided the factual  
13 basis for what happened, but it's not -- NIOSH is  
14 not a direct party to the --

15 MEMBER KOTELCHUCK: Right.

16 CHAIRMAN MELIUS: -- evaluation of  
17 that document and the establishment of that. I  
18 think the role has been, and I think we've done that  
19 for quite some time, is to refer the documentation.  
20 If there's documentation that questions or, you  
21 know, the period under EEOICPA, then we pass that  
22 on --

23 MEMBER KOTELCHUCK: Okay.

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1 CHAIRMAN MELIUS: -- through DCAS.

2 MEMBER KOTELCHUCK: Good.

3 CHAIRMAN MELIUS: But, it's up to --  
4 yes, Brad.

5 MEMBER CLAWSON: Myself, Jim, you  
6 know, this is pretty complicated and being on  
7 Blockson before, we went through a lot of battles.  
8 But, I'd like our contractor to take a look at what  
9 we've got there. Right. Myself. But --

10 CHAIRMAN MELIUS: Is that a motion?

11 MEMBER CLAWSON: Yes.

12 CHAIRMAN MELIUS: Okay.

13 MEMBER BEACH: I'll go ahead and second  
14 it.

15 CHAIRMAN MELIUS: Okay. Any further  
16 comment? And we also have a Blockson Work Group  
17 chaired by Ms. Munn.

18 MEMBER MUNN: In name only. Jim -- oh.

19 MEMBER ANDERSON: Yes, when they  
20 review it, I would say we especially pay attention  
21 to the surrogate data and the comparison of the two  
22 sites. I think that's --

23 CHAIRMAN MELIUS: Yes, I think there

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1       were -- you know, my own view is there was a number  
2       of sort of technical issues --

3                   MEMBER ANDERSON:   Yes.

4                   CHAIRMAN MELIUS:   -- that are hard to  
5       explain in a short period of time.

6                   MEMBER ANDERSON:   Yes.   Yes.

7                   CHAIRMAN MELIUS:   I think Jim did it  
8       and the report is helpful, but I think we need to  
9       evaluate.  There's a number of assumptions there.  
10      I'm not sure that any of them were wrong, but I think  
11      they all need to be evaluated and do that.  So.  
12      Okay.

13                  MEMBER BEACH:    Can you remind us who's  
14      on the Blockson.  I know Wanda's the Chair.  I was  
15      just curious.

16                  MEMBER   ROESSLER:       Wanda's  chair.  
17      Brad is on it.  Jim Melius is on it and I'm on it.

18                  MEMBER BEACH:    Oh, perfect.

19                  MEMBER ROESSLER:   I think.  I just  
20      looked it up.  Right.

21                  MEMBER BEACH:    Fully staffed.

22                  CHAIRMAN MELIUS:   Good.    So,  I  
23      think -- can we have a voice vote on that?  The

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1 motion. The motion is to refer this to the Work  
2 Group for evaluation and to have SC&A evaluate a  
3 report and when they're done with their evaluation,  
4 we'll -- the Work Group will meet and follow up.

5 So, that's -- all in favor say aye.

6 (A chorus of ayes)

7 CHAIRMAN MELIUS: Opposed? Opposed?  
8 Abstain? Okay. Very good.

9 MR. BURKHART: Anybody there?

10 CHAIRMAN MELIUS: We're here.

11 MR. BURKHART: Just listen. I'm just  
12 wondering if it's too late for a petitioner to  
13 speak.

14 CHAIRMAN MELIUS: Well, I gave you lots  
15 of opportunities.

16 MR. BURKHART: Well, I know, but I'm  
17 not up on these phones like you guys are. I'm sorry  
18 for that.

19 CHAIRMAN MELIUS: Well, okay, speak  
20 quickly then.

21 MR. BURKHART: But, if I -- I can answer  
22 -- I can answer some of those questions about the  
23 documents that you guys -- that one-page document

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1 that you guys are worried about in trying to figure  
2 out what it is.

3 CHAIRMAN MELIUS: I think as I've just  
4 said, that's really not appropriate to this Board's  
5 function or what NIOSH does.

6 MR. BURKHART: Well, but you're  
7 wondering about the written consent and I can tell  
8 you that that contract calls for written consent  
9 in six-month period either by Blockson or by the  
10 Department of Energy. That has never been done.  
11 There is no written consent. Nobody knows  
12 anything about a written consent.

13 Now, Rachel Leiton from the Department  
14 of Labor that you said is responsible for setting  
15 the time which I understand that, she said that that  
16 one-page document was the written consent and I  
17 don't see any way nor does a lot of other people  
18 see any way that that document would be considered  
19 written consent.

20 If you don't have written consent, then  
21 in order to be claimant-friendly, it should go to  
22 the claimant.

23 There is no written document. John

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1 Howard admits there is no written document. They  
2 don't have one.

3 That's the thing that I think the Board  
4 really needs to look at.

5 Also, that I think all the Board Members  
6 since it seems that nobody has seen that document,  
7 if they would take time to look at it. It was 1963  
8 when that document was generated.

9 If the Board Members would look at it,  
10 they could see that, one, it may not even be  
11 typewritten. Which back in 1963, it would have  
12 been typewritten.

13 CHAIRMAN MELIUS: Sir. Sir.

14 MR. BURKHART: Go ahead. I'm sorry.  
15 And listen, I'm sorry that I didn't get in on time.

16 CHAIRMAN MELIUS: Well, but you're --

17 MR. BURKHART: But, go ahead. I'm  
18 listening and then I'll get off the air.

19 CHAIRMAN MELIUS: You're focusing on  
20 an issue that's not the purview of this Board or  
21 of NIOSH and it's not our place to be reviewing  
22 these documents or responding to that.

23 If you have comments on the petition

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1 evaluation that was just completed, that's --

2 MR. BURKHART: Am I talking to Mr.  
3 Melius?

4 CHAIRMAN MELIUS: Dr. Melius. Yes.

5 MR. BURKHART: Yes. Doctor, I have no  
6 problem with what I've heard so far.

7 CHAIRMAN MELIUS: Okay.

8 MR. BURKHART: With you guys looking at  
9 the new SEC and I'm sure that you guys are going  
10 to do a good diligence for the claimants. So.

11 CHAIRMAN MELIUS: Okay. Thank you and  
12 you'll be informed of when there's Work Group  
13 meetings and a chance to provide comments at those  
14 meetings. So, thank you very much.

15 MR. BURKHART: Yes. Thank you very  
16 much for letting me interrupt. I'm sorry about  
17 that. Thank you. Bye-bye.

18 CHAIRMAN MELIUS: So, we have -- any  
19 correspondence? Okay. Good.

20 MR. KATZ: So, I don't think we have  
21 correspondence that we need to address. I shared  
22 some correspondence with all the Board Members.  
23 I'm sorry. I shared some correspondence with all

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1 the Board Members that we received related to  
2 Pinellas. Several letters.

3 I believe they were -- at least one was  
4 addressed to the Board, but they were also sort of  
5 addressed to NIOSH and I think NIOSH would be  
6 handling those letters like any correspondence  
7 they receive and respond directly back to them and  
8 if you want, we can have them copy the Board when  
9 they respond back. That would be great.

10 MR. HINNEFELD: Can we just copy you,  
11 Ted, and you distribute it? We'll just copy you.

12 MR. KATZ: Sure. Yes, that would be  
13 great and I believe there may have been also Rocky  
14 Flats correspondence also addressed to NIOSH as  
15 well.

16 CHAIRMAN MELIUS: Yes, there was one  
17 Rocky Flats correspondence which we heard  
18 yesterday. Judy Padilla.

19 MR. KATZ: Right. That's right.  
20 Right. Judy ended up, right, actually presenting  
21 it.

22 Otherwise, I would have read it during  
23 the comment session.

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1 CHAIRMAN MELIUS: Yes.

2 MR. KATZ: Right. So, I think that  
3 covers it.

4 CHAIRMAN MELIUS: Okay. Then I think  
5 we'll break until 10:15. We have -- just for  
6 information of Board Members including Board  
7 Members on the phone, we have Rocky Flats at 10:15.  
8 I expect that the petitioners will be on the line.  
9 We want to stick to that timing.

10 We have a Board work session, but I  
11 think we've done most of our Board work.

12 At 1:30, we have a Kansas City  
13 presentation and discussion. Again, petitioners  
14 will probably be on the line for that. So, we'll  
15 need to stick to that schedule.

16 We have then a Board work session  
17 scheduled after 3:00 and I don't think we'll be  
18 needing that.

19 So, I expect that we'll end the meeting  
20 by 3:00 this afternoon, if that helps anybody with  
21 their scheduling or plans and people on the phone  
22 with dealing with the time difference. It should  
23 help.

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1                   So, anyway, thank you and we'll be back  
2 here at 10:15.

3                   MS. CARROLL: Excuse me. Can you hear  
4 me?

5                   CHAIRMAN MELIUS: Yes.

6                   MS. CARROLL: Yesterday, I waited  
7 patiently to make a comment and after Judy Padilla,  
8 I said I wanted to make comments and you all  
9 disconnected me and I didn't get to make my comment.

10                  So, I wanted to let you know this is  
11 Stephanie Carroll. I had very important comments  
12 on the Rocky Flats issues.

13                  CHAIRMAN MELIUS: Well, why don't you  
14 wait until the Rocky Flats session at 10:15? Is  
15 that okay?

16                  MS. CARROLL: I'm not the petitioner.  
17 I'm just making comments.

18                  CHAIRMAN MELIUS: Well, I'm not saying  
19 that, but you make comments after there's been  
20 discussion of the Rocky Flats. So, it will be  
21 probably closer to 11:00.

22                  MS. CARROLL: So, you are going to  
23 allow me to make comments today?

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1                   CHAIRMAN MELIUS:  Yes.  That's what I  
2    just said.  Yes.

3                   MS. CARROLL:  Oh, I'm sorry.

4                   CHAIRMAN MELIUS:  Okay.  Yes.

5                   MS. CARROLL:  There is a problem with  
6    the phone.  So, thank you so much.  I appreciate  
7    that.

8                   CHAIRMAN MELIUS:  Okay.

9                   MS. CARROLL:  So, just let me know when  
10   you're available to hear my comments and I will be  
11   on the phone.

12                  CHAIRMAN MELIUS:  Yes, we'll be  
13   reconvening at -- it's 10:15 Pacific time.

14                  MS. CARROLL:  Right.

15                  CHAIRMAN MELIUS:  So --

16                  MS. CARROLL:  Okay.  Thank you.

17                  CHAIRMAN MELIUS:  Yes.

18                               (Whereupon, the above-entitled matter  
19   went off the record at 9:30 a.m. and resumed at  
20   10:15 a.m.)

21                  MR. KATZ:  We're about to get started  
22   again with a Rocky Flats presentation.  Before we  
23   do, let me just check on the line and see that I

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1 have -- that our Board Members on the line have  
2 rejoined us.

3 (Roll call.)

4 CHAIRMAN MELIUS: Okay. So, we'll  
5 start with an update on the Rocky Flats SEC petition  
6 covering the '84 to '89 time period and start with  
7 Dave Kotelchuck who's the Chair of the Work Group.  
8 Dave.

9 MEMBER KOTELCHUCK: Very good. Thank  
10 you.

11 Let me also acknowledge. I didn't put  
12 a slide in, but acknowledge other members of the  
13 Rocky Flats Work Group: Wanda Munn, Phil  
14 Schofield and William Field -- Dr. Field.

15 Just quick -- well, not so quick  
16 petition overview. In August 2011, NIOSH received  
17 an 83.13 petition to cover the period from April  
18 1st, '52 to December 31st, 1989, SEC 192. In  
19 February 2012, the petition qualified for  
20 evaluation and the Board revised it to extend to  
21 December 2005.

22 In October 17 meeting, the Board  
23 expanded the investigation to cover thorium U-233

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1 and neptunium-237. The Board then essentially  
2 extended the existing SEC which went up to 1966 to  
3 cover the period from -- an SEC from April 1st, '52  
4 to December 31st, '83 and then this extension was  
5 based on the inability to estimate the dose with  
6 sufficient accuracy for thorium, U-233 and  
7 neptunium.

8 At our October 13 Board meeting, we  
9 voted to extend investigations for 192 beyond 1983  
10 to do the following five -- look at the following  
11 five issues: one, evaluate the use and exposure  
12 potential for magnesium-thorium alloy, continue to  
13 evaluate the '84 to '88 period for neptunium  
14 exposure potential, resolve open questions with  
15 SC&A and the Work Group concerning tritium, examine  
16 the implication of data falsification issues and  
17 examine exposures at the Critical Mass Lab.

18 Let's start first with the  
19 magnesium-thorium alloy. First, this issue was  
20 raised back in 2007 for the earlier petition and  
21 that went up to 1983 and apparently, there was  
22 magnesium-thorium alloy shipped to Rocky Flats to  
23 be used in plates to bulletproof military trucks.

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1           In 2013, NIOSH did another review of the  
2           Site Research Database for a Rocky Flats  
3           magnesium-thorium link and more -- they found more  
4           evidence of a Dow magnesium-thorium link, but no  
5           corroborating evidence for Rocky Flats.

6           Other site visits were undertaken to  
7           see if there was perhaps some record there of  
8           magnesium-thorium being sent to Rocky Flats.

9           However, I mean the issue was there was  
10          a worker Dow Madison who reported that shipping  
11          magnesium-thorium materials to Rocky Flats.  
12          NIOSH interviewed the individual. The person  
13          stood by the report. That is to say verified the  
14          report and at that time, said that he was not aware  
15          that there were other Dow facilities in the Denver  
16          area to which the magnesium-thorium from his  
17          facility might have been sent.

18          The Dow Madison co-petitioner alleges  
19          additional affidavits supporting the Rocky Flats  
20          magnesium-thorium link claim. That is affidavits  
21          from folks at Dow Madison that it was sent.

22          One of the petitioners from Rocky Flats  
23          reported to the Board that there was a worker who

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1 wished to remain anonymous who said that  
2 magnesium-thorium was used at Rocky Flats. The  
3 NIOSH conclusion was, their White Paper, that we  
4 cannot find corroborating documentation of a Rocky  
5 Flats magnesium-thorium link and this has been now  
6 looked at over an eight-year period and I leave it  
7 to people to go to the transcript to see a report  
8 on how many different sources of data were looked  
9 over by NIOSH to try to find such a link and did  
10 not find it.

11 An additional NIOSH observation, if  
12 there was undocumented magnesium-thorium use at  
13 Rocky Flats, all alleged use took place between '56  
14 and '76 which was during the covered SEC period,  
15 or which is in the covered period.

16 SC&A disagreed with NIOSH. The worker  
17 interviewed both by NIOSH and SC&A provided a high  
18 level of clarity and detail, they reported, and he  
19 specifically named five different  
20 magnesium-thorium alloy specifications only two of  
21 which were searched for. Rather than confusion,  
22 SC&A said it is just possible that the worker had  
23 a gripe all along.

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1                   And SC&A continued, the Dow  
2 co-petitioner reported 400 boxes of Rocky Flats  
3 records sitting at LANL according to the DOE and  
4 would have to be hand searched. He estimated that  
5 the search would take two years.

6                   The DOE project manager noted that 2 to  
7 3 percent thorium in the magnesium-thorium alloy  
8 which is what you're basically talking about, it  
9 may not have been considered enough to be a  
10 reportable quantity and that may be the reason that  
11 there was no record.

12                   So, SC&A's conclusion was the receipt  
13 and use of magnesium-thorium alloy material at RFP  
14 remains inconclusive.

15                   Given this -- I mean given this  
16 disagreement, the Rocky Flats Work Group debated  
17 long and hard and decided not to ask NIOSH or SC&A  
18 to pursue this investigation further and our  
19 reasons were first the failure of the intensive  
20 years' long search for documentation at the plant  
21 and agency levels.

22                   The vast majority of cancers during the  
23 years of possible magnesium-thorium use are

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1       compensable under the existing SEC and I note that  
2       only those non-compensable cancers, that is not  
3       covered by the SEC, might be negatively affected  
4       by not continuing the search and the feeling was  
5       that with limited NIOSH resources of staff time and  
6       funding, that we just couldn't keep looking for  
7       what was feeling to be a needle in a haystack.

8               So, and that was our decision. It was  
9       a difficult one because there was disagreement and  
10       we cannot say it was not used there. I mean I  
11       accept that it was inconclusive, but eventually,  
12       our feeling was we needed to finally conclude this  
13       effort that we've tried -- worked at for many years.

14               Let's look at neptunium-237, the second  
15       issue. The NIOSH search concluded that  
16       neptunium-237 was used at Rocky Flats after 1983,  
17       perhaps until 1988. So, that -- even though the  
18       active production with neptunium ended in 1983, it  
19       was indeed true that the material was used in the  
20       '80s and evidence points to a series of discrete  
21       tasks.

22               This is the NIOSH report. Evident in  
23       a White Paper, evidence points to a series of

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1 discrete tasks performed from '62 through '83  
2 involving a few grams to a few hundred grams usually  
3 at the request of other DOE facilities.

4 The only processing operation in the  
5 post-1983 period involving neptunium was  
6 plutonium-neptunium separation and residue  
7 recovery from '85 through '87. This was a glovebox  
8 operation involving five operators and one  
9 engineer with a plutonium-neptunium mass ratio of  
10 6.4 and the far greater specific activity of  
11 plutonium-neptunium operations and later waste  
12 clean-up were monitored by plutonium air sampling  
13 contamination surveys and bioassays which were  
14 consistently implemented in the post-'83 period.

15 SC&A studies independently confirm the  
16 results of the NIOSH paper.

17 Conclusion, with which the Work Group  
18 agreed: only one processing operation in the  
19 post-'83 period involved neptunium and the  
20 co-presence of neptunium with plutonium enables  
21 radiological monitoring to account for any  
22 neptunium exposure in a claimant-favorable manner.

23 Tritium exposure, which was the basis

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1 of accepting petition 192 initially. Prior to the  
2 '70s, the radiological program did very little  
3 monitoring for tritium because they felt they had  
4 limited exposure after the 1973 incident. The  
5 1973 incident with returned triggers were found to  
6 emit 500 to 2,000 curies of tritium.

7 Changes in the program were implemented  
8 as a result of course and we've talked about this.  
9 These included increased number of tritium  
10 bubblers and wipe samplers, air sampling on opening  
11 incoming used pit containers, urine -- for two  
12 years, there were urine samples for 250 workers  
13 thought most affected by the incident and then  
14 after two years, sampling was done only among  
15 job-specific categories because the results had  
16 shown zero positive samples and 10 percent of urine  
17 samples for plutonium were tested for tritium.

18 Result: greatly reduced levels of  
19 tritium exposure by the 1980s. Since virtually  
20 all RF workers before '83 were covered by the SEC,  
21 the crucial issue for NIOSH, ORAU, SC&A and the Work  
22 Group was whether the post-'83 tritium exposure  
23 control program was adequate and individual

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1 tritium exposures appropriately assessed.

2 After extensive group discussion by all  
3 parties about the placement of the bubblers, their  
4 efficiency, tritium sampling procedures, the  
5 Working Group agreed that the exposure control  
6 program after '83 was adequate to protect workers  
7 exposed to tritium.

8 Just for the record, partial dose  
9 reconstructions for workers before -- if they're  
10 needed for workers before '73 will be assessed as  
11 chronic dose based on measurements after the 1974  
12 incident, which are believed to be 37.5 millirems  
13 per year, believed to be claimant-friendly  
14 overestimates.

15 For the exposure measurements taken  
16 after '75, they were consistently found to be less  
17 than a millirem a year due to the control measures  
18 that had been enacted.

19 Get this down here. Oops. No. No.  
20 I got it now. Okay. It's not moving quickly.  
21 Thanks. Okay.

22 So, the Working Group agreed that  
23 tritium exposure at the Rocky Flats does not add

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1 materially to the radiation exposure burden of  
2 plant workers post-'83 and thus of itself does not  
3 constitute a basis for an SEC category beyond 1983.

4 Now, let's get to data falsification,  
5 the fourth issue. As you know, an FBI raid was --  
6 or many of you, most of you remember an FBI raid  
7 was conducted at Rocky Flats in 1989 concerning  
8 alleged data falsification, improper bioassay  
9 processing and document destruction. Soon after  
10 the 1989 or soon after a 1989 DOE study was  
11 conducted and finally after many long efforts by  
12 many folks in 2015, the FBI finally released its  
13 report.

14 Now, NIOSH and SC&A -- and based on this  
15 report, NIOSH or before actually the report was  
16 released, but with relevance to the report and the  
17 issue, NIOSH and SC&A interviewed a worker at Rocky  
18 Flats who reported being ordered to destroy records  
19 and they interviewed 12 other employees. That --  
20 no allegation on those 12 that they were ordered  
21 to destroy records. They were just interviewed  
22 about record destruction.

23 SC&A found no loss in essential records

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1       which would interfere with radiation dose  
2       reconstruction nor evidence of data falsification.

3                 Another interviewee made statements  
4       about the inadequacy of fume hood stack samples and  
5       improper handling and/or preparation of  
6       environmental samples.

7                 Quotes from NIOSH, from a radiological  
8       perspective, NIOSH finds no scientific basis for  
9       concluding that the issues raised regarding  
10      environmental samples would compromise the  
11      radiological count results, end quote.

12                So, yet another interviewee raised the  
13      issue of dosimetry technicians writing down dose  
14      rate information in pencil which would allow  
15      management later to direct changes to keep  
16      production going. This impacts field survey  
17      instruments used for comparison only. The primary  
18      source of data of dose reconstruction are personnel  
19      dosimeters and bioassays assessed in labs.

20                And then SC&A reviewed eight documents  
21      mentioned in the NIOSH White Paper. It concluded  
22      "The documents were concerned with other aspects  
23      of RF operations or environmental issues rather

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1 than data falsification, record destruction or  
2 bioassay data that would potentially impact the  
3 ability to perform adequate dose reconstructions."

4 And based on the interviews, analyses  
5 and evaluation of the 1989 FBI raid report, NIOSH  
6 concluded "There exists sufficient quantity of  
7 individual external monitoring data to support  
8 assessment of the Rocky Flats personnel external  
9 doses."

10 And SC&A corroborated this conclusion.

11 In addition to its basic support of the  
12 conclusions of the NIOSH White Paper, SC&A  
13 expressed concern that the data used to generate  
14 radionuclide intakes were impacted by the  
15 environmental sampling and data issues that  
16 surfaced after the 1989 FBI raid and the DOE  
17 investigation.

18 So, the Rocky Flats Work Group having  
19 read the White Paper discussion and presentations  
20 agreed with the NIOSH conclusions, but referred the  
21 environmental occupational linkage issue to the  
22 Subcommittee on Procedures Review and we asked them  
23 to take a look at this.

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1           Just in response, the claimant  
2           representatives have written a lengthy response to  
3           the NIOSH White Paper. "NIOSH combines all of the  
4           issues raised by petitioners and their  
5           relationship to Building 123. Each of the issues  
6           raised are separate concerns. Some concerns may  
7           be related to Building 123, but not all of the  
8           issues are. Therefore, each of the issues needs  
9           to be addressed on an individual basis. It is the  
10          petitioners position that the problems associated  
11          with each individual concern is sufficient for  
12          NIOSH to determine they cannot reconstruct those  
13          with sufficient accuracy. It is even more evident  
14          that when combining issues serious questions are  
15          raised with the bioassay documents used to  
16          reconstruct dose."

17                 Claimants also presented evidence.  
18                 They gave evidence to NIOSH and it was presented  
19                 to the committee from the Final Historical Release  
20                 Reports for Rocky Flats Plant, June 1992 of  
21                 additional destruction of records. So, there is  
22                 official information that records were destroyed  
23                 in addition to one of the claimants' assertions.

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1 So, both of those are there.

2 Finally, they assert "It is clear the  
3 accuracy of the dosimetry records NIOSH has for  
4 Rocky Flats claimants needs to be questioned.  
5 These records are unreliable. Therefore, NIOSH  
6 must admit that dose reconstruction cannot be  
7 formed with reasonable accuracy and must recommend  
8 expanding the SEC."

9 NIOSH is currently writing a response  
10 to this communication.

11 And the final issue here -- actually,  
12 semi-final. We'll come to that.

13 Operations at the Critical Mass Lab  
14 took various assemblies and radioactive materials  
15 to criticality levels. The NIOSH White Paper  
16 notes "Radioactive materials at the Critical Mass  
17 Lab included nuclear fuels and sealed radioactive  
18 sources used in the criticality experiments.  
19 Fission and activation products generated in the  
20 fuels, building materials and fixtures as a result  
21 of the nuclear criticality experiments conducted  
22 there are an additional source of radiological  
23 exposure." Just a little background on the lab.

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1           The White Paper concluded that the  
2 external radiation exposure of those workers and  
3 staff is accounted for by the Rocky Flats personnel  
4 dosimetry program which assigned radiation  
5 dosimeters to all the workers. The personnel  
6 dosimetry program included periodic bioassays that  
7 focused primarily on identifying uranium and  
8 plutonium intakes. Also found little radiation  
9 from fission and activation products and the  
10 Working Group accepted the paper.

11           However, at our 7/14 meeting and  
12 conference call, the last surviving of three senior  
13 scientists at the Critical Mass Lab, he worked  
14 there from '64 to '86, joined the discussion and  
15 expressed strong disagreement with the conclusions  
16 of the NIOSH White Paper. He requested a personal  
17 interview at a later time which was agreed to and  
18 conducted in October of this year.

19           During the interview, the scientist  
20 argued that no one can bound the neutron flux in  
21 the labs near criticality experiments. The  
22 radiation levels at the CML were not properly  
23 documented he asserted and the RF did not do body

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1 counts on the lab's 30 to 35 employees, only lung  
2 counts and irregularly urinalyses.

3 He also disputed the ability to put  
4 upper bounds on the neutron flux by other reactor's  
5 energy output.

6 In addition, the scientists reported  
7 that during the '80s typically 100 to 200 non-CML  
8 Rocky Flats' employees enter the lab annually to  
9 observe ongoing experiments. It seemed a rather  
10 informal procedure of people walking in and  
11 observing.

12 At the conclusion of the discussion,  
13 NIOSH staff agreed to review and modify as  
14 appropriate its White Paper on Critical Mass Lab  
15 and is currently drafting a response and I leave  
16 it to LaVon to talk more about that.

17 As part of this effort, NIOSH will do  
18 a data capture from LANL about CML and again, LaVon  
19 will report.

20 This past spring claimants raised  
21 concern about this 600 curie cobalt-60 source at  
22 Rocky Flats and presented information and employee  
23 testimony alleging lack of proper exposure

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1 protection during the removal of that source from  
2 Rocky Flats.

3 At our 10/28 meeting, NIOSH staff  
4 person LaVon, Mr. Rutherford, said that proper  
5 standard protective measures were employed during  
6 the cobalt-60 removal. He'll respond at a later  
7 time.

8 So, we've gone through a lot of issues.  
9 Let's look back now at what we were charged with  
10 taking a look at. The five issues.

11 Evaluate use and exposure potential for  
12 magnesium-thorium alloy at Rocky Flats - CLOSED.

13 Continue to evaluate '84 to '88 period  
14 for neptunium exposure potential - CLOSED.

15 Resolve open questions with SC&A and  
16 the Work Group regarding tritium - CLOSED.

17 The examination of the data  
18 falsification issues, it's closed for the Work  
19 Group, but we referred it to the Subcommittee on  
20 Procedures Review to look at that one issue of how  
21 environmental emissions might have impacted on  
22 exposure to the workers in the plant or affected  
23 it.

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1                   And finally, examination of exposures  
2                   at the Critical Mass Lab remains open with the LANL  
3                   data capture and again, LaVon will talk about it.  
4                   The cobalt-60 will just say is in process.

5                   Questions. Okay.

6                   CHAIRMAN MELIUS: Questions for --

7                   MEMBER KOTELCHUCK: Comments.

8                   CHAIRMAN MELIUS: Comments for Dave.

9                   I'm a little confused on the agenda. LaVon, do you  
10                  have a presentation also or --

11                  MR. RUTHERFORD: No. No. I can  
12                  provide follow-on to the Critical Mass Laboratory.

13                  CHAIRMAN MELIUS: Okay.

14                  MR. RUTHERFORD: What we're doing  
15                  there.

16                  CHAIRMAN MELIUS: Please do.

17                  MR. RUTHERFORD: Okay. Basically,  
18                  there were 30 to 35 boxes that [identifying  
19                  information redacted] had sent to LANL and with  
20                  those 30 to 35 boxes, we're hoping to get additional  
21                  information that we can resolve his issues.

22                  LANL's indicated that they can't get  
23                  them to us until January. So, that's pretty much

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1 where we are with that one.

2 CHAIRMAN MELIUS: Thank you.

3 MR. RUTHERFORD: Okay. I wanted to --

4 CHAIRMAN MELIUS: Yes.

5 MR. RUTHERFORD: Yes, I just found out,  
6 and I apologize, that -- [identifying information  
7 redacted] sent me an email last night to go into  
8 public comment and I didn't see it until just now  
9 and so, I'll have to forward that on to the Board.

10 MR. KATZ: Forward it to me and --- does  
11 it relate to Rocky Flats?

12 MR. RUTHERFORD: Yes, it was --  
13 apparently, it was supposed to go into public  
14 comment last -- I've just seen it and it looks like  
15 Terrie sent a follow-on email as well. So.

16 MEMBER KOTELCHUCK: However,  
17 [identifying information redacted] sent a letter  
18 to the Work Group which we got and talked about.  
19 So, we certainly have a lengthy communication from  
20 him that has been looked at on the data  
21 falsification issue. I don't know what the public  
22 comment will be exactly. We're aware of his  
23 concerns certainly.

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1                   CHAIRMAN MELIUS:       Board Member  
2                   questions and actually, I have a question on the  
3                   magnesium-thorium alloy issue. I think you had  
4                   one -- one of your slides in there was that the  
5                   thorium SEC covered period. So.

6                   But, I guess I'm trying to get a sense  
7                   of if it's the 2 or 3 percent alloy, what would it  
8                   add in terms of dose to -- yes, what are we talking  
9                   about in terms of --

10                  MR. RUTHERFORD: Well, I mean I can't  
11                  say for sure depending on the operation that it --

12                  CHAIRMAN MELIUS: Yes. Right.

13                  MR. RUTHERFORD: -- was used in, but,  
14                  you know, the information that we had from Dow  
15                  Madison and from the other sites, it would be a very  
16                  small internal dose and this is our -- this would  
17                  be for the non-presumptive cancers which are not,  
18                  you know, do not really gain a lot from the internal  
19                  dose.

20                  CHAIRMAN MELIUS: Right. Okay.  
21                  That's -- and that would go along with why it was  
22                  sort of not reportable and so forth. I was just  
23                  trying to fit that together and then understand the

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1       --

2                   MEMBER KOTELCHUCK:   And in addition,  
3       if I may say, since I noted that only two of the  
4       five alloys that were named by the Dow Madison  
5       worker were investigated and LaVon talked to me  
6       about it, I'll repeat what you said, but better if  
7       you would like to say it.   Why those two -- okay.  
8       Why the two --

9                   CHAIRMAN MELIUS:   Well, we want to hear  
10       from the horse's --

11                   MEMBER KOTELCHUCK:   -- only two were  
12       looked at.   Only two had been used in the military  
13       and atomic weapons -- had military and atomic  
14       weapons uses.   Because there's plenty of  
15       information about magnesium-thorium alloy being  
16       sent to other places and those two were examined.  
17       Then the other three were not used militarily and,  
18       therefore, were not examined.

19                   CHAIRMAN MELIUS:   Okay.

20                   MEMBER KOTELCHUCK:   Didn't need to be.

21                   CHAIRMAN MELIUS:   Thank you, LaVon and  
22       your messenger.   Other questions?   Board Members  
23       on the phone have any questions?

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1           If not, I think we want to hear from the  
2 petitioners. They're on the line. Terrie  
3 Barrie, are you?

4           MS. BARRIE: Yes, Dr. Melius, I'm on  
5 the line. Can you hear me?

6           CHAIRMAN MELIUS: Yes, we can.

7           MS. BARRIE: Okay. Good. Thank you.  
8 This is Terrie Barrie and I'm a co-petitioner for  
9 the Rocky Flats SEC petition.

10           [Identifying information redacted],  
11 the petitioner, and I filed this petition to cover  
12 all workers from 1952 through closing up in 2015  
13 and besides the tritium issue. We also raised the  
14 issue of thorium strikes and data falsification in  
15 our petition, original petition and we appreciate  
16 you giving us this opportunity to present our  
17 petition.

18           From the mid to late-1990s, union  
19 officials and scientific experts publicly raised  
20 serious concerns about the health of the nuclear  
21 weapons workers.

22           David Fuller, President of the PACE  
23 Local 5-550 testified before the Senate

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1 Appropriations Subcommittee about this issue on  
2 October 26, 1996. He stated that, and I quote,  
3 "Over the past 20 years, several studies have shown  
4 an increased risk of cancer and other diseases  
5 among DOE workers. They include workers at  
6 Hanford, Rocky Flats, et cetera."

7 The Department of Energy's own  
8 statistics support that statement. According to  
9 DOE's Occupational Radiation Exposure Report of  
10 2000, Rocky Flats' workers have a collective  
11 totally effective dose equivalent of 373.9  
12 person-REM for 1999. This was the highest reading  
13 for all DOE sites and is more than double what was  
14 reported for Hanford workers for that same year.

15 Another way of looking at this is that  
16 29 percent of DOE's complex-wide TEDE was given  
17 just to Rocky Flats workers and the remaining 71  
18 percent was distributed among the other 34 sites  
19 and please note that this was during the D&D period.

20 On April 12th, 2000, DOE former  
21 Secretary Bill Richardson announced a  
22 comprehensive plan that ultimately led to the  
23 passage of the EEOICPA.

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1                   Quoting from the news article authored  
2                   by James L. Nash, this legislation "would shift the  
3                   burden of proof from the workers to the Government  
4                   for radiation diseases at three sites: Paducah,  
5                   Kentucky; Portsmouth, Ohio and the K-25 plant at  
6                   Oak Ridge, Tennessee. This means that sick  
7                   workers no longer would need to prove their  
8                   ailments were work related."

9                   When a reporter asked why the  
10                  Government only assumed the burden of proof at  
11                  these three locations, David Michaels, the DOE  
12                  point man on the proposal, said that "At those three  
13                  sites, there is strong evidence the Government lost  
14                  or destroyed records needed for workers to make  
15                  their case."

16                  Six years later then Congressman Mark  
17                  Udall testified before the House Subcommittee  
18                  concerning the OMB passback memo.

19                  For those of you who are not familiar  
20                  with those hearings, the OMB passback memo offered  
21                  suggestions on how to keep the growth of the EEOICPA  
22                  benefits in check. One of those suggestions  
23                  concerned SEC petitions.

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1           Mr. Udall testified, and I quote, "If  
2           I had known how deficient the records were going  
3           to be, and in fact were, I would have worked to have  
4           included the Rocky Flats Work Team in the Special  
5           Cohort Group initially in the legislation that we  
6           brought forward."

7           The petitioners to Rocky Flats petition  
8           192 have provided ample evidence that records  
9           needed to reconstruct dose were destroyed. We had  
10          a worker who bravely came forward to admit she  
11          actually destroyed medical and dosimetry records.  
12          We had a statement from her supervisor confirming  
13          that she did so under orders. We even submitted  
14          a DOE memo dated April 25th, 1996 directing the  
15          Rocky Flats contractor to stop destroying records.

16          The debate on the Rocky Flats petition  
17          should have ended shortly after this information  
18          was submitted to NIOSH. Sufficient proof has been  
19          submitted that not only was it possible that  
20          records were lost, but that they were intentionally  
21          destroyed. Intentionally destroyed. Instead,  
22          the debate goes on.

23                 Revision 4 of NIOSH's White Paper on

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1 data falsification stated that the records  
2 destroyed were probably area survey records. You  
3 may remember how incensed the worker who came  
4 forward was.

5 During the Work Group meeting on  
6 October 26, NIOSH backed off of that assumption  
7 stating that they had no basis to make such a  
8 statement, but the fact remains that NIOSH did make  
9 the statement. Why?

10 A similar example exists of  
11 misstatements in their White Paper on the Critical  
12 Mass Lab. NIOSH's model assumed that the  
13 experiments lasted an hour and that the power level  
14 was no more than 10 milliwatts. The senior  
15 scientist strongly disagrees with that assumption  
16 as Dr. Kotelchuck mentioned and I'm grateful that  
17 they're taking another look at this.

18 What is really ironic, if I remember the  
19 discussion from years ago correctly, is that during  
20 the first SEC petition, it was NIOSH's position  
21 that no criticality ever occurred at Rocky Flats.  
22 NIOSH was wrong about that.

23 Granted, the experiments performed at

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1 the Critical Mass Lab were controlled, but they  
2 were still criticalities.

3 Another example is that NIOSH  
4 originally stated that there were no near misses  
5 in the lab. The scientist again vehemently  
6 objected to this characterization because there  
7 was indeed a near miss.

8 NIOSH was wrong in their first  
9 Evaluation Report on petition 192 about neptunium  
10 production. They were wrong in the original ER  
11 about the thorium strikes and U-233.

12 Fortunately, NIOSH reversed their  
13 position and concluded that they could not  
14 reconstruct dose for those elements through  
15 December 31st, 1983.

16 As LaVon has just mentioned,  
17 [identifying information redacted] and a couple of  
18 other Rocky Flats stakeholders have also sent  
19 emails concerning this petition and I strongly urge  
20 that the entire Board read these.

21 These stakeholders still object to the  
22 interpretation of their testimony which has so far  
23 been discussed during the Work Group meetings.

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1           In conclusion, the gaseous diffusion  
2 plants were legislated as SEC sites because there  
3 was strong evidence that records were destroyed.

4           The Rocky Flats petitioners have also  
5 supplied strong evidence and indeed documented  
6 proof that records were destroyed at Rocky Flats.  
7 NIOSH cannot affirmatively prove that the records  
8 destroyed were not dosimetry records as the former  
9 worker who actually destroyed the records asserts.

10           It is time for the Board to vote to  
11 include Rocky Flats in the Special Exposure Cohort.  
12 A vote to include Rocky Flats in the SEC will be  
13 consistent with the legislative intent and  
14 application of the law.

15           Thank you very much and I'd be happy to  
16 answer any questions.

17           CHAIRMAN MELIUS: Okay. Thank you,  
18 Terrie, and the emails that you refer to will be  
19 distributed to the Board Members.

20           MS. BARRIE: Thank you.

21           CHAIRMAN MELIUS: Okay. And I believe  
22 there is another person who had wished to make  
23 public comments last night and had trouble with the

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1 phone and wished to make them now. If you're on  
2 the line, if you want to --

3 MS. CARROLL: Hi. Hi. Stephanie  
4 Carroll.

5 I just wanted to make sure there were  
6 no questions for Terrie before I start.

7 CHAIRMAN MELIUS: We're taking  
8 comments. Not --

9 MS. CARROLL: Oh. Okay. Alright. I  
10 am an AR for Rocky Flats claimants and I have  
11 contributed research and documentation to the  
12 petitioners to help pass the 1983 SEC.

13 My position as an AR allows me to review  
14 site exposure records, personal records, medical  
15 documentation and worker first-hand accounts via  
16 interviews.

17 I would like to thank the Board for  
18 allowing me to make comments today and especially  
19 would like to thank the petitioners Terrie Barrie  
20 and [identifying information redacted] for their  
21 dedication to the expansion of the SEC and to Rocky  
22 Flats workers.

23 I have great concerns related to the

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1 validity of TLD data used to reconstruct dose at  
2 Rocky Flats. I intend to describe documents that  
3 I believe prove modification, data falsification  
4 of TLD findings reported to the RHRS electronic  
5 system.

6 On October 13th, 2015, I was on a call  
7 between the CML lead scientist and NIOSH related  
8 to the White Paper on the Critical Mass Lab. He  
9 worked from 1964 to 1995 not until 1986 as was  
10 stated earlier. So, I just wanted to clarify that.

11 NIOSH, during the call, stated that  
12 they depended on personal monitoring data, TLDs,  
13 to reconstruct dose. Specifically the fission and  
14 activation products created in the CML.

15 The lead scientist, during the call,  
16 expressed concern related to the limitations of  
17 external monitoring data and the ability of NIOSH  
18 to reconstruct dose related to the CML. He stated  
19 that it was impossible.

20 I have in my possession monitoring  
21 records for the CML lead scientist that are not  
22 comprehensive and also, an employee working in  
23 Building 886.

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1           The employee working in 886 gave me  
2           copies of two TLD data investigation reports from  
3           his personal files, he had them at home, from 1996  
4           and 1997 that were not found in his DOE file. Were  
5           they destroyed?

6           I reviewed two RHRS generated reports  
7           with handwritten notes before with exposure  
8           documented and after with zero exposure on the  
9           documents. Showing that neutron exposure in both  
10          investigations had ultimately been reported as  
11          zero. This led me to investigate further.

12          I would like to submit the documents  
13          that I believe indicate a falsification of data  
14          used to document exposure to fission and activation  
15          products.

16          The 1996 external dose reconstruction  
17          analysis indicates in the comments "That a data  
18          investigation was initiated because of an apparent  
19          over response of elements 2 and 5. This  
20          reconstruction replaces a dose previously  
21          electronically uploaded."

22          Also in the comments was the statement  
23          "Element 2 and element 5 were elevated above the

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1 other element readings. They appeared abnormal.  
2 The dose should be redetermined after eliminating  
3 the results from the suspect elements."

4 Note, because element 2 and 5 did not  
5 agree with the other elements, they were eliminated  
6 and ultimately recorded as having a zero reading  
7 related to neutron exposure.

8 In regards to the 1997 investigation  
9 with neutron findings of 338 millirem that later  
10 were modified to a calculation of zero, the reason  
11 given for an investigation was noted as findings  
12 above 200 millirem.

13 In the comments related to the  
14 investigation, "Glow curve of element 8 was  
15 abnormal and therefore, the dose will be  
16 recalculated eliminating the neutron dose from  
17 element 8 and we'll use the element 2 calculation  
18 which would include any neutron dose received."

19 Element 8 had a high gross response of  
20 202.9. While element 2 had a gross response of  
21 62.7. Note, element 2 was used to calculate the  
22 neutron dose which ultimately was reported as zero  
23 in the RHRS report.

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1                   Reviewing the final verified  
2 documentation RHRS report from these two  
3 investigations, you will find zero exposure to  
4 neutron dose from October 28th, 1994 until October  
5 7th, 1997 for this worker who was exposed to  
6 neutrons in Building 886. This is not an accurate  
7 representation of the exposure found on his TLD and  
8 makes it impossible to use the TLD documentation  
9 to reconstruct dose.

10                   I am very concerned about the ability  
11 of NIOSH to depend on the data from the TLDs at Rocky  
12 Flats as late as 1997. It is only through my  
13 experience representing claimants with their  
14 EEOICPA claims that I was able to have access to  
15 this documentation.

16                   All claimants should request a complete  
17 copy of their files via fax to the district offices  
18 handling their claims. A FOIA request is not  
19 required. DOE records should be included in the  
20 case file.

21                   Thank you for allowing me to comment and  
22 to present this documentation and I can be reached  
23 at energyhealthone@hotmail.com. Thank you and

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1 please expand the current SEC to 2005.

2 CHAIRMAN MELIUS: Thank you. Board  
3 Members have any further questions or comments at  
4 this point?

5 MEMBER KOTELCHUCK: She is sending in  
6 the documents? She said she will give us the  
7 documents?

8 CHAIRMAN MELIUS: Yes. Yes.

9 MEMBER KOTELCHUCK: And they will  
10 certainly be looked at by the Work Group.

11 MS. CARROLL: Thank you.

12 CHAIRMAN MELIUS: So, any further  
13 actions at this point on Rocky Flats?

14 MEMBER KOTELCHUCK: No.

15 CHAIRMAN MELIUS: Okay. Right on  
16 schedule. I'm impressed. Good. So, we will  
17 break.

18 We will take a break now until 1:30 p.m.  
19 We've completed our Board work and we have the  
20 Kansas City SEC petition to discuss at 1:30.

21 Since that's timed in terms of  
22 petitioners, we need to stick to that schedule.  
23 So, we'll see everyone back here at 1:30.

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1                   (Whereupon, the above-entitled matter  
2 went off the record at 11:01 a.m. and resumed at  
3 1:32 p.m.)

4                   CHAIRMAN MELIUS: So, telephone on and  
5 Ted, do you want to do the check.

6                   MR. KATZ: Yes, let me just check and  
7 see about Board Members on the line. Who we have.

8                   (Roll call.)

9                   CHAIRMAN MELIUS: So, we'll start this  
10 afternoon. This will be our final session for the  
11 day and we'll be talking about the Kansas City SEC  
12 petition and first we'll hear from Pete Darnell  
13 who's been the NIOSH point person on this. Then  
14 we'll hear from Josie Beach who's the Chair of the  
15 Work Group on the SEC evaluation and then we'll give  
16 a time for the Board Members to ask questions on  
17 those presentations and then we will provide an  
18 opportunity for the petitioners to make comments  
19 if they wish to.

20                   So, Pete, go ahead.

21                   MR. DARNELL: Good afternoon. My  
22 name's Peter Darnell. I appreciate the Board  
23 taking the time to hear these presentations.

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1           What I'd like to mention is a look at  
2           the acronyms that we'll be using through the  
3           presentation. That working with this Work Group  
4           has been both challenging and interesting. I've  
5           enjoyed the process very much.

6           To begin with, the Kansas City Special  
7           Exposure Cohort Petition was received on March  
8           12th, 2013. The initial Class that was requested  
9           was all employees who worked at the Bannister  
10          Federal Complex from 1949 through the time of the  
11          petition. The petition qualified for evaluation  
12          July 1st, 2013.

13          The Class that was evaluated by NIOSH  
14          was all employees who worked in the area of the  
15          Kansas City Plant from January 1st, 1949 through  
16          December 31st, 1993.

17          The Kansas City Plant, by the way,  
18          covers 122 acres, 38 different buildings and over  
19          the period of operations, they averaged around 2700  
20          workers a year. Their peak came during the height  
21          of the Cold War and they had 8,000 workers in 1985.

22          On January 7th, 2014, NIOSH completed  
23          its Petition Evaluation Report and we first

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1 presented those findings to the Advisory Board on  
2 January 28th of 2014.

3 And just a quick review of some of the  
4 radiological work that went on at the Kansas City  
5 Plant over time.

6 The first thing, we actually didn't put  
7 the slide and I apologize for that, was that we look  
8 at cesium gap tubes at the Kansas City Plant.  
9 There was a question as to whether they were  
10 manufactured at the plant or not and during the  
11 course of our investigation through the interview  
12 process and records, we found that they were not  
13 made at the Kansas City Plant and that actually  
14 greatly simplified our review.

15 They had natural uranium operations May  
16 1st, 1950 through February 28th, 1955.

17 The post-operations period was March  
18 '55 through August of '59 and again, January of '78  
19 through May of '84.

20 These radiological operations that  
21 we're talking about at the Kansas City Plant, just  
22 to give you kind of an idea of the scope with the  
23 38 different buildings that they had, they had one

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1 huge building where most of these operations took  
2 place. The operations in relation to the size of  
3 the building were very, very small and tightly  
4 located to specific areas of the plant.

5 In 1984 through September of '86, the  
6 uranium areas were D&D by the Rockwell Company.

7 From 1959 through '75, the plant did  
8 work with nickel-63 operations. This was mainly  
9 electroplating.

10 The plant also worked with tritium  
11 water for the building of a detection system from  
12 '59 through '75.

13 They did machine magnesium-thorium  
14 during a couple of different periods and we'll  
15 discuss more about that when we get to the section  
16 on the feasibility of dose reconstruction.

17 Organically-bound tritium was used at  
18 the plant for hi-lo switch plates work from 1963  
19 through '68.

20 So, that's just a quick overview of the  
21 petition of radiological operations at the plant.

22 The Work Group met quite a bit for this  
23 site. Four different meetings from 2014 through

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1 2015. We had Worker Outreach meetings in 2004,  
2 2005 and again in 2009 and we conducted SEC Workshop  
3 meetings in 2008 and 2009. So, we had plenty of  
4 input from the stakeholders and personnel on the  
5 site.

6 The Work Group completed extensive  
7 database internet searches and site visits. We  
8 had over 2,000 individual references added to the  
9 Site Research Database and the Kansas City Plant  
10 records that we received included personal  
11 monitoring, area monitoring, industrial processes  
12 and radiation source materials. The same thing  
13 that you would normally see in record searches.

14 Work Group actions included seven data  
15 capture visits between 2012 and 2015. We  
16 interviewed 56 people. Although, the 56  
17 interviews do include some people that were  
18 interviewed more than once. Some of them several  
19 times.

20 This also includes seven people that we  
21 interviewed during the development of the  
22 Technical Basis Document and these occurred  
23 between December 2012 and 2015.

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1 I'd like to point out that we did a  
2 special interview for the petitioner at the July  
3 2015 Work Group meeting and I believe Josie will  
4 be covering more about that, but we definitely  
5 wanted to give him a chance to have his say in this  
6 process.

7 The original Kansas City ER, or  
8 Evaluation Report, identified 19 issues. A 20th  
9 issue was added after we discovered that there was  
10 work done with tritium.

11 Closed issues, as you can see, there's  
12 4, 5, 6, 7, 8, 11, 12, 14, 15, 16, 17, 18, 19 and  
13 20 have been closed by the Working Group.

14 Four issues moved to the Site Profile  
15 to be completed with a revision to the Technical  
16 Basis Document and those are issues 2, 3, 10 and  
17 13.

18 Issues 1 and 9 which I'm going to be  
19 covering in depth here are pending final action by  
20 the Work Group and deals with the validation and  
21 verification -- sorry, of the database used to  
22 construct the coworker model.

23 Kansas City first created their

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1 electronic database to facilitate their own  
2 dosimetry needs in 2001. They provided extracted  
3 information to us in 2004 and then later the entire  
4 database in 2012. Which included both the  
5 internal and external dosimetry data.

6 In 2006, NIOSH used it to develop a  
7 coworker model and a Site Profile.

8 The ER also uses the coworker model to  
9 bound some doses.

10 The internal and external dosimetry  
11 data includes data from 1950 through 2010. The  
12 database has 15,000 lines -- well, actually, a bit  
13 more than 15,000 lines, that include between one  
14 and five individual dosimetry records.

15 The V&V extracts raw data from NOCTS  
16 records and compares it to this database. One  
17 hundred percent of the NOCTS data was used in the  
18 comparison.

19 Five data entry staff between August  
20 24th and September 30th of this year inputted all  
21 that data and each line was individually peer  
22 reviewed by other people. So, data entry clerk one  
23 put the data in. Then data entry clerk three would

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1 review it. So, there were fresh eyes and there was  
2 a review on every single line of the database V&V.

3 Each record that we used is the sum of  
4 the individual monitoring records throughout a  
5 given year. So, if a worker had six TLD badge  
6 readings, it would be the sum of those six badge  
7 readings.

8 NOCTS contains 223 claims with external  
9 dosimetry data, 95 claims with internal dosimetry  
10 data and the V&V compiles 5,878 lines of data.

11 The V&V compares annual sums of 173  
12 NOCTS records with the database annual totals.  
13 One hundred and sixty-two of those agreed. This  
14 is for the internal V&V.

15 We did have some discrepancies. Nine  
16 instances where we had an actual zero value  
17 recorded in NOCTS or the database and the other one  
18 was blank. In other words, NOCTS would say zero  
19 and the dosimetry card would be blank or vice versa.

20 On one occasion, the database listed a  
21 value of 4.55 micrograms per liter and NOCTS listed  
22 4.5.

23 In one instance, the database listed

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1 9.5 micrograms entered and NOCTS was blank.

2 Ten uranium in urine entries were  
3 unverified. Those U in U entries were unverified  
4 due to legibility.

5 Since the publication of the V&V by  
6 NIOSH, we've actually requested and received the  
7 data from the Kansas City Plant to try to correct  
8 this. It hasn't been put into an updated V&V yet,  
9 but that's on its way.

10 For the external V&V, we compared 1502  
11 NOCTS records with the database annual totals and  
12 1462 or 97 percent agreed.

13 Again, there were some discrepancies  
14 noted. Twenty-seven zero values recorded in NOCTS  
15 or the database and the other was blank. Fifteen  
16 NOCTS records had a value of M and the database was  
17 blank. M meaning below the minimum and 13  
18 discrepancies with a greater than zero millirem  
19 exposure. In other words, there was some dose  
20 recorded on one either NOCTS or the database and  
21 it was different on the other. Twelve exposures  
22 with differences of less than 70 millirem and all  
23 of them fell less than 70 millirem and one was --

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1 one dosimetry record was noted to have a light leak  
2 on the film.

3 NIOSH classified eight additional  
4 entries as unverified due to legibility and again,  
5 as with the other portions of the V&V, we're  
6 requested these data and received them from Kansas  
7 City.

8 In reviewing of the V&V, NIOSH has  
9 determined that the Kansas City Plant accurately  
10 transferred dosimetry information from their raw  
11 exposure records into an electronic format and the  
12 electronic database that we used to develop a  
13 coworker model is sufficiently accurate.

14 NIOSH has determined that the available  
15 monitoring records, process descriptions and  
16 source term data are sufficiently accurate to  
17 complete dose reconstruction. The external dose  
18 is bound by the Technical Basis Document coworker  
19 dose model and depleted uranium operations is  
20 bounded using the ORAUT Technical Basis 31.

21 For each radiological operation that  
22 occurred at the Kansas City Plant, NIOSH reviewed  
23 and came up with a feasibility approach for

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1 performing dose reconstruction. For the natural  
2 uranium from 1950 through 1955, we were using  
3 TBD-6000 methodologies. For the post-operations  
4 period, we were using the maximum gross alpha air  
5 sample 49 picocuries per cubic meter to give us our  
6 bounding calculations. In post-operations from  
7 '78 to '84, we're using DU and D&D operations  
8 maximum surface contaminations in the ORAUT  
9 Technical Information Bulletin 70 to model the  
10 doses. For workers with less exposure potential  
11 than the machine operators, we're using the  
12 descriptions in TBD-6000 to provide a method to  
13 apply dose for those workers.

14 For the D&D operations in '84 through  
15 1986, NIOSH using the Rockwell dosimetry data.  
16 This includes covering waste handlers with  
17 TBD-6000 methodologies when they had exposure  
18 potentials less than the people that were  
19 performing D&D operations. We wanted to ensure  
20 that we captured all workers that had any  
21 possibility of exposed retention.

22 At the Kansas City Plant, workers  
23 assigned to the projects were generally provided

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1 dosimetry, but once the radioactive materials  
2 crossed the boundary, they could have been given  
3 to workers that were unmonitored to transfer to the  
4 waste storage areas. We're capturing those  
5 workers using these different methodologies.

6 Nickel-63 operations, we went through  
7 a calculation to determine the amount of nickel-63  
8 released during the electroplating operation that  
9 was done. It worked out to be less than one  
10 millirem per year and this is not going to be  
11 assigned within the dose reconstructions.

12 For tritium operations using tritiated  
13 water, we assumed the 400 milliliter bottle was  
14 spilled over a work year. That's a bounding  
15 assumption when you consider the tight controls in  
16 value that the Department of Energy places on  
17 tritium. Losing a 400 milliliter bottle of that  
18 would be a large deal to the operations personnel.  
19 Using the ICRP dose conversion factor, we're going  
20 to be assigning 6.66 millirem per year to all  
21 workers.

22 The magnesium-thorium operations, the  
23 example dose reconstructions were completed and

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1 include triple separated thorium. The  
2 methodologies were agreed upon in the Working Group  
3 and the issue was closed pending moving -- well,  
4 not pending. Actually, after moving the process  
5 to finalize the last doses from the example DRs  
6 during TBD updates.

7 Let's see. For magnesium operations,  
8 the bounding limit of  $3E-11$  microcuries per  
9 milliliter is used. We're also using OCAS-TIB-9  
10 for ingestion rates and TBD-6000 methodology for  
11 worker Classes with less exposure than machine  
12 operators.

13 For tritium operations from '63 to '68,  
14 the bounding scenario was assuming that a worker  
15 handling a hi-lo switch plate would have all of that  
16 contamination transferred to skin and absorbed.

17 Using ICRP dose conversion, it works  
18 out to 1.77 millirem per year and that dose is going  
19 to be applied to all workers.

20 So, in summary, sorry. Got to catch my  
21 breath. The SEC petition was received in 2013.  
22 We know that radiological operations went on at the  
23 plant over a period of time. Looked at the

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1 feasibility of performing dose reconstruction for  
2 each of those operations and have determined that  
3 both internal and external dosimetry or, excuse me,  
4 dose is boundable and we can calculate a dose  
5 reconstruction and that's it.

6 CHAIRMAN MELIUS: Okay. Thank you,  
7 Pete. Questions at this point for Pete? Board  
8 Members on the call have any questions?

9 MEMBER ZIEMER: (Unintelligible)

10 MR. KATZ: Paul, your voice was a bit  
11 garbled. Can you repeat what you asked?

12 MEMBER ZIEMER: Yes, I had my  
13 speakerphone on.

14 I just wanted to ask about medical  
15 exposures. It's not mentioned in the summary here  
16 on the slide.

17 MR. DARNELL: I can't understand him.  
18 Medical? Oh, medical exposures are covered under  
19 the Technical Basis Document. They are bounded  
20 within the TBD.

21 MEMBER ZIEMER: Right. I assume their  
22 feasible. You just didn't mention them here.

23 MR. DARNELL: Yes. Oh, I'm sorry. I

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1 didn't think of putting them on the slide.

2 CHAIRMAN MELIUS: Okay. Let's hear  
3 from Josie Beach.

4 MEMBER BEACH: Okay. Good afternoon.

5 I'm going to go ahead and just go  
6 through these first couple of slides. Work Group  
7 Members: Myself, Brad Clawson, Jim Lockey, John  
8 Poston and Loretta, I know I was going to stumble  
9 on her last name, Valerio. Thank you. That's  
10 what happens when nerves get you.

11 Okay. So, this slide you've seen.  
12 We've reported out twice. The last one was March  
13 at the Richland meeting. So, some of these slides,  
14 you're already seen. I've added one technical  
15 call which we did last -- or in November, not too  
16 long ago.

17 So, I've reported out on a couple of  
18 these already. This slide just represents what  
19 was closed and discussed at the last reporting.

20 Okay. I'm going to go ahead and do a  
21 summary of the newly closed issues. I'm going to  
22 try not to repeat what Pete has already talked  
23 about, but if I breeze over something and you have

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1 questions, definitely we can go over those.

2 So, in July, we did have a two-day  
3 meeting. The 16th was reserved for the  
4 petitioners and the 17th, these items were closed  
5 out.

6 Issue 7, radioactive waste, hundreds of  
7 barrels of drums were shipped out of Kansas City  
8 Plant between the '50 -- 1950 and the earlier '70s.  
9 Particularly during the depleted uranium time  
10 period of 1960 to 1972.

11 One of our big questions was how is the  
12 waste handled and who handled the waste. Through  
13 interviews, we learned that unmonitored personnel  
14 handled all the waste. They collected the uranium  
15 and magnesium chips and cutting from the lathe  
16 machines, placed them in drums for later shipment.

17 The Work Group has accepted NIOSH's  
18 recommendation to apply the depleted uranium  
19 coworker model to all unmonitored workers. Those  
20 include the laborers, radwaste handlers and D&D  
21 workers. So, we've closed that item.

22 Most of these become TBD items which  
23 I'll cover in a later slide.

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1            Issue 11 was the neutron-to-photon  
2 ratios issue. I covered this in detail last March.  
3 There was 35 datapoints. If you remember back,  
4 NIOSH was going to use OTIB-24. We agreed that  
5 that wasn't acceptable. So, they went in and  
6 looked at the 35 positive neutron measurements.  
7 The Work Group and SC&A were satisfied with those,  
8 that they were claimant favorable. They used the  
9 three highest values.

10            So, the next issue is the mag-thorium.  
11 This was agreed upon as a TBD issue also. The  
12 reason it stayed open there was a couple of  
13 different scenarios. One, we asked NIOSH to do the  
14 dose reconstruction of -- mag-thorium was one of  
15 those and we wanted to make sure we had those  
16 numbers right. Which Pete went over.

17            Also, there was some operations during  
18 -- there was a time period. There wasn't  
19 operations, but there was a time period between  
20 1963 and 1970 that we were questioning because we  
21 had no information that there was mag-thorium  
22 operations. But, we also had no information that  
23 there wasn't. So, we discussed that and that will

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1       become a TBD issue if something comes up for that  
2       time period.

3                   Thorium operations which was issue 15,  
4       this was held open because of an inventory  
5       basically. So, based on DOE's interview review  
6       listing unalloyed thorium, it did not refer to  
7       thorium, but it was a duplication of mag-thorium.  
8       Once that was addressed, we were able to close that.  
9       Other than the mag-thorium at Kansas City, it was  
10      all laboratory scale and involved gram quantities  
11      with negligible exposure potential.

12                   All right. The next one is issue 16.  
13      This was the natural uranium, 1950 to 1958. We're  
14      going to be using the TBD-6000 for that. I know  
15      Peter hit on that and we discussed that.

16                   Issue 17, D&D activities, that is tied  
17      to issue 7 and that we also accepted NIOSH's  
18      proposal to apply the DU coworker model to all  
19      unmonitored radwaste and D&D workers as I  
20      mentioned.

21                   Issue 18, we kept that open looking for  
22      more records of incidents, fires. We kept going  
23      back and looking and we just didn't find anything.

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1 So, that was closed in July also.

2 And then the tritium issue. You've  
3 heard about that. I'll talk about it in a slide.  
4 It was part of our dose reconstruction that we asked  
5 NIOSH to perform.

6 Okay. So, this is a bit unusual. We  
7 have two open items at this time and the last --  
8 we held the technical call I talked about in  
9 November on the 12th. NIOSH's report came out soon  
10 after that call. SC&A's memo came out the next day  
11 actually.

12 So, for the Work Group Members, I was  
13 hoping to have a few minutes to discuss this open  
14 issue, the issues 1 and 9, the verification and  
15 validation of the electronic database.

16 So, we're going to do that in real time.  
17 I've sent out an email to all the Work Group  
18 Members. Two are not here and I haven't heard back  
19 from them. Hopefully, they're on the phone or at  
20 least Mr. Poston's on the phone now.

21 If not, I guess with the verification,  
22 SC&A has agreed that it -- there's very few errors.  
23 There was about a 4 percent error margin which is

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1 acceptable. Some of those may even be cleared up  
2 with better records from Kansas City.

3 So, I'm going to ask the Work Group  
4 Members if they could let me know or let us -- the  
5 Board know and anybody else that wants to weigh in  
6 on these open issues.

7 As the Chair, I agree to accept SC&A's  
8 recommendation that these issues be closed.  
9 That's where I'm at.

10 Brad, since you're in the room,  
11 anything?

12 MEMBER CLAWSON: Yes. We've run this  
13 to the ground I think. I'm good with it.

14 MEMBER BEACH: Thank you. Loretta,  
15 are you still with us?

16 MEMBER VALERIO: I am, Josie, thank  
17 you. After reviewing the last report after the  
18 conference call on the 12th and seeing what NIOSH  
19 provided and SC&A provided, I think that, you know,  
20 we've come to a close on this. We've looked  
21 everywhere we can for, you know, additional data  
22 and I am in full agreement with the Work Group --  
23 you know, with the rest of the Work Group to close

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1 out these issues, these two issues.

2 MEMBER BEACH: Okay. Thank you,  
3 Loretta. Mr. Poston, are you with us? Yes, I was  
4 hoping since we heard him this morning.

5 Any other Board Members have any  
6 comments or questions for either NIOSH or SC&A on  
7 this issue before we move forward?

8 CHAIRMAN MELIUS: I would just add that  
9 the memo, the November 12th memo, from Pete and the  
10 ORAU staff on this is included in the materials that  
11 were sent out to the Board Members. So.

12 MEMBER BEACH: That's true. Thank  
13 you. I meant to mention that.

14 CHAIRMAN MELIUS: Yes, it's --

15 MEMBER BEACH: Yes.

16 CHAIRMAN MELIUS: -- labeled as KCP  
17 dosimetry. So.

18 MEMBER BEACH: Yes.

19 CHAIRMAN MELIUS: Yes, on that. But,  
20 I don't know.

21 MEMBER BEACH: Okay.

22 CHAIRMAN MELIUS: John, do you have any  
23 -- okay.

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1           MEMBER BEACH: Okay. So, then I will  
2 say that issue is -- those two issues, 1 and 9, which  
3 we consolidated are effectively closed. Okay.

4           So, moving on to summary of TBD issues,  
5 mine are slightly different than Peter's.

6           We have issue 2, worker location, job  
7 category and coworker model. The remaining issue  
8 revolved around implementation of the coworker  
9 model. Not the feasibility. We agreed that it  
10 could be done. Additional information regarding  
11 the adequacy and completeness of the data used for  
12 coworker model and its applicability to various job  
13 categories can be incorporated into the next TBD.

14           Too many words, LaVon. Right? Okay.

15           So, the other one is 3, chronic versus  
16 acute and the radioactive waste and D&D activities.  
17 That's a little different than what Peter had. We  
18 did agree in the Work Group meeting that those would  
19 become Site Profile issues.

20           Ten, non-penetrating doses and the  
21 mag-thorium which we discussed. We did ask to  
22 reserve operations during '63 to '70 in case any  
23 other information comes to light for that time

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1 period.

2           Oops. I didn't move forward. Okay.

3           So, on to the sample dose  
4 reconstructions. We did ask NIOSH to complete  
5 example dose reconstructions. Peter covered  
6 those very well just a few minutes ago. So, the  
7 mag-thorium, the switch plates with tritium, the  
8 tritium monitors.

9           The Work Group looked at the dose  
10 reconstruction and agreed that it could be done  
11 very claimant-favorably. We did have some issues  
12 on using the .19 triple separation. That has been  
13 completed as Peter just reported.

14           So, we were happy with the sample dose  
15 reconstructions on all three of those items.

16           That leaves me to petitioners' issues.  
17 I wanted to cover this. We worked really hard with  
18 the petitioners to satisfy some of the concerns  
19 that they had. Again, there's a lot written down  
20 here. I'm sure you've had time to look at it.

21           Some of the things that we ran down  
22 included whether special nuclear material was used  
23 and it was reported early on by one of the

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1 petitioners that there was a nuclear reactor that  
2 was tested and operated at KCP. What was the  
3 radiological significance of promethium  
4 contamination incident and other known or alleged  
5 incidents involving tritium depleted uranium,  
6 radiography monitoring, health physics historic  
7 monitoring practice at KCP and their adequacy, the  
8 movement of potentially contaminated workers from  
9 contaminated areas into clean areas and the  
10 contribution of nuclear fleas or hot particles?  
11 These are some of things that the petitioners  
12 brought up.

13 We conducted numerous interviews with  
14 petitioners. We conducted follow-up information  
15 submitted to NIOSH for review. We asked for  
16 specific responses, got those back to the  
17 petitioners and the Work Group Members.

18 The follow-up with the petitioners, we  
19 followed up on many issues, provided discussion  
20 periods as I talked about earlier in July to go over  
21 technical concerns, specific responses.

22 We also conducted follow-up interviews  
23 late in the game. I would say in October. Looking

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1 for more instances and we had a couple of names that  
2 we hadn't got to earlier. So, we conducted those  
3 interviews regarding specific allegations  
4 concerning radioactive exposure incidents at  
5 Kansas City. There was -- no corroboration was  
6 found at all.

7 We also concluded that all -- the Work  
8 Group concluded that all petitioner issues raised  
9 were either already addressed within the 20 SEC  
10 Matrix items or were not SEC relative or they could  
11 not be substantiated through the extensive  
12 interview or records review to date.

13 And I keep forgetting to move forward.  
14 Sorry about that for those of you on the phone.

15 That brings us to Work Group  
16 recommendations. The first two bullets basically  
17 cover the open issues that I talked about 1 and 9  
18 which we've just resolved and the remaining concern  
19 on the example dose reconstruction which has been  
20 satisfied.

21 So, with the completion of those  
22 actions, the Work Group does recommend to the full  
23 Board closure with conclusion that the dose

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1 reconstruction feasible as specified by NIOSH's  
2 Evaluation Report.

3 So, we recommend to accept NIOSH's  
4 report. Any --

5 CHAIRMAN MELIUS: Any questions for  
6 Josie? Yes, Henry.

7 MEMBER ANDERSON: Yes. I saw that  
8 there's a coworker model. I'm sorry. Did you  
9 review the DU coworker model issues and are those  
10 coworkers at Kansas City or is it the broader frame  
11 work?

12 MEMBER BEACH: I'm going to either Joe  
13 or Pete catch that. We're using TBD-6000. We're  
14 using 70 and anything else you want to add to that?

15 MR. FITZGERALD: Yes, this is Joe  
16 Fitzgerald.

17 Yes, we did look at the coworker model.  
18 We looked at the TBD-6000 applications of the  
19 coworker model in terms of the uranium.

20 So, there was at Kansas City  
21 considerable amount of uranium bioassay data. So,  
22 the data wasn't issue. But, certainly the  
23 treatment of that data in the model was fine.

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1 MEMBER ANDERSON: Okay.

2 MR. FITZGERALD: And so, our focus is  
3 more, you know, to what extent that should be  
4 extended to other workers that may have been  
5 exposed to uranium and you heard some of that today.

6 MEMBER ANDERSON: Yes. Okay.  
7 Thanks.

8 CHAIRMAN MELIUS: Thank you. Any  
9 other Board Members with questions at this point?  
10 Any Board Members on the telephone with questions?

11 MEMBER ZIEMER: None here.

12 CHAIRMAN MELIUS: Okay. Okay. Thank  
13 you. Are the petitioners on the line and wish to  
14 make comments?

15 MR. KNOX: Can you hear me?

16 CHAIRMAN MELIUS: Yes, I can.  
17 Please --

18 MR. KNOX: This is Wayne Knox.

19 CHAIRMAN MELIUS: Okay.

20 MR. KNOX: And I'm going to patently  
21 disagree with many of the statements.

22 MR. KATZ: Wayne, excuse me. Sorry to  
23 interrupt. This is Ted. But, if you could just

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1       either -- the volume is very low on your phone. I  
2       wonder if you can't either speak more closely into  
3       your phone. Perhaps that would help.

4                   MR. KNOX: How is that?

5                   MR. KATZ: That's better. Thank you,  
6       Wayne.

7                   MR. KNOX: I patently disagree with  
8       many of the statements made by the Group. I have  
9       not been allowed to fully express myself concerning  
10      obviously false statements that were made.

11                   I sat there with documents in my hand  
12      that indicate that these are average contamination  
13      levels. But, yet, they still -- NIOSH says well,  
14      this is the worst-case situation and I said wait.  
15      Hold it. There's no way the average of anything  
16      can be the worst-case situation.

17                   They will say that everything was  
18      controlled within the work area. But, we have  
19      contamination found in the homes of workers.

20                   The reports I gave them indicated there  
21      was 2 million counts per minute of promethium 147  
22      or other radioactive material found in the home of  
23      a lady on a brochure. It was found on her toilet

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1 and on her pillow.

2 But, yet, they still -- they say that  
3 it was confined. They say that a particle of  
4 promethium-147 -- that's 13 mics which they found  
5 was the maximum they found, but they said well, that  
6 was the maximum available. It is not true.

7 But, even if you were to do the dose  
8 analysis for the inhalation dose particles, you  
9 would have significant radiation doses to many  
10 organs of the body and it's just the skin dose.

11 They say that only promethium-147 was  
12 leaking, but then you look at the reports and no,  
13 there were many other radioactive materials that  
14 were found leaking.

15 You must keep in mind that this facility  
16 was classified as a non-nuclear facility. We  
17 don't have radioactive material here. But, that's  
18 not true. Radioactive material was found outside  
19 as I said in the homes, outside of the building.

20 If you look at the DOL Site Exposure  
21 Matrix, it contained a lot of radioactive material  
22 that workers were working with and the DOL,  
23 Department of Labor, Site Exposure Matrix was based

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1 upon a group of people going to the site, looking  
2 in records and digging out all of the toxic  
3 substances that were used, stored or recorded and  
4 they came up with the Site Exposure Matrix which  
5 was probative. That is whatever is in the Site  
6 Exposure Matrix was supposed to have been accepted  
7 as fact.

8           However, the Working Group meeting  
9 disagreed with that and I presented the Working  
10 Group meeting with a number of labor categories,  
11 a number of places where radioactive material was  
12 used and a number of processes in which it was used  
13 and guess what happened? Magically, all of this  
14 information was deleted from the DOL Site Exposure  
15 Matrix. I consider that destruction of evidence.

16           Why would they go in and have it  
17 deleted? Why were they using uranium, powdered  
18 uranium in this facility?

19           If you look at the records, they had  
20 yellowcake. Why would a facility that was making  
21 widgets and non-nuclear have yellowcake.

22           You look at the wet chemistry there.  
23 It looks like they were preparing -- making some

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1 type of fuel there.

2 As far as the reactor development,  
3 everything I looked at points toward the fact that  
4 they were developing and testing small reactors  
5 there and that reactor went to the University of  
6 Kansas Burt Hall. If you follow the line, you had  
7 fuel that was shipped to Bendix from St. Louis and  
8 why would they ship the fuel from St. Louis? We  
9 have discussed this and no one is willing to give  
10 me a license that said that it was developed in  
11 Detroit.

12 Now, I'm told that Detroit -- the  
13 Detroit Honeywell Plant actually developed and  
14 tested a nuclear reactor. No one is willing to put  
15 that in writing though. Tell me, tell this Board  
16 that in the city of Detroit a nuclear reactor was  
17 developed and tested by Honeywell Bendix.

18 I have helped put together a small TRIGA  
19 reactor. It wasn't just putting it together. We  
20 had licenses. We had a lot of procedures. Where  
21 are those procedures then that say that this  
22 reactor was developed in the city of Detroit?

23 Is anyone willing to testify that a

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1 nuclear reactor was developed and tested in the  
2 city of Detroit? No one. They will not provide  
3 me any documentation to support it.

4 But I have provided them documentation  
5 which suggests that it was done right there at the  
6 Kansas City Plant. They had all of the facilities  
7 available to do it and plus, it was being built by  
8 the University of Kansas. It was installed in Burt  
9 Hall in the University of Kansas.

10 Let's see the contract between the  
11 University of Kansas and AEC and Bendix. Those  
12 three were involved in this. Show me the contract.  
13 They won't show me the contract.

14 There are many things that they will not  
15 show me and I would submit that my security  
16 clearances out-trump any of them. I've had the  
17 highest levels of security clearances in DOE, the  
18 Nuclear Regulatory Commission and Department of  
19 Defense. I was Top Secret Control Officer. I had  
20 special access authorizations and yet, we can't  
21 show you this information.

22 To say that we used TBD-6000 is not  
23 true. I can show you, if anyone wishes to see, the

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1 data. I can show you that TBD-6000 has not been  
2 used in evaluating the worker exposures.

3 Tell me where I can meet some  
4 non-Working Group Member of the Board. I will pay  
5 all of the expenses and meet you anywhere and I can  
6 show you where this is a bunch of crap.

7 I was not allowed to speak at these  
8 meetings when NIOSH was patently misrepresenting  
9 data and information and the Board Members just  
10 nodded when it was patently wrong.

11 How can the average be the maximum?  
12 How can we do a radiation survey and find a particle  
13 of promethium that's 13 mics and say well, that's  
14 the maximum available?

15 No, you're supposed to use the  
16 worst-case situation and you can use student  
17 statistics to come up with a 99 percent competence  
18 level, but don't say it is. Don't say that  
19 everything was confined to this footprint when we  
20 found contamination outside of the Kansas City  
21 Plant in the GSA side.

22 Material from that plant that was  
23 contaminated was found all the way in New Mexico.

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1 It contaminated -- potentially contaminated  
2 material from that plant was shipped to Amersham,  
3 England.

4 And if you take a look at it, and I have  
5 operated health physics programs, if you look at  
6 a 3 million square foot facility, just one, one,  
7 one of those buildings, 3 million square feet, and  
8 you look at the number of radiation detectors, they  
9 had two of this and one of that.

10 You cannot operate any kind of facility  
11 with two instruments. You have one in repair.  
12 You get one crapped up. What are you going to do?  
13 You cannot do these operations and you have the  
14 uranium there.

15 If you look at -- based upon DOL Site  
16 Exposure Matrix, you had U-233. That was part of  
17 that uranium cycle and it was a part of the old  
18 teapot bomb that was built and tested here. That  
19 was part of the uranium cycle.

20 That stuff would build up high gammas  
21 and that's not even considered even though it was  
22 stated in the Site Exposure Matrix that it was  
23 there.

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1           It just bothers me that such a group  
2 focuses on paperwork and not the reality. The  
3 reality of what happened has to be considered and  
4 not what they said on paper.

5           So, my main objective, number one, is  
6 -- in addition to this, is the Dotty Coxwell event.  
7 No one wants to talk about a cobalt-60 source that  
8 was left open. How long? We don't know. But, we  
9 know the lady, Dotty Coxwell, ended up with  
10 cataracts in both eyes. Her blood vessels broke,  
11 burst. You understand? Blood vessels burst from  
12 radiation exposure and yet, huh, no big deal.

13           And you had people that worked on the  
14 roof. Can you imagine the exposure? It's a  
15 threshold for cataract formation. It's about 200  
16 -- 150 to 200 rem dose to the eye. So, she got more  
17 than that to the eye. What happened to these  
18 people who were on the roof?

19           What happened to skyshine? Anytime  
20 you have a large radiation source like that and you  
21 get the clouds coming over, you're going to have  
22 it bouncing off of the clouds and going over that  
23 whole facility and you had short walls. Based upon

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1 my discussions with workers, all this radiation  
2 would bounce over the short walls.

3 You had all of these radiation  
4 generating machines and you had no -- you had no  
5 one trained in health physics. All of them -- all  
6 of them were in industrial hygienists because it  
7 was not defined as a radiological facility.

8 In my opinion, the report is not worth  
9 a hill of beans. It's false. It misrepresents  
10 the exposure and in my opinion, it's done to cover  
11 up the fact that corporate America was using  
12 government facilities and a disposable group of  
13 workers. Primarily, if you look at the records,  
14 primarily, women, minorities and the craftsmen  
15 took it in the shorts.

16 They were exposed highly to radioactive  
17 materials, toxic chemicals while Bendix worked  
18 under the cover of a hold harmless indemnification.  
19 Bendix was provided a hold harmless  
20 indemnification for building the atomic bomb.

21 But, they have all of these government  
22 facilities. They were on a special committee.  
23 Bendix was on a special committee to find ways of

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1 increasing the use of radioisotopes.

2 CHAIRMAN MELIUS: Mr. Knox, I think you  
3 need to wrap up shortly please.

4 MR. KNOX: Okay. The bottom line is  
5 no, I have not been given the opportunity to fully  
6 voice myself. When I tried, they played games with  
7 that.

8 The other big issue is the designation  
9 of the Kansas City part of the 3 million square foot  
10 facility that had a common ventilation system.  
11 People moved in and out of these areas all the time.  
12 Workers from GSA actually went into the Kansas City  
13 Plant space and performed work on contaminated  
14 components and brought the tools right back out of  
15 that space.

16 The whole facility was contaminated and  
17 by law, the facility, a DOE facility, is the  
18 facility and its surrounding grounds. How can  
19 half of a facility not be on the same grounds as  
20 the other half of the facility?

21 But, yet, we're denying coverage to all  
22 of those workers that actually performed work on  
23 the Kansas City side under a contract. That was

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1 a contract between GSA and the Kansas City Plant.  
2 They came in and provided work for them. So, all  
3 of those workers should be covered.

4 There are many more issues out there.  
5 I would like to sit down with somebody and just show  
6 you the paperwork I have because I have not been  
7 permitted to demonstrate. Regardless of what  
8 Josie says, no, I have not been permitted to say  
9 and show what really happened at that facility.

10 If anyone wants to call me and I will  
11 meet them anywhere and just show them.

12 CHAIRMAN MELIUS: Okay.

13 MR. KNOX: Thank you.

14 CHAIRMAN MELIUS: Thank you very much,  
15 Mr. Knox.

16 Is there any other petitioners that  
17 wish to make comments? Okay. Thank you.

18 So, any other questions from Board  
19 Members?

20 I think we have a motion from the Work  
21 Group basically to accept the NIOSH recommendation  
22 that the evaluation -- that doses can be  
23 reconstructed at the site. Essentially, they

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1 would not be -- this group would not be added to  
2 the Special Exposure Cohort.

3 So, any further comments or questions?  
4 If not, then, Ted, want to go ahead and do the --

5 MR. KATZ: Yes, sir. Dr. Anderson.

6 MEMBER ANDERSON: Yes.

7 MR. KATZ: Ms. Beach.

8 MEMBER BEACH: Yes.

9 MR. KATZ: Mr. Clawson.

10 MEMBER CLAWSON: Yes.

11 MR. KATZ: Dr. Field.

12 MEMBER FIELD: Yes.

13 MR. KATZ: Dr. Kotelchuck.

14 MEMBER KOTELCHUCK: Yes.

15 MR. KATZ: I will collect votes from  
16 Dr. Lemen and Lockey because they're absent. Dr.  
17 Melius.

18 CHAIRMAN MELIUS: Yes.

19 MR. KATZ: Ms. Munn.

20 MEMBER MUNN: Yes.

21 MR. KATZ: Dr. Poston, are you on the  
22 line? John Poston? Okay. Absent. I will  
23 collect his vote. Dr. Richardson is also absent.

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1 Dr. Roessler.

2 MEMBER ROESSLER: Yes.

3 MR. KATZ: Mr. Schofield.

4 MEMBER SCHOFIELD: Yes.

5 MR. KATZ: MS. Valerio.

6 MEMBER VALERIO: Yes.

7 MR. KATZ: And Dr. Ziemer.

8 MEMBER ZIEMER: Yes.

9 MR. KATZ: Okay. The motion passes.

10 I'll collect the additional votes following this  
11 meeting.

12 CHAIRMAN MELIUS: Okay. And I would  
13 like to just acknowledge somewhat contrary to what  
14 we've heard, I think the Work Group and NIOSH made  
15 substantial efforts to reach out and give  
16 opportunity for people from the facility to provide  
17 information and provide comments on the work as  
18 they went along and I think the Work Group did an  
19 excellent job as well as with NIOSH and SC&A in  
20 evaluating this particular petition and petition  
21 evaluation and addressing issues at the facility.

22 So, Josie, you and your fellow Work  
23 Group Members, we know it wasn't all the Chair.

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1 So.

2 MEMBER BEACH: No, it wasn't. So, let  
3 me add, too. We're not finished here. We've  
4 already tasked SC&A to work on the TBD Site Profile  
5 issues. So, we'll be moving forward with those.

6 CHAIRMAN MELIUS: Okay. Any other  
7 business for the Board meeting at this point in  
8 time?

9 Okay. Thank you. I think we can be  
10 adjourned.

11 (Whereupon, the above-entitled matter  
12 went off the record at 2:31 p.m.)