THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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CENTERS FOR DISEASE CONTROL AND PREVENTION
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ADVISORY BOARD ON

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ABRWH BOARD MEETING

The verbatim transcript of the Meeting of the Advisory Board on Radiation and Worker Health held at the Marriott Metro Center, Washington, D.C., on June 15, 2006.

C O N T E N T S

June 15, 2006

TRANSCRIPT LEGEND

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P R O C E E D I N G S

(8:30 a.m.)

WELCOME AND OPENING COMMENTS
DR. PAUL ZIEMER, CHAIR

DR. ZIEMER: Good morning, everyone. We begin our second day of the 38th meeting of the Advisory Board on Radiation and Worker Health. Again I begin with my usual reminders, to ask you to register your attendance -- oh, that reminds me; I forgot to do that this morning -- register your attendance in the registration book out in the hall.

Also, if you're a member of the public and wish to address the assembly during the public comment session later today, please sign up in the book in the hallway, as well.

Again I'll remind you that copies of the agenda and other pertinent documents are on the table in the back of the room.

Let me stop a moment and ask Dr. Wade if he has any additional comments before we address the agenda items.

DR. WADE: Two briefly. One, welcome again, and I always thank the Board for its -- its

hard work.

This morning we're going to start with the Ames SEC petition. What's interesting about that and worthy of note, I think, is this will be the first petition that will come before the Board where SC&A has been aggressively involved in terms of looking into the issues. And again, one of the things we've tried to do -- or this Board has tried to do is make all the processes open and -- and make the debate rich and full and open, so I think it's significant that now we've brought that to the SEC arena and this will really be the first formal one that will play out that way.

AMES SEC PETITION:

DR. ZIEMER: Thank you very much, and in connection with the Ames petition we're going to begin with the NIOSH presentation, then we'll go to comments from the petitioners. Then there will be a working group report and then we'll have open Board discussion.

And let me also ask, before we get into the presentations, in addition to those here in the assembly representing Ames, are there any of the petitioners on the telephone or will there

be any additional ones on the telephone?

UNIDENTIFIED: Not to my knowledge.

DR. ZIEMER: Not to your knowledge. Okay. Thank you.

NIOSH PRESENTATION, DR. JAMES NETON, NIOSH

Then let's begin with the NIOSH presentation. Dr. Neton from NIOSH will give us the NIOSH evaluation report of the Ames SEC petition.

DR. NETON: Thank you, Dr. Ziemer. Good morning, everyone. I'm pleased to present, as Dr. Ziemer said, our -- NIOSH's evaluation of the petition SEC-00038, which was on behalf of -- a petition on behalf of Ames Laboratory. I might say that in this role that NIOSH has in evaluating sufficient accuracy for the SEC process, oftentimes there's a lot of room for valid scientific debate as to whether we can do a dose reconstruction with sufficient accuracy. And I -- I hope that you mind find out before I finish my presentation that we have a pretty bright line here and a very compelling basis for our -- our decision that we made on this particular petition.

Just a little bit about the background and petition-related activities, we received the

petition on June 29th, 2005. It was qualified for -- as a petition on September 23rd, 2005. That is, it met the requirements that are -- are in the SEC rule, part 82.7 through 82.9. It had to meet certain criteria, like the petitioner had to be an eligible petitioner and there had to be some supporting basis -- supported by affidavits as to why we couldn't do dose reconstructions with sufficient accuracy, and that was met on the 23rd.

NIOSH issued our evaluation report on April -- I think the report is dated April 9th, but it was distributed on April 10th, 2006. It was distributed to the Advisory Board and the petitioners, and also posted on our web site, as our normal practice.

As Dr. Wade mentioned at the beginning of the session, SC&A was tasked with performing a review of this -- it really wasn't the petition, it was the evaluation report of the petition. In some sense that took them back through looking at the petition itself. I think it was originally scheduled to be a full review and -- and at the end it was transformed into a -- into a focused review by SC&A.

The working group chaired by Dr. Melius held a teleconference on April 12th, 2006 to discuss the report. There's a detailed, 55-page transcript of this teleconference out -- posted on our web site. And SC&A at that time had not yet quite finished their evaluation of our petition. They had some initial input and some findings, and we discussed those.

Subsequent to that meeting, on June 5th, SC&A issued their draft review of the evaluation report, and I believe that will be discussed by Dr. Melius later on in the session.

I will say that there's quite a bit of documentation out there now. There's the evaluation report, plus SC&A's review. Those have been made available to the Board. They've been on our web site for a little while. So I'm really just going to try to hit the highlights, and then address any questions you might have on this -- on this petition.

The original proposed class, as indicated in the petition -- Petition 38 -- was sort of a broad -- a broad scope of work categories, there's seven work categories that were listed in the petition, that -- you know, we're clear

they were trying to attempt to capture all possible people who were involved in exposures in these operations, ranging from the academic types who were working on this, the production workers and down to the administrative support staff in a petition for people who worked at the Ames Laboratory, and they listed a few buildings. These were Annex 1, and the followed by the old women's gymnasium and -- I'm not sure how you pronounce this, but I'll pronounce it -- "Little Alkeny" (sic), I believe.

MS. MUNN: Ankeny.

DR. NETON: Is that correct, Alkeny?

MS. MUNN: Ankeny.

DR. NETON: Ankeny, I'm sorry. I was thinking of alchemy.

MS. MUNN: No, Ankeny.

DR. NETON: Little Ankeny. This -- these are actually the same buildings. Annex 1 -- these are pseudonyms for Annex 1 -- the old women's gymnasium and Little Ankeny. Also the chemistry building and/or Wilhelm Hall, which is also known as the metallurgical building. And the petition asked for the class to be

added from January 1st, 1942 through December 31st, 1955. So on that basis, we proceeded to do our evaluation.

As usual, we took a look at our NIOSH OCAS Claims Tracking System to see what we had in our archives for cases that had been filed, and there were 36 cases in NOCTS. This is actually -- I should have a date on here. This is actually as of March when this was -- NOCTS was polled for this information, so -- I don't think it's substantially changed since then, but -- there were 36 cases that met the original class definition. That means people who had worked in that period at the Ames Laboratory. And NIOSH had indicated in the database that we completed two dose reconstructions.

I looked through the individual dose reconstructions that were published in NOCTS -- in our database -- and actually one of the two dose reconstructions was compensable, but only based on employment at another facility. So in other words, the Ames exposure did not have to be considered to make a determination in that case. And the other case was compensable

solely based on a calculation of missed dose. That is, the person was monitored for external exposure, and the dose that could have been received and not recorded by the dosimeters themselves added up to a sufficient dose to make that case over 50 percent. I think in this particular case there may have been multiple cancers involved, which does lower the required dose for compensability.

And these last two items, there's almost no monitoring data available in the NOCTS case files. We had two cases that had internal dosimetry -- that is bioassay monitoring records -- and there were four cases which contained some type of external monitoring results. Not much information in NOCTS.

I'd just like to take a step back and talk a little bit about what -- what is Ames Laboratory, for some background reference information. It's really a what's been called in the past a GOCO, a Government-Owned Contractor-Operated, laboratory, started in 1942 and exists today. It is still in existence as a DOE facility. In 1942 it started based on the need for the Atomic Energy

Commission to develop purified uranium metal. And as an academic institution that specialized in metallurgical processes, Ames was selected to do some of the initial work.

And in fact Ames developed the initial process for purifying uranium metal that is still in existence today. That is, they would take uranium tetrafluoride and reduce it, in the presence of originally calcium -- it later turned into magnesium -- into uranium metal, and then you either get a calcium fluoride or magnesium fluoride slag. And uranium, being dense, would go to the bottom and you'd have this big chunk of uranium metal that one could -- could work with.

They started very early on in '42, initially made a couple of pounds of material. By 1945 when the process was completed, they had made over 2 million pounds of uranium metal, 1,000 tons. This was all done in some fairly small facilities. So for all practical purposes, the Ames Laboratory was essentially a uranium foundry for a period of time.

They were also involved not only in the uranium metal production but the casting of uranium.

That is, they took these what they called biscuits and melted them in a vacuum induction furnace to form them into various -- you know, to melt it and then form it into various compounds of uranium.

And there were also scrap recovery operations. Uranium was a pretty valuable commodity back then, so the scrap uranium from the turnings and shavings and whatever were formed into little briquettes, like one inch by four inch briquettes, again put into the casting process, melted and formed into various shapes in the Laboratory.

This was all done starting in the chemistry building. The need arose to have a bigger facility. It moved into this Little Ankeny, the Annex 1, which was a pretty modest-looking structure -- there's a picture of it in the SC&A report -- that was converted for this use. It was never intended for this thing to be a -- a production scale operation it ended up being, so there was very little ventilation (unintelligible) that type of thing.

Thorium metal production followed. It started in the 1943 time frame and continued on -- I

mentioned the uranium stopped in '45. The thorium production started in '43 and continued through 1954. The chemical process of making thorium is very similar to that of uranium. You start with uranium tetrafl-- thorium tetrafluoride and reduce it, in the presence of -- I think they were using calcium and then added some zinc later, but essentially you end up with purified uranium -- thorium metal in -- in sort of a slag, which is a calcium fluoride slag or a zinc calcium fluoride slag. So a lot of uranium -- thorium was made during this time period. I think at the end of the day 160,000 pounds of -- or thorium were produced in this laboratory over -- over the operation of the facility.

So essentially you have a metal and a thorium foundry going on here, with casting and scrap recovery operations. But then also Ames did a fair number of studies of the metallurgical properties of uranium, thorium and plutonium. This was an academic institution. They were evaluating the processes involved, the chemical separation techniques, all that sort of thing, as well as this plutonium operations, which we

don't have a lot of information on other than there was research done with plutonium. They had a hot canyon established in what was known as the research building at one point. They had up to five curies of fission products with plutonium contamination in one location and were doing some separation activities, but that's about all we know about the plutonium operations.

And then there was a development of analytical procedures ongoing, which would develop new chemistry techniques, processes, a lot of fission -- fission product chemistry going on and -- you know, basic fundamental metallurgic-type research practices.

So essentially you have a large operation here with a potential for generating significant quantities of airborne thorium and uranium, and the concomitant exposure related to the external dosimetry from thorium, which does deliver a fairly high dose per unit mass of material.

Okay. We looked at the available sources of information, as always, and I've listed on this slide the various types of information that

NIOSH had available to -- to try to flesh out what the exposures may have been at this facility during this time period. There is no site profile for Ames, so that wasn't available for us. But there are some Technical Information Bulletins that NIOSH has published that are sort of complex-wide documents that help to define plausible upper bounds for -- for uranium facilities, looking at things like alpha end reactions for uranium metal to see what the potential neutron exposures were. There were four Technical Information Bulletins that were reviewed to see if they were potentially applicable to dose reconstructions at this facility.

Also there were interviews with Ames staff members. NIOSH interviewed a health physicist that was at the Ames facility, as well as a site visit discussing operations with nine employees at the facility. From those interviews NIOSH determined that there -- there obviously were significant exposures, and they were more confirmatory as to what we developed in -- what we learned from our site research database as to what the operations were, that

sort of thing. They did actually give us a trail on looking in a few locations for records, such as the Atlanta Records Centers where we did find some information.

As I mentioned earlier, we looked at the case files in the database. That is, you know, what -- what information came over from Department of Labor that might help us do these dose reconstructions. And as I indicated previously, there's not much there, very limited dosimetry information that came in with the cases.

Also the NIOSH site research database -- we've gone out, as you know, and do collections of data around the sites at various -- around the country at various records repositories, looked in site database, and I think we had collectively about 20 documents in the database that were relevant to Ames, ranging from, you know, journal article publications to a Ph.D. dissertation discussing Ames, those type of things.

Ames Laboratory web site, there's a web site out there that has Ames Laboratory information from the former workers program, gives

histories and those type of things, and we did learn some information about processes.

The ORISE Center for Epidemiological Research database, also known as the CER database, was looked -- was examined and I think we found 104 medical records for folks who had been monitored for medical purposes at the Ames Laboratory.

And last but not least, the documentation affidavits provided by the petitioners themselves. There were -- there was the petition, of course, followed -- I think there were three additional documents that were provided that we looked at, as well as an affidavit signed by -- signed by one of the petitioners that indicated that there was no monitoring records, or very spotty monitoring records, except for small subsets for a limited time period -- which essentially we were able to confirm, looking through the database.

Okay, so what -- what type of dosimetry information do we have available here. Not a lot. The external dosimetry records -- prior to 1953 there's nothing, with the exception of two film badge results. And those two film

badge results are questionable in themselves. They are somewhat experimental in nature, extremely high readings, not really sure what process they were associated with, so not -- not useful.

In '53 and '54 you start to see the rudiments of what we would consider to be a basic health physics monitoring program. You start to see a large number of workers being monitored -- 166 in 1953, with over 3,000 readings available. In '54 again it increased, 190 workers with about 7,800 readings. So you know, we're starting to get a sense for what was going on here. Of course this is when thorium was -- was being processed, and as I'll discuss later, there were some real concerns by the Health and Safety Laboratory at that time that these practices were us-- the work practices for processing the thorium were less than -- certainly less than desirable, and that's a real understatement.

For these two time periods we have a mixture of both beta and gamma results, and so we think in '53 and '56 time frame we have a pretty good handle on what the potential exposures were for

the workers. But prior to that, we really don't.

There's minimal neutron monitoring. In '53 and '54 there were a few neutron measurements taken. I will say that the potential for neutron exposure is not that great from -- there's a potential, but the magnitude of the exposures from a uranium facility are not that large. You do get some -- some small neutrons. But again, they were working with plutonium at one point, and to what extent the plutonium's -- plutonium research was generating neutrons and exposing the workers is unknown to us at this time. So very little in the area of neutron -- or external dosimetry, with the exception of '53 and '54.

The picture in the internal dosimetry arena is somewhat similar, not much going on. Before 1946 there were blood chemistry measurements made, but they were really more to look for medical effects of exposures to uranium compounds. For example, I think they measured albumin in blood to -- to look for evidence of kidney damage. That's kind of a standard technique. But those are not useful for us in

reconstructing doses other than if -- if the kidney -- kidney function was impaired, we could certainly say that there were large exposures.

Thirty-four urine samples in 1944 were taken, I think by the Army Corps, so we have a few samples in here. And then there was a uranium excretion study in the AEC complex that looked at three different sites between 1943 and '45. Ames was one of those sites. And in fact 48 Ames workers participated in this study where their exposures were grouped into one of four categories -- category 1, 2, 3, 4 -- category 1 being the highest, and they were attempting to determine what the potential magnitude of these exposures were. My recollection is that they were -- there were some fairly large -- by today's standards, fairly large recorded results. You were talking maybe 200 to 300 micrograms at the upper range -- micrograms per liter of uranium, which is pretty significant exposures at that time. And there's no thorium bioassay prior to 1952 at all. Again, they started working with thorium in '42. We have no indication of what these workers were

exposed to prior to '52.
And no evidence of any routine air monitoring program. There are spotty indications of some monitoring. For example, there are 22 general area samples taken in 1943 for uranium operations. And not shown on this slide -- I inadvertently left it off -- was a 1952 campaign to look at the thorium processes by the Health and Safety Laboratory, now called -- well, it was then called the Health and Safety Laboratory, became the Environmental Measurements Laboratory. It was an AEC laboratory that came out to the site and did a two or three-day sort of intensive investigation of what the exposures were in these thorium operations. And they documented some pretty significant exposures. I think the largest time-weighted air concentration was 3,100 dpm per cubic meter. If one recognizes that the limit at that time was sort of de facto 70 dpm per cubic meter, you have some fairly significant exposures.
But again, this was one campaign, a one-shot deal. How informative that is for all operations during this period is really not

clear to us.
So, given all that information -- you know, we're tasked with doing an evaluation of can we do these dose reconstructions with sufficient accuracy, and so we have, as you've seen many times before, this two-pronged test. Can we do them with sufficient accuracy; and if not, is there reasonable likelihood that their health may have been endangered for members of this class.
Well, we've come to the determination that the available monitoring records and process descriptions are insufficient to complete dose reconstructions. We just don't have enough data. The monitoring information are spotty. Source term information are not well known. So between those lacks of -- two -- two major classes of information are not available to us, particularly in the area of thorium exposures, 'cause thorium exposures -- when thorium is present, there is also thoron gas present, radon 220 that was there in fairly significant quantities. That EML -- HASL measurements that I mentioned in '52 did some rudimentary thoron measurements. It's not clear to me how valid

they are based on the technique they used, but suffice it to say that there were indications of very large thoron exposures. And again, we really don't have any clue as to what was going on with these plutonium exposures.

So it is our overall conclusion that we can't do dose reconstructions in this time period with sufficient accuracy.

As far as the health endangerment issue goes, we -- we looked at the evidence and it indicates that workers in the class may have received episodic internal/external exposures from working with these compounds -- thorium, plutonium and -- and thoron. These exposures were -- were from internal exposures. That is, breathing the amount of thorium in the air. As such, these doses are delivered over a -- an integrated period of time. One will receive an exposure from thoron well over a 50-year period once you inhale it. So they did not meet the litmus test that's in our regulation, we believe, of an exposure that was equivalent to -- a discrete event equivalent to the exposure that would result -- result in a criticality accident.

So for that reason, the default 250-day requirement was selected -- or was used in this case for the employment duration required for the members of the class. And I've -- I've summarized here what the proposed class definition is now, based on our analysis. And rather than have the listing of the seven different categories of workers now, we're saying that employees of the DOE or DOE contractors who were monitored, or should have been monitored, at the Ames Laboratory. So this will be inclusive of anyone who was working in those buildings that we list following, and there's five separate buildings -- chemistry annex 1, chemistry annex 2, the chemistry building, research building and the metallurgical building. If they -- if you worked in any of those buildings for at least 250 days from January 1st, '42 through December 31st, '54, you're included in the class now in our proposed definition.

I will say that this end date of December 31st, '54 is one year earlier than the proposed definition by the petitioner. And we based that on the fact that operations ceased in 1954

for both the uranium and the thorium activities. That is when the production quantities were no longer being -- being processed. And because we believe that we had a fair amount of monitoring data for the production operations in '54 -- we don't believe we can use it to -- to bound all exposures prior to '54, but certainly if production stopped and we have production numbers in '54, we believe that we can put plausible upper bounds for exposures in '55. And in fact we also have learned that there is some monitoring data available in '55 that we could use to bound exposures. So for those reasons, we believe that the '54 end date is -- at this point anyway -- is a reasonable end date for the SEC class.

So in summary, I just have this table here which we tried to delineate what we can and cannot do in the various classes of exposures at the facilities and -- somehow this thing dropped down. This should be up above that line.

As far as internal exposures go, we believe that dose reconstruction is feasible for

uranium. We have those limited -- albeit limited bioassay results, but uranium in urine is an integrator of exposure that occurred prior to that, so we believe that we can do something with the uranium intakes. But we really cannot reconstruct any doses for thorium, plutonium or thoron in the SEC period. In the external dosimetry area, we believe that we can do -- we believe it's infeasible to do thorium/plutonium beta-gamma exposures, with the exception of '53 and '54 where we do have a fair number of monitoring records. We believe we can do something for the uranium exposures because we have a fair amount of -- of experience working with uranium. We know what the exposure rate per unit int-- per unit mass of uranium is and we believe we can put some plausible upper bounds on what external exposures may have been in that time frame. It's not feasible, we don't believe, to do neutron reconstructions. We do believe that we can do occupational medical X-rays. We have a fairly good indication of what type of X-rays were taken and when at this facility. And there's some good indications that, you know,

monthly X-rays were required for certain classes of workers. And there was also pelvic -- pelvic fluorimetry fluoroscopy done on workers. That was a technique that was used we've seen before to look at changes in the bone structure of workers that are exposed to large quantities of hydrofluoric acids -- or fluorene compounds in general.

So that's the summary of where we are. I'd be happy to answer any questions if there -- if there are any.

DR. ZIEMER: Okay. Thank you very much, Jim. As we get under way with the questioning, let me start by asking about the -- what you described as the episodic nature of some of the inhalations -- or -- I think the words you used --

DR. NETON: Yes.

DR. ZIEMER: -- I'll look at it -- may have received episodic internal and external exposures. Are -- clearly these are not criticality level, but nonetheless if one looked at a worker -- and let's just pick out a number and say that a worker worked there 100 days -- or pick your number, but less than 250

-- are you suggesting that, although these may be episodic, the intakes for any single event would not be sufficient to give doses that were extensive -- I'm trying to understand why we have episodic and yet we're using the 250-day limit.

DR. NETON: Well, it's really a combination of a chronic exposure scenario to some --

DR. ZIEMER: Yeah, it's clearly --

DR. NETON: -- discrete episodic events.

DR. ZIEMER: It's clearly chronic --

DR. NETON: Right.

DR. ZIEMER: -- once it's ingested, but nonetheless, you've suggested it could be a sizeable intake.

DR. NETON: There -- there -- I didn't mention this, but there was some evidence -- at many of these facilities where you have this exothermic reaction in making uranium metal, though, you can get some fires and some what we call blowouts of these vessels because there's a fairly violent reaction that occurs, so there could have been episodic exposures to that, in addition to this chronic exposure to thorium compounds over -- over an extended period of

time. But the -- the doses themselves are delivered, from an internal exposure, over a fairly protracted period of time. They're not -- they're not an instantaneous or --

DR. ZIEMER: No, understood -- yeah.

DR. NETON: -- a fairly short duration dose.

DR. ZIEMER: Nonetheless, you end up with a lifetime dose at some later point.

DR. NETON: You could end up with some fairly large doses, that's true. But the litmus test in the regulation is equivalent to a criticality event in that era -- in that -- you know, looking at it in those terms. They certainly don't meet that -- don't meet that requirement in our -- our estimation.

DR. ZIEMER: Okay. We may want to pursue that some more. Let's hear from Gen Roessler and then Jim Melius.

DR. ROESSLER: Jim, I'm interested in 1955. You said production stopped in -- at the end of '54, yet the petition went to the end of 1955. Were there workers still in the facilities during 1955 and -- you know, is there a potential for that year being in a different class, or what...

DR. NETON: Well, possibly. There were workers there, there still -- the Annex 1 building was torn down in 1954, but the Annex 2 building I think -- I'd have to refresh my memory, I think it was in the 1972 time frame when it -- you know, so it existed through the 1970s. So there certainly could have been potential for exposure to people in those buildings for the residual type contamination from those sort of activities. But we felt that given the level of monitoring data we had, starting in '53 and '54, and we knew production operations were going on at that point and they stopped, that any exposures from resuspension or other activities would certainly be bounded by what we knew in those end -- last couple of years.

DR. ROESSLER: Yeah, I thought that's what you said. Okay. Thanks.

DR. ZIEMER: Dr. Melius.

DR. MELIUS: Yeah. In following up on your question, Paul, the issue of the episodic exposures, I think one difference about Ames from some of the other situations where we've had to deal with the sort of similar incidents, explosions and fires and so forth, is given the

poor state of the monitoring program at the facility. We have almost no information -- internal dose monitoring or anything on these workers that -- in this situation, whereas in other facilities where we've had these situations we've had some other information that would at least allow us to bound or estimate what those exposures might have been. So I think this situation is -- is a little bit different. I think we have to sort of wrestle with how -- what's the right criteria for evaluating these situations in terms of endangerment and so forth, and it's not (unintelligible) straightforward to do, but -- but I do think it is different in this situation and -- and we do need to consider it and sort of figure out how we're going to handle these situations, particularly in faci-- facilities that had, you know, essentially no monitoring program during the time period in question.

DR. ZIEMER: Thank you. Other questions for Dr. Neton?

(No responses)

PETITIONER COMMENTS, DR. LARS FUORTES, UNIV. OF IOWA @ AMES

Okay. Thank you, Jim. Then we'll move on to the next presentation, which will be from the petitioner. Dr. Fuortes is here -- pleased to have you with us again -- and he will represent the petitioners today, and you can use either mike, Dr. Fuortes.

DR. FUORTES: Thank you very, very much. I think this has been a remarkable experience. The rapidity with which NIOSH, the Board and SC&A have responded to this I think is amazing and we're very grateful.

I'm going to get a bit tangential, I'm sorry, but a number of you were involved in the Iowa Army Ammunition Plant and visited the town repeatedly and got to know the people who worked on Line 1 and just -- just in terms of -- history tends to repeat itself if you're not careful. The reason we're here is because of errors that were made in the past and a lack of attention to worker health and safety, and lack of attention from the very top.

Three days ago two workers, two young men, died on Line 1 in an explosion, so Line 1 -- which was the atomic bomb site -- is now taken over

by Department of Defense. Two other young men are critically injured, and (unintelligible) just reminds us that we need to keep in the forefront, at the very top levels of administration, the importance of occupational health and safety. And I think that that's -- that's at risk. That was at risk 50 years ago and I think this -- this experience of the explosion shows that it's still at risk -- or may be getting -- getting worse.

I have to thank a couple of people at NIOSH. Mark Rolfs* has always been really helpful, and Dave Sundin was remarkable in helping explain some of the things that we discussed or argued about or questioned at the last working group -- April 16th, I guess it was -- and so thank you very much for that. Also SC&A I think did a great job interviewing some of those former workers.

But those former workers were pioneers in chemistry, who took the same sorts of risks that cowboys do at a rodeo, for the joy of their work and for the benefit of our -- our national security. And they were working long hours that they -- they really did take

tremendous risks, and the sorts of experiences that they described in terms of blowouts I think are more extreme than you'll see at production facilities subsequently 'cause these were the people who were developing those methods.

So I'm bringing this around to the semantics of what a discrete event is, equivalent to a criticality. I agree with what the philosophic undertone of the questions from the Board is, that I think the legislation's intent was to state if somebody was exposed at -- at a level comparable to a criticality, which would put them at risk greater than 50 percent probability of developing a cancer at less than 250 days, that's the equivalent of a criticality. I think that the -- the issue of the chronicity of disease after uptake from one discrete event, one exposure, or a day of blowouts or a hundred days of blowouts, I think that that's a semantic issue that probably doesn't take into account the intention of this legislation and the intention of -- of this whole process of -- of trying to -- to make up for -- for past errors and putting people at

risk. So I -- I -- I would hope that the Board would take into consideration the difference in philosophy of the interpretation of a discrete incident akin to a criticality versus a discrete incident that puts people at risk at less than 250 days. I -- I think that's the -- that's really a significant issue.

There are only two issues that -- that I should present in terms of -- of the petitioners' concerns where we differ from -- in terms of discussions, from what NIOSH has recommended for acceptance. The 250-day issue is one. The other is the date at which the petition's cohort is defined. I think it's fine at this point for the petitioners to say well, let's accept that end of 1954 at this time.

However, with an attempt to address to the Board that we think there is a rational concern, as you brought up, of residual contamination at this site, and perhaps at other sites as well, I used one year, just assuming that the contamination of thorium from those very, very dusty processes would have had residual risk for at least something like a year. That building was not torn down. The

building at which the thorium processing was done was not torn down in 1954 or '55, that Wilhelm Hall, I believe it is, is still -- Gilman Hall, is still -- still in operation 50 years later. They're still decontaminating that -- that room -- or that lab area from that thorium and thoron contamination. So 50 years later it's actually stripped. They -- they're taking skins off of -- of the cement, so it's -- it's an interesting history.

Two procedural issues separate from the SEC issue that I'd just like to bring up, if you don't mind. The transparency that we're seeing here I think is phenomenal. This is a wonderful thing. I don't know if -- if this is a venue and you guys have any ability to -- to argue for this, but we've had the benefit at Ames of having an ongoing administration -- a lab director -- who said help these petitioners out, help these former workers out. We had the -- the benefit of a Ph.D. historian's thesis that -- that helped us. However, all of these petitions, all of these work sites, are repeating each other's efforts. And it's a very piecemeal operation that we have in terms

of addressing workers' health and safety. It gets repeated at work site after work site. The Department of Energy hopefully has available to it some archives -- that we've asked for for at least five or six years -- that would be beneficial. Someone should be able to look through archives at headquarters or Albuquerque to find lists of workers, lists of exposure records, lists of -- of processes that might help in terms of -- of going through this process for other -- other work site. So I -- I'd -- I'd beg the Board to consider that as -- as an ongoing repeating problem. Another one is in terms of NIOSH transparency. I think you have been very transparent, but I'd ask for another issue to be addressed, if at all possible. I think the dose reconstructions are a simple algebraic process. And if you could put into a tabular format the assumptions that you use in any individual dose reconstruction so that we know, for example, an assumption -- did you assume that workers worked 40 hours a week, five days -- 40 hours a day (sic), five days a week? You came up -- if you came up with, as -- as a worker in Pantex

had, a 49 percent probability of causation. Was that on the basis of assumptions that might not have been as worker-friendly as might have come up with a 51 percent assumption in that case, and so I think that those assumptions should be documented in individual cases and in a boiler-- boilerplate fashion for sites. In addition to that, I think that -- that sources of data -- if it's possible that your sources of data, if not the data itself, redacted, is made available to petitioners. Petitioners are always acting out of ignorance, and that makes sense, I guess. If there isn't data, that's one of the criteria for the petition. But those data that are available, in terms of exposure and process, if those could be made available, as well, as I said, any assumptions that are made for extrapolations of those data to other situations.

I want to thank you very much.

DR. ZIEMER: Thank you very much, Dr. Fuortes. Let me ask, Board members, do you have questions regarding this presentation?

(No responses)

Okay, apparently not. Thank you. We

appreciate your being here -- oh, I'm sorry --

DR. MELIUS: One comment.

DR. ZIEMER: -- a comment here.

DR. MELIUS: Just in follow-up, I mean we'll -- we'll take some action on this petition today and -- and I would hope that, given, you know, your work out there and cooperation from the people at the laboratory and so forth that we'd be -- be able to work with the Department of Labor on some outreach to make sure that people that have worked there in the past -- and this is going back quite a ways -- would be able to -- to -- there'd be some outreach to them to let them know about the program and their eligibility for the -- the program and...

DR. FUORTES: We have begun that process, thank you.

DR. MELIUS: Okay, excellent.

DR. FUORTES: We need to do more, always, but...

DR. MELIUS: Yeah.

DR. ZIEMER: Okay. Thank you. Other comments?

(No responses)

WORKING GROUP REPORT, DR. JAMES MELIUS, WORKING GROUP CHAIR

Okay. Next we will -- we actually have this on

the agenda as the report of the working group, but the working group also worked with SC&A on this, and Jim, as Chair, you wanted to have SC&A report their --

DR. MELIUS: Yeah, let me --

DR. ZIEMER: -- findings first?

DR. MELIUS: -- let me just give a brief --

DR. ZIEMER: Thank you.

DR. MELIUS: -- introduction. As was mentioned, we did have a conference call -- I believe it was sometime in April -- where we -- at the time the NIOSH evaluation report first came out and Laurence was on the call and we decided -- I believe he had seen the report at the time we had the call or it had just come out, but we had identified a couple of issues, and also felt that, particularly in the absence of a site profile review, it'd be helpful to have SC&A do some sort of a limited review of -- of the information and of the NIOSH evaluation report and of the petition in order to be able to move -- have -- at least address some of the issues and so forth. And we also had identified two issues that needed sort of further follow-up on. One was the residual

contamination issue and the other was this issue of episodic exposure. So SC&A has worked and -- and I think presented some information -- had some information and then sort of put it in the form of a report, which is I think helpful. I would note that their report has just been available in the last few days, and I don't believe NIOSH has had a chance to review or respond to that. I don't think that's a significant issue here, but just a note for the -- the record and I'll let -- I think Hans is going to present the SC&A report, so I think if -- just go ahead with that.

DR. ZIEMER: Okay. Hans or Kathy -- Hans Behling? Okay.

(Pause)

DR. BEHLING: I assume this mike is on.

DR. ZIEMER: Yes.

DR. BEHLING: Okay. I was not initially scheduled to speak, at least on the agenda, but then as the meeting approached I was asked to at least make some science available, and I think I do have a handout back here that will go through a series of slides, but I will also ad lib here because I realize that some of my

slides will reproduce some of the information that was previously presented by Dr. Neton. So for the sake of brevity, I will skip over some of the slides and perhaps only highlight some of the issues that are outstanding issues, and issues that may be required for the Board to resolve. And so let me just briefly talk about our intent here.

We issued a report -- that is at this point still a draft report -- that has been made available to both NIOSH and the Board, and that was issued in June 5th of this -- actually a couple of weeks ago, a week ago. Just to give an overview, we were asked to look at the SEC petition and there was actually four elements to that review: look at the SEC petition and identify the key elements that are -- is this unit working here?

(Pause)

Okay. There were four issues that we thought were essential components to our review process. That is, review the petition itself -- and I won't go into the detail. Obviously the petition critical elements here are the members of the class that define the -- the --

the eligibility of those individuals, as well as the dates for the period of duration.
The second element of review was to review available relevant documents. And again, I think Dr. Neton pointed out many of the documents that we also were able to access, with exception of those documents that are part of the Ames Laboratory web site, which I believe is a restricted web site and we did not have access to that particular --
We -- we did have it? At the time we tried and -- and -- I wasn't -- but anyway, we basically had the same information that NIOSH had used to come to their conclusions.
And just to reiterate, we reviewed the information and pretty much we came to the similar conclusions as NIOSH did, that the information available for bioassay was very, very sparse for both uranium, although there was some data there for that 48-member cohort that was divided into four groups, as Dr. Neton had mentioned. But there was no thorium data for bioassay and we also looked at the external dosimetry data that was available and also realized that prior to 1953 there was

essentially no external dosimetry data that would involve an estimate of external exposure to protons, penetrating radiation, to betas for skin dose estimates, and for neutrons. So we came to the conclusion, as did NIOSH, that dose reconstructions (unintelligible) quite difficult in light of those deficiencies and gaps in information.

For the -- and I will just (unintelligible) through those because, as I said, these are just, again, the time periods during which these various facilities were in operation. We've already heard those. We questioned some of these dates here because, like I said, we also found information that would essentially have you believe that thorium and uranium production ceased by 195-- no, actually 1946 for uranium and about 1953, '54 time frame for thorium.

However, obviously the question arises as to what constitutes the Ames project. Is it production or potential exposures that go beyond the production period also to be included as part of the SEC petition. One could certainly argue the issue, but in the

absence of information -- at least the information that I've found available -- shows that Little Ankeny, the area where most of the work -- production work -- took place was actually torn down prior to the beginning of 1954, if I can trust some of the information, including a cartoon that I also included in my write-up. So there's precious little information to give precise dates of operation. And of course one can look at that and -- and say well, who might have been exposed thereafter if any decommissioning of Little Ankeny took place prior to '54. What were the exposures (unintelligible) after if the building doesn't exist. Clearly there were continuing exposures in the other buildings, the metallurgical and the chemistry building, but to what extent -- where do you stop. Because as already mentioned by Dr. Neton, a couple of those buildings are still in operation today, and I looked at some of the data from DOE. They in fact have decontaminated even into (unintelligible) certain select (unintelligible). So the question arises, where do you draw the line

that says this is (unintelligible) where contamination could potentially continue to expose people and therefore include them in the actual class of the petitioners.

So that's an open question that I think needs to be looked at carefully and it may be a very arbitrary decision to say well, '54 clearly marks the end of production, but there may have been some contamination in some of the other (unintelligible) buildings and exclude the metallurgy and chemistry building. That could have continued exposure of people. In fact we did find external dosimetry data that are clearly in the time frame of '55 and later. Now to what extent they involve researchers who may have been still engaged in work for years afterwards is something that we don't really know.

I did do some cross reference in looking at specific names for people who were monitored in the 1955 time frame, and I came across a lot of names that I know for a fact were the Ph.D. types who were clearly there to do research or as opposed to anything else, and so we know that their exposures continued. Whether or not

that can be assigned to the Ames project is really an issue that has to be resolved.

Again, this is just a review of the external dosimetry data, as Dr. Neton had already point out. There's really no data prior to '53, and that's a critical point and I made an issue out of that in our write-up. And what prompted the introduction of what Dr. Neton has referred to as a -- something of a bona fide health physics program is really a 1952 AEC survey conducted at the Ames Laboratory facility, and that was done in March of 1952, I believe 18 through 21 of March. And they in essence identified a series of -- of issues that they were uncomfortable with and I will read to you -- this (unintelligible) a slide and I do apologize that this slide is obviously not readable, but I -- I left it, instead of retyping it, in its original form. You see the word "secret" written over the top, and I will read it for those people who are obviously not in a position to read it from the back of the room here.

Under the scope, this particular survey was, as I said, written in behalf of the survey

conducted over a 3-day period in March of 1952, and under "scope" this is what the report states. (Reading) This is a report of a preliminary survey performed during the period of March 18 through 21, 1952 at the Ames Metallurgical Laboratory, Iowa State College. This survey was made in response to a request from the Chicago Operation Office covered by the health and safety problems existing during the refining and thorium metal production. Then it goes on under "purpose," the second heading that I underlined. There were two issues that defined the purpose, (reading) to gather data from which estimation of the daily weighted average exposure can be determined from the personal working at the AEC project. And let me just briefly identify what daily weighted average means. It is really an issue -- if a person shows up for work and he's assigned to a particular location, he may not necessary spend 100 percent either -- and I believe the assumption was that the worker spent about nine hours on the job, but it didn't mean that he was there (unintelligible) at a facility at a trade or doing anything

else, and so they actually conducted this particular survey by following 22 people, key people, who were engaged in -- in the production of thorium metal around and actually using stop watches (unintelligible) they did a time -- a motion study. And on that basis they came up with time weighted average.

In essence, this is not a -- an upper bound value but it reflects a realistic assessment of what these people were exposed to in the course of an 8-hour day.

The second purpose stated in this particular report states as follows: (reading) to suggest the physical and procedural changes which should be made in order to correct excessive exposures.

And I underlined "excessive exposures" because this was recognized as a result of the survey measurements. And this survey measurements was a fairly comprehensive, given the time frame in question, 1952. The survey included such things as area air sampling -- in other words, general area air sampling that would essentially provide you with an understanding of what is in the air in a room. And then they

also did air sampling (unintelligible) called personnel or lapel air sampling, meaning that they sampled the air close to the breathing area of an individual at discrete locations, which would then give you an understanding of what this person was exposed to on a daily basis if he was standing there breathing the air that contained this radioactivity.

In addition to air monitoring, they also conducted contamination surveys where they took swipes of the area where an individual was working. They would take a swipe, rub it, and then bring it back to a laboratory to count how much activity was on the surface where this individual was working, smearable as well as fixed contamination. And that's very critical, for instance, in understanding issues such as what might a person have ingested working in that area if in fact he was careless in handling things, touching his mouth and transferring radioactivity from -- from a contaminated surface to the mouth.

Lastly, there were also measurements involving air -- external ambient air dose rates. And again, these would be the external exposures

that a person would receive from radiation that is penetrating his body or potentially at least pene-- exposing his skin, and some of the measurements -- the highest measurement in that survey indicated 22 millirem per hour. So you can look at this and say in a given year's time, if we're talking about 2,000 hours or possibly more than 2,000 hours, how much that exposure would contribute to that individual where the ambient doses might be 22 millirem per hour. It would be a substantial dose. Anyway, so these are the measurements here, and these are the issues that we looked at and -- and said okay, 1952 turned -- is a turning point, and so we do look at these numbers and then say okay, what did we look at in terms of dose rates and -- and -- and additional data that followed. This particular -- that survey was a wake-up call for the Ames Laboratory because it identified serious deficiencies. And this report identified 36 discrete recommendations for improvement. Most of those recommendations were aimed at reducing air concentration, and in my report I've written to -- written about -- a lot of the documentation

that -- that were only indirectly referenced in the Dr. Payne Ph.D. thesis, but it creates an understanding of the circumstances in which these people were trying to do a heroic job in a very minimal period of time with equipment, with facilities, that were never intended to be used for this kind of production. Little Ankeny, and I included a picture, was an old wooden building, a small building that didn't even have a concrete floor. It had to be added after the fact. These buildings were not air conditioned, and in the heat of the summer the intent was to reduce the -- the temperature inside the building by bringing in huge fans, and of course they created a huge problem in resuspension of contaminants that people were breathing. So in addition to the lackadaisical standards for radiation protection, including things such as -- people were not necessarily forced to wear respirators, but the building itself lacked what in today's terms we call engineering design. We would design a building today very differently from what this building was during the time that thorium production was -- was taking place. We would make sure that

the flow of air would always go from a contaminated area into a hood or some place where it wouldn't necessary (sic) expose workers. So in combination we know that pre-'52 worker conditions were very different from post-'52 because as a result of this particular (unintelligible) survey many changes occurred so that when you look at '53 data we have to acknowledge the fact that the -- the -- the dose rates that we observed now from -- from (unintelligible) dosimetry data cannot be extrapolated backwards in time because here the AEC forced a large number of changes. And reluctantly, on the part of Dr. (unintelligible), who was director and as you can see from the dialogue that I included as part of the exhibits.

But anyway, let me go back and now talk about the issue that is very critical here. There were three issues that we identified. The first one was clearly one in which we questioned whether or not the '54, '55 time frame should be considered as the prime period for the SEC. And again, I don't have an answer to that. It becomes an issue of can we look at

the residual contamination. Clearly Ankeny -- Little Ankeny was gone, and so that is obviously the most likely source term for residual contamination that would have exposed people after '54.

But there were other buildings, as I said, that they were -- simply used and -- and -- and series of decontamination steps were taken up until the '90s and possibly still today. So I don't have an answer to what constitutes this particular time frame based on things such as residual contamination.

The second one was the class of workers, and again, the class of workers as defined by the petition and by NIOSH makes certain references which I'm not sure can be interpreted in -- in -- in certain ways. One of the groups of people that I identified that were clearly also acknowledged in Dr. Payne's Ph.D. thesis were guards. Now whether or not guards can be classified as support staff, I don't know.

But guards were clearly present because of the fact that this was a highly secret process and required obviously oversight by somebody to make sure that there was a controlled access to

the facility. And in one of the cartoons that I included that also comes out of Dr. Payne's thesis were the -- the firemen who were routinely called to respond to fires that -- and explosions, but were not allowed to come into the building to put out the fire. So clearly there was a controlled access, and access control was obviously exercised by guards, and guards clearly would have been exposed. And to what extent, again, current definition as defined by the petitioners and by NIOSH would include guards, I again -- that's the subject for discussion, but I would say that if the guards are not included, they should be included.

And thirdly, the most important thing is the issue of what were the episodic doses that could have contributed to an exposure that might have them eligible for the exposure period that is not necessary defined by 250-day workday aggregate. As has already been pointed out by Dr. Fuortes and by Dr. Ziemer, I -- my interpretation is that when a person is exposed during an acute or episodic or even for a few days in exposure that, as Dr. Neton correctly

points out, will continue to expose because it's an internal exposure. But realize that if I come to a workplace and I spend one day there and I'm exposed to a whopping internal exposure that will continue to expose my lung, my bone, my liver, my kidneys, my lymph nodes for perhaps years to come, does that constitute an acute exposure? In my mind, it does. And -- and if it -- it constitutes that exposure because I don't have to work for 250 days to end up with a cumulative dose that would potentially bring me over a probability of causation that exceeds 50 percent.

The second criteria that involves a potential look at the 250-day period is -- is -- is this definition that defined under paragraph 83.13, and it says other events involving similar high level exposure resulting from the failure of radiation protection controls. And I think the (unintelligible) survey clearly points to a failure of radiological controls. Everyone admits to the fact that there were people there who should have been wearing respirators who (unintelligible) not -- were not forced to wear respirators, that conditions were high for

exposures involving airborne surface contamination and exposures. And so from -- from that point of view, in addition to the episodic events which we clearly know happened but were not documented, along with everything else, these (unintelligible) these episodic events clearly involved fires, explosions, as well as fires from the grinding of -- of uranium and others, and they -- none of these were documented, so we have no clue. But as Dr. Melius and -- and Dr. Ziemer have pointed out, when -- in other locations we do not necessary have documentation that involves specific assessments for individuals who may have exposed to a -- an exposure that involved an episodic one, we almost really don't care because, as Dr. Neton pointed out, the body is an integrator. In other words, if I am being monitored on a monthly, or even yearly, basis for an excretion or by chest counting, it doesn't really matter whether or not that exposure occurred as a -- as a matter of routine work or as an episodic one, as long as there is some data. We do not have data here, so that the issue of an episodic event takes

special meaning here that is very different from places like Mallinckrodt where perhaps we didn't monitor in the aftermath of a (unintelligible) event and explosion, but because we did in fact monitor (unintelligible) on a monthly or semi-yearly basis, we could at least look back and say well, does it really matter if there's (unintelligible) difference between a routine exposure and episodic exposure. In this case we do not have any kind of data, so it makes this particular issue a very special one.

On the issue of exposures from routine exposures, I do have a couple of calculations that I pointed out. Here you see -- again, these are taken directly out of the survey, and the -- I'd like to be able to point to the numbers here, if I knew how. How does this -- how does the pointer work?

(Pause)

Here it is. Okay. The number I wanted to point to is the following here. It says (unintelligible). These are the people who did chlorination of the thorium, and this again is a time-weighted concentration to find

disintegrations per minute per cubic meter, and 3,100 dpm per cubic meter was the time-weighted average of thorium exposures. Also you need to -- to understand is that you have, in addition to thorium, thoron, which is a daughter product. Thoron is radon 220. And you see there in that line, 30,000 dpm per cubic meter (unintelligible) as to what this really means. These are time-weighted, as I said. If you look at the actual spot samples, you see measurements here -- again, this is defined here in thorium concentrations, again, the same (unintelligible) dpm per cubic meter. But when you take a sample -- spot sample, you see activity levels that in some cases -- this is the highest one, 60,800 dpm per cubic meter. So clearly there -- there are instances of measurements here that involve thorium levels that are several times higher than the time-weighted average. The same thing with thoron levels when you look at values such as 120,000 dpm per cubic meter as a single spot sample. But anyway, using that data, what I did was -- and this is strictly for illustration. This is not intended to do -- be a dose reconstruction,

but strictly for illustration. I looked at the 3,100 dpm per cubic meter and assuming that we -- we used type F here for the lung -- calculated the lung dose. And again, this is a 50-year committed dose, but realizing it's not a venue of function. Realize if I inhale something today, it's not going to be -- if -- let's assume over 50 years the dose would be 50 rem, it's not one rem per year.

Based on the -- the movement and by kinetics of the thorium, my lung dose would be very heavily weighted towards the first few years as opposed to latter years. But you see from a single day's exposure, using 3,100 dpm per cubic meter of air concentrations and assuming that the person was inhaling on average 1.2 cubic meters per hour and that there was a 12-- a 9-hour time period for a work day, this is what he would end up as a dose to the lungs, 10.4 rem in a single day.

Also when we do this with the red marrow for (unintelligible) an assigned solubility value of type M, you end up with a bone marrow dose of 5.7. And of course the largest one would be in the bone surface type M at 145 rem from a

single day's worth of exposure.
Not included here are potential other tissues that would also suffer serious high doses from such an exposure, and that includes the liver and of course the lymph nodes, thoracic lymph nodes.
I'm sure that -- and Dr. Neton and I have spoken in private -- that he contests some of the assumptions that went into the analysis done by the AEC. I don't know -- I think I've exhausted my time for my stay up here so I will forfeit that, but I think this requires some additional discussion between us and NIOSH in trying to resolve what these numbers really mean.
Mind you that this is only for thorium 232. It does not include ingestion of thorium. It does not include the in-- exposure to ambient dose rates, external dose rates, and (unintelligible) does not involve all of the other radionuclides that are part of the chain.
And I just wanted to briefly identify this without going through them.
We're facing looking at thorium 232, and that is your first alpha, and you realize thorium

232 -- and ends up ultimately as stable lead 208. And if you subtract 208 from 232, you end up with 24 daltons. An alpha particle has 4 daltons. That means there's six alpha particles as part of this cascade of radionuclides. And many of these things will be inhaled in constant with the thorium 232. So we're not talking about a single species or two, just thorium 232 and thoron 220. We're talking about a large number of other radionuclides that would also contribute to these doses and we can discuss in detail what the implications are, as Dr. Neton had pointed out to me, that perhaps some of the information that's in -- in the survey report may require some adjustment. But this is strictly for illustration and the illustration (unintelligible) one routine exposure in one day would constitute a significant health risk and exposure to an individual working at this facility.

So with that, I will (unintelligible).

BOARD DISCUSSION

DR. ZIEMER: Thank you, Hans. Let me ask you a question on the issue of determining when a --

when one should end the time period for the class.

DR. BEHLING: Yes.

DR. ZIEMER: You talked about the presence of residual contamination and so on on -- in subsequent years. Now it would seem to me that the decision on whether to end the class time period would be based more on your ability to do dose reconstruction, regardless of whether the facility continued in its previous form or whether there was residual contamination. Why wouldn't the criteria simply be -- have to do with their monitoring program, as opposed to what the source of the activity was that --

DR. BEHLING: Well, that's --

DR. ZIEMER: Or are you impl-- maybe I misunderstood. I thought you were implying that if there was residual contamination, that therefore the class should continue. My understanding is that the monitoring program changed quite significantly and abruptly. Now we haven't necessarily examined what it looked like in those later years, so maybe that's open to question. But it seemed to me it's fairly clear in the early years there's very little

monitoring. There's kind of a transition period somewhere around '54. But you're not -- you're not asserting that the presence of the residual contamination is -- is a case for -- itself, of continuing the class, are you -- or are you?

DR. BEHLING: Well, half and half. I would say obviously the -- the absence of data -- when -- this particular survey that was done in '52 was really confined to Little Ankeny, which is obviously the most contaminated facility among the buildings used. But since that was decontaminated, there's obviously no -- no need to worry about residual contamination for a building that no longer exists. The question is to what extent is -- are there data out there that would at least allow us to give -- to get some insight into what contamination that was -- existed in the other three buildings, which we don't have any data at all for. One of the key things that was pointed out in -- amongst the memos that was dated in 1951 -- again, it was (unintelligible) by an AEC individual who said you guys are not keeping any records here.

DR. ZIEMER: Yeah, I'm -- I think we're --
DR. BEHLING: (Off microphone) (Unintelligible)
DR. ZIEMER: -- okay here on '51 and '52 certainly, and maybe 3. Okay. Thank you.
DR. MELIUS: (Off microphone) (Unintelligible) --
DR. ZIEMER: Do you want to follow up on that, Jim?
DR. MELIUS: Yeah, just -- just -- Arjun Makhijani and I had a discussion on -- on this issue as they were finalizing their report, and it was sort of a difficult situation, the fact that the petition covered a certain time period, but that was limited. The NIOSH evaluation had only covered a certain time period where we had data. There was no site profile to work from and I sort of question whether we really -- it was appropriate for the SC&A review to sort of go beyond the scope of what they were asked to review with what NIOSH had already worked on. However, it was appropriate to raise it as an issue and I think -- for determination both by NIOSH as well as -- the Board may want to consider, you know, does that issue need further exploration. But

it would be in some ways separate from what we've done so far and...

DR. ZIEMER: Dr. Neton, did you have an additional comment on that issue?

DR. NETON: Yeah, I have a couple of observations, if I might -- not in the spirit of argumentation, but just -- just some observations.

One, I think -- I've looked at the original report that Hans was just discussing and that survey was of the metallurgical building, not Little Ankeny, so we do have data for the thorium operations that persisted. So -- and I think we have a fairly good handle on that, which leads to my first point, which is I think what doc-- what you were getting at, Dr. Ziemer, is the question is not whether, you know, there was contamination that persisted in these buildings, but can NIOSH put plausible upper bounds on the exposures in those buildings.

DR. ZIEMER: That's right.

DR. NETON: And as I indicated, we -- and Hans made very good -- made my point very well, I think we have a lot of data in that building.

And once op-- production operations stopped, we have at least maximum bounding surface contamination levels, that sort of thing, that we can use. So I think -- I think we could do something there, but we certainly need to look at it a little more closely.

The second observation I'd like to make is on this internal dose area. I do -- Hans and I have discussed this. NIOSH has come to somewhat -- there was very limited time to look at it, but the internal dose calculations, by our estimation, are much lower than what Dr. Behling has presented. The first year dose for -- for these activities were certainly less than 2 rem for lung, a couple hundred millirem for bone mar-- bone red marrow and about 300 millirem for bone surfaces. That's accepting the data at face value.

DR. ZIEMER: Are you using the same --

DR. NETON: I'm not talking -- the first year dose versus the 50-year dose.

DR. ZIEMER: Yeah, well, I think he's --

DR. NETON: And he did do 50-year doses.

DR. ZIEMER: -- (unintelligible) per day here, which is --

DR. NETON: No, no -- no, I'm sorry, he -- what he did was -- it's a 50-year dose from a one-day exposure at the facility. And what we're saying is if you had one day exposure at the facility, the first year dose is -- is substantially lower than what is presented. And so then that brings in the question of the risk models and what is the accrued risk over time from a protracted exposure versus an acute exposure that might occur for an incident like a criticality. This is all tied up in the deliberations we had with the SEC rule related to specific -- you know, having specific cancers added to the SEC. This is the path that SC&A is going down which we tried and failed miserably at, so I think there's -- there's some discussion that needs to occur here is what I'm saying.

The other issue I'll bring up is there are six alphas -- it's not clear to me that all six of those alphas weren't included in the dpm per cubic meter calculation, so in fact it may be up to six times more -- six times less thorium per unit intake than was indicated by the HASL survey. So there's some issues out here that

we just need to address. That's all I really wanted to point out.

DR. BEHLING: Can I just make a comment on that issue? Yes, there are six alphas, but you have to understand what was done here. The measurements were done by air sampling that used filters. And so what you do at time zero or when you walk into a place and you're taking the air measurements, you only do (unintelligible) particulates mature, which among the six alphas excludes radon 220, which is a gas. And of course what they did was they waited for a period of one to three days for the very first sample, and of course that eliminates the short-lived product from thoron that has only 55 seconds. So now you're left with four alpha -- in fact, if I have a chance I can go back to the last slide just to point out that. And then they would take a second count, which was seven days later, meaning eight to 10 days after the initial sample was taken, and of course that (unintelligible) the case of the lead 212 which is the indicator radionuclide for thoron. And unlike (unintelligible) when we look today at a radon

level, we usually look at radon that is trapped in a matrix of carbon material and then you allow it to decay and at the point of equilibrium assess the gamma component. This is all based on an assumption about (unintelligible) equilibrium (unintelligible) equilibrium we then determine what the radon level in that room was that we were trying to measure. Here we actually measured the lead 212, which makes no difference what the equilibrium fractions and what -- what the ventilation rate was. If you measure lead 212 you know for a fact this is what the radionuclide daughters were of thoron 220. I see (unintelligible) shaking his head.

DR. NETON: It's in the interest of technical accuracy. I don't think they measured the lead 212. What they did was they measured all the long-lived and then decayed it, and then what was left was still the long-lived, not the lead 212.

DR. BEHLING: But what they did was they measured --

DR. NETON: Well --

DR. BEHLING: -- two -- they had two sets, one

after the first to three days, and then a week later, and then they subtracted the --

DR. NETON: No, there --

DR. ZIEMER: Well, this obviously is going to be a --

DR. NETON: We need to have a sidebar discussion on this.

DR. ZIEMER: -- discussion --

DR. BEHLING: (Off microphone) It's clearly (unintelligible) on page 52 and 53 in the report, for anyone who understands (unintelligible), and you will get a clarification as to why lead 212 truly is the indicator radionuclide for thoron 220.

DR. ZIEMER: Okay. We have a question from Dr. Lockey -- or Dr. Roessler.

DR. LOCKEY: Was there -- in relationship to 1955, were there exceptional high exposure ratios in that time frame, in the '55 year time frame, as there were previously?

DR. NETON: That really is unknown to us at this point. I mean clearly -- I mean we know that production stopped and we believe we can bracket it with the production exposure period, but we don't know exactly how high they were.

We just know that we believe we can put a plausible upper bound on it at this point, and that's really all we've -- we did up till now.

DR. ZIEMER: Dr. Fuortes.

DR. FUORTES: Jim, I'd just ask you if you could put that upper bound on it now, if you have that, or if you could share it with us so it'd make it public.

DR. NETON: Well, we haven't calculated it, but what I'm suggesting is if you have 1952 and '53 monitoring data to show surface contamination which was in the metallurgical building that did persist and the contamination, as you suggested, is still there today, we know -- based on the contamination levels -- we can develop models that would resuspend that material in the air and develop some bounding values for the exposures. I don't -- we don't have the model developed at this point, but we believe that we could do that, and that's -- that's the basis for our opinion of putting plausible upper bounds for the 1955 period.

DR. ZIEMER: Okay. Dr. Poston has a comment -- or a question.

DR. POSTON: Hans, providing example

calculations is always dangerous, as is focusing too much on them. I want to make sure I understand what you're telling me here. The last line in your slide says 50-year committed organ dose, and I would have expected units of dose equivalent or effective dose or something, but I would not expect it as a rate. Could you explain so I understand exactly what you mean by that?

DR. BEHLING: (Off microphone) (Unintelligible)

DR. ZIEMER: It says rem per day, but apparently I misunder-- misinterpreted that, as well.

DR. POSTON: Is that for a one-day intake?

DR. ZIEMER: He's saying it's rem per day of exposure, apparently.

DR. POSTON: When you -- it doesn't make any --

DR. BEHLING: (Off microphone) (Unintelligible)

DR. POSTON: It doesn't make any sense, because if you do the integration over 50 years, it should be rem, not rem per day.

DR. BEHLING: (Off microphone) (Unintelligible)

DR. MAKHIJANI: No, no, Dr. Poston, it's per day of intake. It's a 50-year --

DR. POSTON: Well, that's why I asked --

DR. MAKHIJANI: -- so if you have two days of intake, the 50-year exposure would double.

DR. POSTON: Still -- okay, I understand, --

DR. MAKHIJANI: It's a little misleading.

DR. POSTON: -- but it's still incorrect.

DR. ZIEMER: Thank you. Let me see, Dr. Lockey, did you have another comment or...

DR. LOCKEY: I was trying to get a handle on the 1954 to 1955 time frame. How many new -- new workers were at the facility who started in 1950 time frame -- 1955 time frame; do we know that?

DR. NETON: No -- no, I don't. I will say that I -- we've looked at the database and as far as workers affected by this 250-day requirement, there is one worker currently in our -- in our data files who has an exposure period less than 250 days, but I don't know the answer to who started in '55.

DR. ZIEMER: Further comments or questions? Yes.

MR. CLAWSON: When -- when do we actually have data? What year does the data really start that we can actually believe in or that you have a good handle on? Is that -- is that

after '53 or what?

DR. NETON: Not -- we think that we have a handle on '52 and '53 for external dosimetry, and we believe we can do dose reconstructions for that. And we know that those were the period of active production -- periods of active production for thorium. And then we know that the active production stopped in '54, and so therefore it -- it seems to stand to reason that the exposures would be no higher than when the material was actively being produced in the 1955 time frame. We have some -- we have indications that there are limited external dosimetry results for '55 and beyond, but to be honest, we have not pursued those and developed any coworker models or anything like that at this time. Again, this is a situation where the SEC -- we believe we need to make a determination can we do plausible upper bounds, and we have not refined and developed the models to -- to pursue the -- you know, in the '55 and onward period.

MR. CLAWSON: Was there -- was there operations going on aft-- you say that production stopped in '53?

DR. NETON: '54 for thorium.
MR. CLAWSON: Was -- were there operations continued on through that facility?
DR. NETON: Yes, it exists today.
MR. CLAWSON: Okay. 'Cause -- 'cause I'll tell you, I'm personally amazed at how much thorium was produced. I'm classified as a production facility out there, and I'm looking at the uranium that was processed through these facilities and it's just astronomical to me. It's -- it's unbelievable. I -- and the thorium on that. But part of the thing, too, is a little bit of the history of the fires and stuff, do we -- do we actually have accounts of how many explosions were out there, how many fires where the people were involved with those?
DR. NETON: No --
MR. CLAWSON: Some of the issues --
DR. NETON: -- very limited information, that's part of the rationale and basis for adding, you know, this -- this -- this time period to the class.
DR. ZIEMER: Hans.
DR. BEHLING: Perhaps the only reference was in

the Ph.D. thesis, and I think it's documented elsewhere, that in a single day there were six explosions. And again, the cartoon shows Dr. (unintelligible) pleading with the secretaries to stay on in their job. Again, this is the kind of data we would normally choose not to make use of, but in the absence of data, you do what you can to try to get an understanding of the conditions under which people were working. And clearly my inclusion of a photograph of Little Ankeny as a building and the add-ons and the anecdotal stories are strictly there because we're not in a position to make use of legitimate data that we would normally want to make use of. But it does add at least some understanding of the questionable circumstances under which people were expected to work.

DR. ZIEMER: Okay. Thank you. Other comments or questions? Yes, Dr. Fuortes.

DR. FUORTES: I hope you have time for a joke, too.

DR. ZIEMER: Sure.

DR. FUORTES: Okay.

DR. ZIEMER: We may need one here.

DR. FUORTES: The -- the explosions and fires,

th-- they were experimenting with methods, initially with calcium, subsequently magnesium, and they were experimenting with methods of making these retorts or these bombs. And so they -- they had some days when they had multiple and some weeks when they might go two weeks without problems. But they had big and little explosions. Fires they had on a regular basis because they were machining uranium. So that was actually one of their training tricks was they took a young machinist and they'd tell him you go lathe that, and they'd watch how he lathed it, and this poor machinist would end up with a fire in front of his face. That was actually one of their -- their training exercises was to -- to teach them that uranium can ex-- you know, can explode on you.

The joke about the guards, you brought up the guards. They -- they had -- they collected their tailings from the -- from the milling, they -- you know, 600,000 pounds of -- of recycled uranium. They stuck those in these oak whiskey barrels. If you get a chance to read that history of -- Dr. Payne's history, it is stunning. This isn't in the history, it's

just from some of these old guys telling the tales of what fun people they were to work around.

They would tell the guards that -- that uranium could spontaneously ignite, and so the guards had to go feel the barrels. And so one day some idiot filled one of the barrels with boiling water, and so a guard came running out during a late night experiment saying oh, my God; oh, my God, this -- that's the joke.

DR. ZIEMER: Hang on, I think Larry -- Larry has a comment here, and then we'll come back --

MR. ELLIOTT: If I may, I want to make one thing clear that I heard from Dr. Behling, and I -- and I want to make sure that we have an understanding about this. The way that the proposed class definition is couched at this time, guards and/or firemen would be covered. And I didn't -- I thought I heard Dr. Behling imply that there was a question in your mind, and I just want to make sure that we're all on the same page here. Guards, firemen and those -- it's captured in the phrase "should have been monitored", so if they were in an exposed situation, they should have been monitored,

they should be covered under this class.

DR. MELIUS: And what about the secretaries in the building, also?

MR. ELLIOTT: Yes, I think they should have been monitored, and I would argue that they should be covered.

DR. MELIUS: Yeah. Okay.

DR. ZIEMER: Thank you for that clarification then. Brad Clawson again.

MR. CLAWSON: I'm just wondering, what -- what kind of storage facility -- we -- I'm trying to figure out what kind of storage facility did they have for the uranium products that the produced? Was it stored right there in the facilities?

MS. MUNN: Brad, talk into your mike. Talk into your mike and not them.

MR. CLAWSON: (Off microphone) Sorry, I'll get (unintelligible). Anyway, I'm -- I'm just wondering about the storage facility (unintelligible) 'cause they were producing quite a bit and I was wondering if they had the time frames of how long it was to stay in there and so forth, and was this --

DR. BEHLING: Well, some of this stuff was

obviously not stored for any length of time because it was clearly needed to do -- support the graphite pile in Chicago, so some of the uranium was probably shipped as soon as it was available. For this thorium, I believe there may have been a storage facility or shed that was used to store on site within the perimeter of the college, but I'm not sure there's much discussion about how that was done and the security surrounding it. But clearly there must have been a storage facility in addition to the four buildings.

DR. NETON: Yeah, the only thing I can remember about storage was some of the surveys that were made that the highest -- one of the highest ambient exposures were like 22 millirem per hour near one of the storage areas, I think that's what it was called. But to what extent and how long the material stayed there, I really -- really don't know.

MR. CLAWSON: But that is taken into consideration of their dose and so forth.

DR. ZIEMER: Okay. Dr. Melius.

DR. MELIUS: Yeah. If we're ready, I would like to offer a motion to --

DR. ZIEMER: That's certainly in order. Let me ask -- Board members, do you have any other questions of the presenters before Dr. Melius presents a motion on behalf of the working group?

(No responses)

If not, we'll recognize Dr. Melius for purposes of making a motion, and copies of his motion are being distributed.

DR. MELIUS: And I will, as per past practice, read the motion into the record here.

(Reading) The Board recommends that the following letter be transmitted to the Secretary of Health and Human Services within 21 days. Should the Chair become aware of any issue that in his judgment would preclude the transmittal of this letter within that time period, the Board requests that he promptly informs the Board of the delay and the reasons for this delay, that he immediately works with NIOSH to schedule emergency meeting of the Board to discuss this issue.

The Advisory Board on Radiation and Worker Health (the Board) has evaluated SEC Petition 00038 concerning workers at the Ames Laboratory

under the statutory requirements established by EEOICPA incorporated into 42 CFR Section 83.13. The Board respectfully recommends a Special Exposure Cohort be accorded to all Department of Energy employees or its contractor or subcontractor employees who were monitored or should have been monitored while working at the Ames Laboratory in one or more of the following facilities/locations: Chemistry Annex 1 (also known as the "old women's gymnasium" and "Little Ankeny"), Chemistry Annex 2, Chemistry Building (also known as "Gilman Hall"), Research Building or the Metallurgical Building (also known as Harley Wilhelm Hall) for a number of work days aggregating at least 250 work days during the period from January 1st, 1942 through December 31st, 1954, or in combination with the work days within the parameters established for one or more other classes of employees in the SEC.

These workers were employed during the early years of the nuclear weapon production. There are very little monitoring data available for the Ames Laboratory during the years in question. NIOSH concluded that the available

monitoring and source term information is not sufficient to document or estimate the potential maximum radiation exposures for workers at the Ames Laboratory under plausible circumstances during the time period in question. The Board concurs with this conclusion.

NIOSH has reviewed information which confirms that radiation exposures at the Ames Laboratory during the time period in question could have endangered the health of members of this class. The Board concurs with this conclusion.

The Board is still evaluating issues related to people who may have been exposed to radiation during discrete incidents that could have involved exceptionally high exposures to radiation while working at the Ames Laboratory. For example, those who were present during the explosions or fires -- and fires in some of the buildings, close parentheses, and who may not meet the 250-workday requirement described above. The Board will continue to review this matter and may make additional future recommendations regarding this group.

Enclosing (sic) is supporting documentation

from the recent Advisory Board meeting held in Washington, D.C. where the Special Exposure Cohort petition was discussed. This documentation includes transcripts of public comments on the petition, copies of the petition, the NIOSH review thereof, and related documents distributed by NIOSH and the petitioners. If any of these items are unavailable, they will follow shortly.

DR. ZIEMER: You've heard the motion. Is there a second?

MR. GIBSON: I second that.

DR. ZIEMER: Seconded by Mike Gibson. The Chair wishes to ask the mover of the motion if the 21 days in sentence one is a new time table. I think we've had 31 days on past motions, did we not -- has it been 21?

DR. MELIUS: Twenty-one days.

DR. ZIEMER: Oh.

DR. MELIUS: It's subject to change. I'm not even sure where we came up with --

DR. ZIEMER: I thought we were using 31 in order to get the transcripts in time --

DR. MELIUS: Well, actually --

DR. ZIEMER: -- but if you tell me it's 21,

I'll take that, but --

DR. MELIUS: Okay.

DR. ZIEMER: -- I think our limit was getting the transcripts. Has it been 21?

DR. MELIUS: It's 21. I think it was actually based on Ray telling us that that's when -- the first time we inserted this -- he would have it available within 21 days, so --

DR. ZIEMER: Okay. Thank you.

DR. MELIUS: -- but...

DR. ZIEMER: The other comment, if I might suggest -- and this would be in the form of a friendly amendment -- to add where it says Advisory -- in the last paragraph, "Advisory Board meeting held in Washington," we might add the date, held on June -- what -- what is the date?

DR. MELIUS: June 15th.

DR. ZIEMER: Is that agreeable as a friendly amendment, for specificity on the --

DR. MELIUS: Yeah.

DR. ZIEMER: Yeah. And keep in mind now that this motion includes the possibility of some ongoing discussions on the issue of the episodic exposures, but does allow one to come

to closure -- I guess on most of the petitioners, from what we heard there, that the 250-day issue affects a very small number, maybe one person.

DR. MELIUS: Correct, and this language on the 250 days is similar to the language we put in the Pacific Proving Ground and Nevada Test Site letters that we did to prov-- Special Exposure Cohorts at that last meeting. We also set up a workgroup and I would propose that we continue. We -- we actually will have a presentation on some of these issues later this morning or this afternoon, and that we have a workgroup established and that we sort of include consideration of this in the context of the workgroup. That would also give time for NIOSH and SC&A to resolve some of those technical issues that we -- we've heard about -- about this morning.

The -- in regard to the issue of -- of the continuation of the time frame, I did not include that in the -- the letter, though I -- I would propose that we -- there needs to be some action I think to explore this -- this -- some closure to this issue of for how long

should this -- what happened in '55 and '56, is the data from that time period adequate --

DR. ZIEMER: And this can -- this does not need to be as part of this motion now, you're exactly right.

DR. MELIUS: Right, yeah. Yeah.

DR. WADE: Dr. Fuortes has a question.

DR. ZIEMER: Yes, Dr. Fuortes.

DR. FUORTES: I don't know if this has bearing in your consideration in the future, but -- but that's one filer, one person who has filed in a new program. To our knowledge, we think that it's on the order of 100 people, at least, that -- that would have worked less than a year. I mean that's --

DR. ZIEMER: Yeah, and this is not limited simply based on that number. I was just pointing out that it does allow NIOSH to move ahead at least on -- on those who would be eligible under this, and leaves the door open for addressing that other issue.

I -- I want -- the Chair wants to be assured that we have the right dates here now. It turns out inadvertently -- I don't know, Board members, if you went back and looked at the --

the copies of the last two letters that we sent to the Secretary. We had actually, in our formal motion, approved the wrong dates for -- for one of our previous petitions, and that had to be explained to the Secretary of Health and Human Services as to why our motion didn't match up with the recommended petition. And it was explained to the Secretary that -- at least that the Chair thought this was an inadvertent error. But in any event, I'm --

DR. WADE: For the record, that error has been rectified (unintelligible) Secretary's action.

DR. ZIEMER: Right, and I'm -- I want to make sure that these dates match up with -- if anyone -- January 1st, '42 through December 31st, '54, okay. We're okay on that.

Any further discussion on the motion?

(No responses)

Does anyone wish to speak against the motion or other questions? Yes, Wanda Munn.

MS. MUNN: I'm not clear what change might occur as a result of our discussions with reference to the 250-workday requirement, especially in light of the information that's already available to us relative to episodic

events that have long-term effect. It seems to me that this is an issue which might vary from site to site, depending on what type of episodic event was occurring, so that in this case if we feel that the episodes which were likely and which we know did occur would have the effect of providing a chronic dose that we could eliminate that from this particular letter, simply on the basis of accepting the fact that the 250-day workday requirement stipulated in the original law didn't -- was not reason for exclusion here. I think we've heard information clearly showing that the wording in the law would allow for this particular type of exposure to be considered as an unusual event that creates chronic dose. Therefore, my question is, could we not eliminate this paragraph indicating that we're going to continue discussion on it, even though we will in fact do so, since it will be an issue for every site that we have a similar kind of situation. But in this particular case, are we likely to change our minds from -- my personal perspective, this is a case where the length of -- of ex-- of employment is not

the question. The question is whether episodic exposure occurred. And apparently episodic exposure occurred for all people who were employed there at that time.

DR. ZIEMER: Let me respond to that partially, and others may, as well. I think certainly the regulation itself does specify that individuals exposed to episodic events are qualified.

MS. MUNN: Uh-huh.

DR. ZIEMER: That's true in all cases, is it not?

MS. MUNN: Uh-huh.

DR. ZIEMER: I mean just as a generic -- I'm sort of looking at Larry and he's nodding his head yes.

MS. MUNN: Well, given the quote from --

DR. ZIEMER: I believe it probably holds, regardless of what we say here. This -- if -- if NIOSH or -- in the process of examining claims it was found that there were episodic event exposures, they would qualify. I guess the question here is are these actually episodic events. There's been a little debate on this. I think that, Jim, you've described some of them as episodic.

DR. NETON: Well, it's not that episodic events qualify, in and of themselves. It has to be this exposure to an exceptionally high level of radiation --

DR. ZIEMER: Right.

DR. NETON: -- which is defined as being equivalent to a criticality.

DR. ZIEMER: Right.

DR. NETON: And I think if one examines some of the language in the preamble, you might get a better sense for that because it does compare it to the original SEC class, 250 days at the gaseous diffusion plants, and asserting that it needs to be -- I forget the exact words, but demonstrably higher than those levels of exposures that occurred there, that sort of thing.

DR. ZIEMER: Uh-huh. And Dr. Melius?

DR. MELIUS: Yeah, I -- we actually had this same discussion I believe last time when we're talking about the letters for Nevada Test Site and Pacific Proving Ground, and I think -- in this case I think there's also the question well, if it's not 250 days, what is it? Is it a week of exposures, a single exposure there.

And secondly is -- there's the issue of documenting the episodic exposure. Was it everybody at the facility or does the person have to demonstrate that they were in some way exposed to some -- an episodic exposure. And I th-- the last time we discussed it in respect to the above-ground atomic bomb testing and I would just think that we need to think about what our criteria will be and sort of develop the criteria to determine if -- some way to -- operationally we can go forward and address these and under what circumstances should episodic exposures qualify for -- when there's less than 250 days of employment. And I think that -- that's all I -- I think -- in my mind, this would qualify, but I would rather make sure we're on solid ground in terms of what we're recommending in the case here where NIOSH has not recommended that these -- these qualify and that we have some discussion, develop some criteria for how to go forward, deal with these and -- so that we're not, you know, postponing or procrastinating forever on these but that we would hopefully, by our next meeting in September, be able to address this issue.

SENATOR HILLARY CLINTON

DR. ZIEMER: Okay. I'm going to interrupt the process here. I understand that Senator Clinton has just arrived. Welcome, Madame --

SENATOR CLINTON: Thank you. Thank you very much.

DR. ZIEMER: And we're pleased to have you here. Senator Clinton has shown an ongoing interest to -- with respect to the workers in New York, particularly those at Bethlehem Steel, and we've had correspondence with you before on that issue. This is the Advisory Board on Radiation and Worker Health. We're pleased that you've taken time to come, and if you wish to address the Board -- we actually have many microphones. There's one right here, or you may use the podium, whichever you feel more comfortable, but welcome to our meeting.

SENATOR CLINTON: Thank you very much, Dr. Ziemer, and really to the entire Board, I really appreciate Dr. Ziemer, Dr. Wade, all of you, for the time that you're putting into this really important issue, which to me is a matter of national obligation. And I'm grateful to you for taking it so seriously.

I'm here today because this body, the President's Advisory Board on Radiation and Worker Health, has the authority and responsibility to oversee the work of the agencies that implement the Energy Employees Occupational Illness Compensation Program. One of the Board's specific responsibilities is to make recommendations to the Secretary of the Department of Health and Human Services about whether to approve Special Exposure Cohort petitions that have been referred by NIOSH. While it is not on your agenda this week, you may soon have the responsibility to make such a recommendation on a petition that Bethlehem Steel workers have submitted to NIOSH. So I come today with a simple message. Bethlehem Steel workers deserve a Special Exposure Cohort, and I urge you to recommend one when the petition comes before you. This is one of the most heart-rending issues that I've worked on in my time in the Senate. Like workers at many other sites around New York and our country, Bethlehem Steel employees were essential to our Cold War effort. These people literally built our nuclear arsenal in the

decades after World War II, and helped us eventually to win the Cold War.

In the late '40s and early '50s the government contracted with Bethlehem Steel, which is in Buffalo, to roll uranium at their plant. But the workers weren't told what they were working with. They weren't provided with safety equipment to shield them from radiation. They weren't monitored to determine how much radiation they were being exposed to. But if you talk to Ed Walker, who's here somewhere -- Ed's back there -- and to the other workers who I have spent time talking to, or to their spouses or their children of workers who have passed on, you know that this was hot, dirty work.

Uranium dust was thick in the air. They breathed it. They coated their hands with it. They would sit on areas in the plant to eat lunch and put their lunch down and the uranium dust would be on their sandwiches. They ingested it. It covered their work clothes. So it's not surprising that many of them got cancer.

And for decades they petitioned their

government for help and have been denied. Congress finally did the right thing in 2000 with the Act that you are part of administering. This was a landmark law, and it was such in the tradition of our country to acknowledge the wrong that the government had done, and promised timely compensation to workers and their survivors. We have yet to realize the full promise of that legislation. Since 2001 I've been pushing NIOSH and HHS to speed up and improve the program. Initially I urged NIOSH to make improvements to the Bethlehem Steel site profile, and make it better reflect the conditions at Bethlehem Steel. As you know, the original site profile was developed without even a visit to the Bethlehem Steel plant. In the last several years NIOSH has made improvements to the site profile, and I thank NIOSH for that.

But the more I looked at the situation and the more information that workers and their survivors brought forward to me, it became clear that there were great disparities between the site profile and actual conditions at the site. And so I became even more convinced that

reconstructing doses for Bethlehem Steel workers is an impossible task. It shouldn't be surprising -- after all, we're talking about work that occurred in secret 50 years ago, and before modern radiation monitoring and safety practices had been developed. As a result, the inability to estimate Bethlehem Steel workers' doses is not a failure. It can't be done. The failure would be if we don't recognize a special cohort that will give them the recognition, the justice that they deserve. When Congress passed the law in 2000 it recognized that reconstructing doses would be impossible in many cases, and that's why the special cohort process was included in the law. The statute, to my reading, is pretty clear. It says that if the government doesn't have the information needed to reconstruct doses, then workers should be given the benefit of the doubt and their claims should be paid. More precisely, it provides for classes of workers to be added to a Special Exposure Cohort if it's not feasible to estimate their radiation doses with sufficient accuracy, and there is reasonable likelihood that the radiation dose

may have endangered their health.
I don't think we could have a clearer case than Bethlehem Steel, where not a single worker wore a radiation badge, where the only radiation measurements we have are a handful of air samples, where the workers rolled uranium and many of them contracted radiation-related cancers. So I'm appealing to you to help us bring this process to a conclusion.
It has been six years since Congress passed the law. I've had meetings with the survivors and with the workers themselves, but there are not many workers left. I think they deserve to be compensated, and really given justice for what they did for our country.
I understand the site profile is under final revisions, but I just don't see there's any way that it can be a fair rendition of what the men who worked in that plant were exposed to.
I urge NIOSH to move swiftly to qualify Bethlehem Steel's petition. I urge this Board to forward it to Secretary Leavitt with a favorable recommendation. And I appreciate very greatly the advocacy and the effort that you've undertaken, because when a document

surfaced earlier this year that showed OMB was looking for ways to limit the designation of Special Exposure Cohorts as a cost-cutting measure, that was a real slap in the face to these nuclear workers. And it was a slap in the face to Congress, as well. I think the law is clear and I'm pleased that it looks as though OMB is backing off of that position. But we don't want to give them a back door to realize cost-cutting at the detriment of the workers who deserve this compensation. So I thank you for your consideration of this. It's a hugely important -- not just for Bethlehem Steel workers, but for workers and survivors at other sites throughout New York and across our country. We think justice is long overdue. I'm grateful for what you're doing, and I hope that we'll be able to continue in the spirit that this legislation was passed to do what is right by the men and women who did so much for us.

Thank you very much, Dr. Ziemer.

DR. ZIEMER: And Senator Clinton, we thank you for being with us today very much.

SENATOR CLINTON: Thank you. Thank you very

much.

DR. ZIEMER: We're going to recess for about 20 minutes, so we can relax a minute, folks.

(Whereupon, a recess was taken from 10:30 a.m. to 10:50 a.m.)

DR. ZIEMER: Let's reconvene. There's a number of items before us on the agenda.

Before we return to the agenda, just some comments from Dr. Wade.

DR. WADE: I just -- to pick up on the discussion that you were having before the visit by Senator Clinton, Wanda was suggesting that possibly we had enough information to move forward. You know, representing the Secretary and also the NIOSH Director, I think right now there is a conflicted record. There's a NIOSH recommendation. There was a series of technical discussions that I don't think have been closed. I think for the Board to make that change at this point, without future discussion, would put the Secretary in a very difficult position. So I would say that further airing of the issue does make sense to me.

DR. ZIEMER: Okay. Thank you. Board members,

any further discussion?

AMES (CONT'D)

We have before us the motion on the Ames facility that you have at hand. I want to ask --

DR. WADE: Where's Mark?

DR. ZIEMER: We're -- we're going to have a quorum call or something here.

MS. MUNN: He's just going for the podium, I think.

DR. ZIEMER: Wanda, you have an additional comment for us?

MS. MUNN: Are we going to leave the 21 days at 21, or are we going to (unintelligible) --

DR. ZIEMER: Yes, I've been assured that that's been our customary time period and the Chair -- I'm fine with it if Ray is, and so that's fine. I -- I just had it in my mind that it was 31 days and --

MS. MUNN: So did I.

MR. PRESLEY: I thought it was 30.

THE COURT REPORTER: I'm willing to go to 30.

MS. MUNN: Well, yeah.

DR. WADE: To complete the -- the truth, it's 21 days. And because of the typo the last

time, it wound up being like 23 days, but we thought that that qualified as to the wording in here, that there was a reason, and it was getting that issue resolved. So we were a little bit late the last time, but generally Dr. Ziemer does make it.

DR. ZIEMER: Okay. Further discussion? Are you ready then to vote on the motion?

MS. MUNN: Yes.

DR. ZIEMER: It appears that we're ready to vote.

All in favor of the motion signify by saying "aye".

(Affirmative responses)

Those opposed say "no".

(No responses)

Are there any abstentions?

(No responses)

Then I declare that the motion has carried.

Thank you very much.

Now I want to alert the assembly that we are expecting Congressman Tom Udall at approximately 11:00 o'clock -- no --

DR. WADE: Stu --

UNIDENTIFIED: (Unintelligible) is showing up

at 11:00.

DR. ZIEMER: Oh, it's been changed. I'm sorry? 11:15 I'm told. Okay. Thank you very much, just for that update. So in the meantime we -- we will proceed with our agenda.

NIOSH PRESENTATION ON PARTIAL DOSE RECONSTRUCTIONS FOR NON-PRESUMPTIVE CANCERS, MR. STUART HINNEFELD, NIOSH

The agenda item that's before us next is a presentation from NIOSH by Stu Hinnefeld, and this is the issue of partial dose reconstructions for non-presumptive cancers. And you do have a copy of the slides in your packet.

MR. HINNEFELD: Good morning, everybody, and I guess thanks for having me on the agenda. We've been asked to present for this meeting our approach to what we term a partial dose reconstruction for claims where the claimant is included in the Special Exposure Cohort class, but is not compensated via the Special Exposure Cohort. Not every cancer is compensated in the Special Exposure Cohort, and so you have these claims remaining that are not compensated, and what can you do about -- about those -- those claims.

A little background information here is the

additional classes -- the process we just went through with Ames Laboratory -- the additional classes of the SEC are not completely done, but it was a -- a petition was filed. We evaluated the petition. We determined that it wasn't feasible to reconstruct all the dose, and so we've recommended and the Board has now recommended the addition of Ames as a class of the Special Exposure Cohort.

Well, the addition of that class provides for compensation, without a dose reconstruction, for claimants who have one of the 22 listed cancers and provided that other conditions were met, and -- such as some of them have minimum latency periods, and then having worked sufficient time to have a potential for harm, which is of course in our discussion. So provided these other conditions are met, then those -- that set of people are -- are compensated. And the reason why classes are added in this method is because it's determined that it's not feasible to reconstruct the radiation doses with sufficient accuracy for all members of the class.

So once you've reached that determination that

you can't do that -- you know, it's not feasible to reconstruct all the components of the dose, then this -- the SEC class is added, and -- but the members of the class who either don't have one of the listed cancers or don't meet the other criteria are not compensated in that way. So they are -- they may still have an opportunity for compensation if we can achieve a -- perform a dose reconstruction and obtain a probability of causation above 50 percent with those components of the dose which are feasible to reconstruct. And so that's -- that's the end of the process I'm talking about here is the -- the claimants who are in the SEC class who are not compensated via the SEC class, and what happens in that situation. Just so -- if everybody wants to know, this is in my handout so you have it. It's -- I think there copies of my handout on the back page (sic). These are the 22 listed -- these are the listed cancers. As you'll see about half-way down the left-hand side where I started putting the word "primary" after each one, that's because the list of the cancers after -- after you read "lymphoma, other than Hodgkin's

disease," the next line of the list actually says "and primary cancers of:" and it lists all these other tissues and organs, so that's why I put that word "primary" after that, to -- just to kind of have a constant representation of the items.

Now what NIOSH expected to do and has always expected to do on these cases was described in the preamble to the -- to the Special Exposure Cohort rule, 42 CFR 83, and in the summary of public comments part of that preamble. We wrote it there because we received questions during the -- after the publication of the proposed rule about what will happen to these people who are not compensated via the SEC since not every claim will be compensated. And in that we said that under -- under current dose reconstruction procedures, NIOSH would estimate all the radiation doses of such employees that can be estimated. In other words, we're going to reconstruct those components where it is feasible, where we haven't determined that it's infeasible or it hasn't been determined it's infeasible to do dose reconstructions.

And so I've listed up here the -- the SEC classes that have been added on through the -- the Secretary's designation letter. There are some additional classes that the Board has recommended that have not yet received the designation letter, so this is the population. I've only listed Iowa Ordnance Plant once. There are actually two designations for Iowa Ordnance, if you remember. There was a second designation for the radiographers that incorporated a few years, but the situation for the radiographers is the same in terms of what we -- I'm talking about today as the remainder of Iowa, so I didn't call them out separately. So I've summarized here from the various designation letters, the NIOSH Director's letter to the Secretary, the Board's recommendation of language, and in some cases in the NIOSH evaluation report language, what were the key elements that led to a decision that it's infeasible to reconstruct dose. What were -- what was the reasons why the determination was made that doses are -- are not feasible to reconstruct if we reconstructed these doses, and -- and then what's the impact

of -- of those findings. So for the early Mallinckrodt period, '42 to '48, as we colloquially call "early Mallinckrodt" -- from '42 to '45 there was a statement of insufficient information to estimate intakes for internal exposure, and from '46 to '48 we were unable to estimate intakes because of technical unreliability, questionable data integrity and lack of validation of data, and from '42 through '48 there were inadequate radiation monitoring data that pertains to external radiation exposure. So you follow over to the right-hand column and you can understand -- and we follow along then what component of dose that we would normally reconstruct has been eliminated by this -- this finding of infeasibility, and so in two chunks then we are not able to reconstruct the internal doses or the external doses from this '42 to '48 period. And that leaves behind the occupational medical exposure, which it does appear it would be feasible to reconstruct for those claims.

For the second Mallinckrodt segment, the '49 to '57, which we call late Mallinckrodt, the

reasons for the infeasibility on -- again, on the left side, are during this period there were intakes of uranium decay chain decay product items which could not be estimated with sufficient accuracy, the thorium-230, protactinium-231 and actinium-227. Those are uranium decay chain products that would -- certainly were present, but not specifically monitored for. And from '49 through '47 (sic) there were concerns about the validity of the radon breath data for estimating radium intakes. And at the time of consideration, that data hadn't been validated as to whether we felt like we could use that radon breath data. Radon breath data is a bioassay taking (unintelligible) for radium body burden.

So the impact of the infeasibility then is we are unable to reconstruct internal doses from these decay chain radionuclides, and it's a -- if we're unable to validate the radon breath data, then we would be unable to reconstruct the radium body burden, as well.

So what that leaves behind for the late Mallinckrodt period is that we feel like we can ex-- we can reconstruct the external doses for

that period. During this period we feel like internal doses from uranium and radon can be reconstructed as we have uranium bioassay and we have radon concentrations in the plant. And if we can validate the radon breath data, and we think we have a technique for doing that, so if it turns out that the data do validate and it is valid, we may be able to use the radon breath data for radium body burden estimates, as well. And we also, again, feel like we can do the occupational medical X-ray exposure during this period.

For the Iowa Ordnance Plant from -- for -- this is essentially for the entire period. For 1963 to 1974 -- as you recall, there is some monitoring data, so there is some external monitoring data for '63 to '74, but the determination was made that this collection of data was not perhaps collected from the most highly exposed people, or maybe it wasn't even collected in a way that provides you much information about the entire exposed population at all. So it was not -- you could not really utilize this data as was originally proposed to form coworker datasets for all of the workers

during this period so that the -- so since we -- and it's not representative of the population, it's really only representative of the wearer then.

Prior to that period that we have was originally proposed that there may be an extrapolation technique that we could use to extrapolate back from later monitor data which, you know, it was originally believed to be a coworker set, extrapolate back based upon a hypothetical -- if you remember, hypothetical plutonium pit, what would the dose rate be from that, what could those doses be, and that technique also was determined to be not appropriate and not provide feasible doses, and so that was eliminated as well.

The radon data that was available that was being talked about for use was not site-specific, and air monitoring and other source term data for other radionuclides like tritium and uranium were not sufficient for estimating intakes.

So what has that -- what -- the items or the impact of those findings on feasibility over on the right side are that the -- the coworker

approach, or using coworker datasets to assign external doses then can't be done, that -- and we -- and unable to reconstruct any external doses before 1962, which is the period before there was really any particular monitoring data and -- and it also rules out then the internal doses from radon or from other radionuclides as well.

So what that remains then is for the period when there is some monitoring data, '63 to '74, if we have a monitoring person -- monitoring data for the claimant, his monitoring record, we will utilize that monitoring record and our understanding of how well the technology was. That would include, you know, adding in missed dose and -- from -- based on MDLs and things like that for the period when that person was monitored and had -- we can reconstruct that dose. And we also believe we can reconstruct the occupational medical during that period. Y-12 facility from '43 to '47, again, from '43 to '47 we have an absence of monitoring data, source term data and sufficient process to estimate either internal or external doses, so it takes out both internal and external doses

from the -- from the equation and leaves just the occupational medical.

And for Linde Ceramics -- '43 to '47 period for Linde Ceramics, we have insufficient biological monitoring, which would be bioassay, air monitoring, source term and process information to estimate airborne concentrations and therefore intakes and therefore internal doses for that period. So we'd remove internal -- so internal doses then can't be reconstructed for that period from the Linde plant. And that leaves behind then external doses, which we believe can be reconstructed because there is some available workplace survey information, and we have source term information -- source term information for a uranium plant is a little better for external dose than it is for internal dose, so we feel like with -- with the survey information and what's available, we feel like we can probably do external doses, and we feel like we can do the occupational medical as well.

Now when we prepare these dose reconstruction reports, when we have -- when some component of the dose is not feasible to reconstruct, we --

we add language to the dose reconstruction report in a couple of points to point out the fact that we haven't included all the components we would normally include. And so early on in the report we include this paragraph up here which describes that there's been a finding that certain things are -- cannot be reconstructed, it's not feasible to reconstruct something, or in this case it's only occupational medical exposures can be reconstructed. That was the finding for this -- this period. This is the Y-12 example. Consequently, these other exposures are not reconstructed.

And then in the summary of the report we also describe that the -- similar type language, there's been this finding of unfeasibility and only medical exposures can be reconstructed, and estimated dose was such-and-such to the target organ through this reconstruction. So in order to describe in that context that this -- we have only re-- we have only included some portion of the components we would normally include because the other components have been determined not to be feasible to reconstruct.

So just in conclusion, we've -- we -- we arrive at this, we do this process because the SEC class -- addition of SEC class does not provide a remedy for all claims in that class. And our historical statistic -- I mean it's probably been a while since we verified that this is actually the statistic, but historically what we saw was about 40 percent of the claims we receive for dose reconstruction do not have one of the SEC listed cancers, so that's a fairly big chunk of the claims that are not remedied by the SEC finding. And so this provides -- using information available, it is sometimes possible to provide the remedy -- compensation remedy for some portion of those remaining classes through -- by the partial dose reconstructions.

That's the end of my prepared remarks. If there are any questions, I'll be glad to take questions.

DR. ZIEMER: Thank you very much, Stu. It's a very helpful, concise summary of the implications of the SEC outcomes. Let's see if we have questions or comments from the Board. Dr. Melius.

DR. MELIUS: Yeah, several questions. Have you ever done a breakdown on what types of cancers tend to get compensated under sort of post-SEC --

MR. HINNEFELD: The non-presumptives?

DR. MELIUS: The non-- among the non-presumptive.

MR. HINNEFELD: Far and away the most likely one is basal cell carcinoma. Melanoma is not out of the question, but basal cell carcinoma, and particularly because it frequently occurs in multiple -- you know, multiple cancers are basal cell. So far and away it's the most common.

DR. MELIUS: Okay. So -- so the -- that and some of that's because at least in many of the recent cases it's been internal exposures that have been infeasible and external's --

MR. HINNEFELD: Right.

DR. MELIUS: -- there's usually monitoring --

MR. HINNEFELD: Yes, you're -- you're right. The internal is often the more difficult and there's a good (unintelligible). Occupational medical is an external exposure if BCC is in the beam of the X-ray.

DR. MELIUS: Yeah.
MR. HINNEFELD: If the person worked for several years, has multiple BCCs, you can receive -- you can have a compensation even on occupational medical.
DR. MELIUS: Really? Okay, that --
MR. HINNEFELD: Yeah, if -- I mean the right set of conditions.
DR. MELIUS: Yeah. Another question then is -- if I understand you correctly, once the Board has -- through your report and then the Board, I'm not sure which -- what you base is on -- has determined that it's infeasible --
MR. HINNEFELD: Uh-huh.
DR. MELIUS: -- and this calls for an SEC, then you no longer consider that exposure in any of your dose reconstructions --
MR. HINNEFELD: Yes, that --
DR. MELIUS: -- going -- that -- that sort --
MR. HINNEFELD: -- is correct.
DR. MELIUS: -- of -- from -- from that -- that point forward in time. The Board, in our reports, our recommendation, only speak to infeasibility. We never really speak to feasibility.

MR. HINNEFELD: Uh-huh.

DR. MELIUS: So you're basing the feasibility on either your site profile or your evaluation report for your own -- the NIOSH evaluation report for the SEC.

MR. HINNEFELD: Yes, if we feel like -- we feel like we have information that -- sufficient information to make it feasible --

DR. MELIUS: Okay.

MR. HINNEFELD: -- then we will -- and there's not discussion and -- and finding a recommendation to the contrary --

DR. MELIUS: Yeah.

MR. HINNEFELD: -- I mean that's happened, there's not a recommendation to the contrary, then –

CONGRESSMAN TOM UDALL

DR. ZIEMER: Yeah, let me interrupt you, Stu, just a moment. Congressman Udall has just joined us. I think he has a vote coming up, so we -- we want to expedite his time here. Welcome, sir, we're pleased to have you here. Tom Udall has asked to speak to the Board and here we are, sir. And actually there's a mike next to you, or you may use the podium,

whichever is most comfortable. We welcome you here.

CONGRESSMAN UDALL: Thank you very much, Mr. Chairman. It's a pleasure to be with you today. I'm sorry to -- sorry to interrupt you.

(Pause)

Great, thank you very much. Thank you, very much appreciate you accommodating my -- my schedule here today.

Members of the Advisory Board, witnesses and colleagues, it's a pleasure to be with you here today and to thank you for the opportunity to -- to offer remarks. As many of you know, the Los Alamos National Laboratory is located in the district that I represent in New Mexico. Many former LANL workers are sick and have died as a result of being exposed to harmful doses of radiation while working at LANL. These men and women are and have been awaiting compensation.

One of my constituents, who you will hear from today during the public comment period, is New Mexico State Representative Harriet Ruiz. Harriet comes to you today in part to fulfill a dying promise she made to her late husband, Ray

Ruiz. Ray was an employee at LANL who was exposed to harmful doses of radiation, diagnosed with lung cancer and sadly died from the disease in 2004.

From the time he was diagnosed to the time of his passing, then-Representative Ruiz worked tirelessly for justice for these LANL workers. Unfortunately, I'm in front of you today because that work continues. Mr. Ruiz's dying wish was for Mrs. Ruiz to continue the work that he started and that -- and she has done so vigilantly.

Ms. Ruiz filed a SEC petition in January, 2006 for LANL that is pending before NIOSH. Obtaining a qualification for that Special Exposure Cohort has proven cumbersome and has left many victims like Harriet Ruiz in search of closure. Harriet's SEC covers a whole group of workers in which there was a lack of monitoring, or a question of data integrity. The current NIOSH request for an SEC is much more narrow and covers only those workers exposed for radioactive lanthium (sic). It is disappointing, if not puzzling, how it is that NIOSH cannot manage to qualify an SEC petition

which covers lanthium and other LANL workers under such an 83 period 13, but somehow can't manage a much narrower SEC qualification under 83 period 14 at the same time.

Another concern I would like to share with the Board deals with the adequacy of the LANL site profile on which NIOSH is premising its dose reconstruction for LANL claimants. Probing questions have been raised. One of these is about the failure to fully use the voluminous incident databases and the 1991 tiger team report.

Further, the preliminary historical data which underpins the LANL bioassay database, also information on which NIOSH is basing its dose reconstructions, is not complete. This bioassay database needs to be carefully audited, and I would respectfully ask the Board to have its audit contractor, SC&A, undertake this mission. I have reviewed individual claimant files and found that the primary historical data is missing, or the paper record inaccurate.

I would also like to respectfully urge the Advisory Board to examine NIOSH's role in

stalling out petitions in the qualification phase so that they never get an audience with the Advisory Board. Since Harriet Ruiz filed the SEC in January, NIOSH has responded with several letters and no phone calls. Rather she has received correspondence in an extremely bureaucratic and legalistic tone challenging whether she checked the right box on the SEC petition form to demonstrate that radiation monitoring was inadequate at LANL, or whether the attachments submitted -- such as the 1991 tiger team report -- has the proper label showing which regulatory criteria is met in establishing the deficiencies in radiation dose practices.

NIOSH needs to find ways to cooperate with petitioners so that filing a petition is not burdensome and does not take on the character of litigation. From a claimant's perspective, NIOSH's approach in the qualification process is problematic for several reasons.

Number one, NIOSH's continued requests for additional information becomes a moving and confusing target for the petitioner.

Number two, without a health physics

background, the petitioner is outweighed and outnumbered by NIOSH.

Number three, NIOSH's ability to quash petitions before they get a foot in the door runs counter to Congressional intent.

Four, and lastly, it appears as though NIOSH is cherry-picking SEC classes through the 83 period 4 rather than evaluating the entire time frame and scope of the class under petition.

I respectfully request that you review the Ruiz petition to understand exactly why petitioners find this process daunting and burdensome. It is my understanding that NIOSH has already disqualified nearly 30 SEC petitions. In light of the first-hand knowledge I've had with the Ruiz petition, it may be worth considering whether this Board may want to undertake, as a part of its responsibilities under the Act, an audit of selected SEC petitions which are not qualified.

Members of the Board, we know SEC petitions face an uphill battle, and this should not be the case. I'm eager to work with my colleagues in Congress to address these and other glaring deficiencies in the implementation of the

EEOICPA. In the meantime I ask you to look into some of the issues raised today. Please let me know if there is anything my office can do to provide or clarify these remarks or support your work on behalf of the sick heroes of the Cold War.

And thank you again for allowing me to testify today, and I very much appreciate you taking me out of order because of our pending vote, Mr. Chairman. Thank you.

DR. ZIEMER: And thank you very much, Mr. Udall. We appreciate your being here today. You're -- you're welcome to stay as long as you're able. I know you have pressing business.

If I might just ask whether any of the Board members have any questions that they might wish to pose, I think all of --

CONGRESSMAN UDALL: Please, yeah.

DR. ZIEMER: -- the material you referred to of course will go on the record, and as you know, we -- we will very shortly, on today's agenda, at least get underway with the -- the status of the evaluation report and we'll hear from NIOSH as to where we're going, and we appreciate the

input you've given us and stimulate some of the thought processes as we go forward. Thank you. Board members, any particular questions at this time? The Los Alamos picture will certainly be unfolding before us, so thank you again for that input very much.

CONGRESSMAN UDALL: Well, thank -- thank you very much, Mr. Chairman, and I'm very pleased that this very distinguished Board does not have any questions because they probably might have stumped me, so I'm --

DR. ZIEMER: Well, yeah, they may -- they may -- they're a very discreet group, so they --

CONGRESSMAN UDALL: And with that, I would like to submit my statement, also, for the record to you --

DR. ZIEMER: Yes, appreciate it --

CONGRESSMAN UDALL: -- Mr. Chairman. Thank you.

DR. ZIEMER: -- thank you.

MS. MUNN: Thank you, Congressman.

CONGRESSMAN UDALL: I'm sorry I'm going to have to -- going to have to run. Thank you very much. We really appreciate all of your work, we really do. Thank you very much.

NIOSH PRESENTATION ON PARTIAL DOSE RECONSTRUCTIONS FOR NON-PRESUMPTIVE CANCERS, MR. STUART HINNEFELD, NIOSH (CONT'D)

DR. ZIEMER: Okay, thank you very much. We'll return now to the discussion of the non-presumptive cancers. I think, Stu, you had been answering Dr. Melius's question. I'm not sure if you had finished that answer, but --

MR. HINNEFELD: The last question I think was when there's a finding of infeasibility for a particular component --

DR. ZIEMER: Right.

MR. HINNEFELD: -- that we consider that then as removed then. If it's not feasible, then we can't reconstruct it and we don't include it in the dose reconstruction, but other components, where there is no finding of infeasibility, if our research would indicate to us that we feel like we have enough data to do that reconstruction, then we would include that -- without any specific comment in -- from like a Board recommendation or a Secretarial letter or something like that.

DR. WADE: I'd just like to clarify, Jim, in his opening to the question, talked about the Board's recommendation. It's really the

Secretary's determination that triggers --

MR. HINNEFELD: It's the Secretary's designation letter, sorry.

DR. ZIEMER: Okay. Additional questions? I think Roy --

DR. MELIUS: Yeah, I actually --

DR. ZIEMER: -- Roy DeHart and then --

DR. MELIUS: I actually had some follow-up, but --

DR. ZIEMER: Yeah, let's have Roy and then we'll come back.

DR. DEHART: Stu, prostate cancer in males is very common as one ages, and I'm sure this is a common cancer that you're looking at.

MR. HINNEFELD: Yes, it is.

DR. DEHART: As I recall, it's somewhat resistant to radiation, so one would anticipate rather high doses in order to qualify, and yet we're limiting so many ways of determining radiation exposure because the data just isn't there. Is there an alternative here, or are we -- we're dealing with a very common affliction, obviously, among males.

MR. HINNEFELD: I -- I don't know. I don't think in the current legal and regulatory

structure there's a particular alternative to what we're doing. Clearly -- I mean if -- when you reconstruct all the components of the dose, it's difficult to show causation -- a POC above 50 percent with a -- with a prostate cancer, so that condition exists because -- you know, I guess that's the way things are, but I -- I don't know of any alternative with the structure we have now.

DR. WADE: I mean I'd speak to it briefly. I mean it does appear to me that there is a -- is a -- a hole been left in people's coverage, and you know, I think the fix probably needs to be legislative, it seems to me, and I think all need to hear that and consider that. But you know, I applaud NIOSH for trying to do what they're doing, but it's a -- it's a makeshift attempt to fill a hole that really needs to be filled more systemically, I think.

DR. ZIEMER: Dr. Melius.

DR. MELIUS: Yeah, I think one of the other anomalies in this process is that, if I understand what happens correctly, is that prior to an SEC petition being qualified or it some way -- you may very well have done some

dose reconstructions --

MR. HINNEFELD: Yes, that's correct.

DR. MELIUS: -- already using some of these -- these data and -- that -- that are then declared to be infeasible or --

MR. HINNEFELD: Yes.

DR. MELIUS: -- so to -- so to speak, so we may very well have someone who -- who's applied with a non-SEC cancer who may very well have someone they worked with with the same cancer having had a full dose reconstruction. They're then told that well, only certain parts of their dose will be considered, you know, after the SEC petition's qualified -- a determination's been made.

MR. HINNEFELD: Yes.

DR. MELIUS: So it can be quite confusing to -- to the claimants and so forth, I -- on that. Or may also have -- even though it may be -- we'll make a determination of infeasibility for a class and that class is usually fairly broad, but there may be actual individuals within that class for which there may be monitoring data available which, at least in some cases, would qualify them because of the amount of

(unintelligible). How do you handle that situation where there's individual data on a individ-- for a person, but that the class has been -- you know, as a class, we've said that that data is not sufficient for making a determination.

MR. HINNEFELD: It would be I guess the nature of the finding, the infeasibilty finding.

DR. MELIUS: Yeah.

MR. HINNEFELD: If the infeasibility finding was the data that is available is not good data --

DR. MELIUS: Yeah.

MR. HINNEFELD: -- meaning it was lied about, it's not good, they didn't know what they were doing, the data is no good --

DR. MELIUS: Right.

MR. HINNEFELD: -- then there is -- there's -- I don't think there's anything we can do. We cannot use that data for dose reconstruction. If the finding is that you have a few people who are monitored, but you really can't do -- you can't extrapolate their exposures to the rest of the population and you can't use this as coworker data --

DR. MELIUS: Yeah.
MR. HINNEFELD: -- in that case, the few monitored people would be reconstructed.
DR. MELIUS: Okay. I -- I would agree with Lew's comment. I mean this is a -- something that's probably best dealt with through the legislation. It's just hard -- hard to deal with otherwise, but -- but I think one thing that's important, and it's come up at a number of our public meetings, is there's a great deal of confusion on the part of the claimants about this -- I mean first there's the feeling that they're being treated unfairly because people with the SEC cancers qualified. Secondly, the -- having a partial dose reconstruction is not always very satisfactory because they'll say well, what happened to all my other information, all my other records and so forth. And I think the more effort you can make to communicate that appropriately and completely to that -- I mean you have excerpts of your communication --
MR. HINNEFELD: Uh-huh.
DR. MELIUS: -- in your slides. I think it -- and I assume it is much more complete than

that, and particularly up front, understanding that -- look, this is not going to be maybe a satisfactory process, but -- you know, so you can do the best you can with what you're allowed to deal with.

MR. HINNEFELD: And preparing for this, it occurred to me that in this situation the partial dose reconstruction is really only sufficiently accurate if it -- the POC goes above 50 percent.

DR. MELIUS: Yeah, yeah.

MR. HINNEFELD: And so I think maybe some language to that extent to the claimant, you know, who gets a partial dose reconstruction less than 50 percent --

DR. MELIUS: Yeah.

MR. HINNEFELD: -- that we were not able to do a dose reconstruction with sufficient accuracy -- I think we have to do the partial anyway in order to know answer.

DR. MELIUS: Yeah.

MR. HINNEFELD: But that may -- that kind of language may -- it may be something we would pursue.

DR. MELIUS: Yeah, and even something up front

that -- especially if all you're allowed to work with is that -- is the occupational medical dose or something like that, which is -- you know, most cases would not qualify --

MR. HINNEFELD: In most cases it would not be successful.

DR. MELIUS: Yeah, some communication up front explaining that so the expectations are -- are realistic, but you-- you're right, it's for those under 50 percent, and -- and there's reasons for that, and an explanation of that's part of the legislation I think is helpful.

DR. ZIEMER: All right. Mr. -- Dr. Wade.

DR. WADE: Yeah, an observation. I mean towards the -- the purpose of always making this program better, it occurs to me that we should realize now that when the Board makes a recommendation on an SEC and it makes its way through to a Secretarial determination, there's a lot that flows below that that happens as a result of the particular words of that. I think it's well for the Board to understand that as it makes its recommendations, and I think what we've learned is that having DOL as part of that discussion, having DOL here with

the Board and talking about some of these issues I think just improves the process. I think we've learned that the last time in our discussions of Y-12, so I would ask the Board to consider making that a regular part of their deliberations as they look at an SEC petition to try and understand the downstream ramifications so you -- so you're sure that the recommendation is what you truly want it to be.

DR. ZIEMER: Thank you. Dr. Melius.

DR. MELIUS: Generated another question then. Is there -- and part of my thought, I think, when I suggested that we -- we have this discussion, is there a better way that we -- I mean this question would be for I guess you and Larry and for Pete Turcic -- is there sort of a better way that we should communicate in our letters that -- and our deliberations about these issues when -- as I said, we only have tended to focus on what's infeasible, what you can't do, not what you can do. And I think in only one case -- I believe it was one of the Mallinckrodt -- where we specifically addressed external exposures. I'm not sure that we did it very satisfactorily and may have caused more

confusion than -- than good with that, but I mean I think that'd be helpful. We sort of have a boilerplate we've been using for quite a while now, and should we try to establish more of a record in other areas, I guess.

MR. ELLIOTT: It's an important point you raise, and I think collectively we have to work to provide a full understanding of what dose reconstruction is feasible and what dose reconstruction is not feasible, and the reasons why on both sides. And you're seeing changes, I hope you're seeing changes, in our delivery of our evaluations toward that end. You saw on Jim Neton's presentation on Ames this morning that concluding slide, and I would -- you know, I'm going to challenge him even more in the future to be more descriptive on where we say we can reconstruct dose, why we feel that way and more descriptive on -- even more descriptive on why we say we can't. So that's my answer to your question. I think -- I think the more that we work together and the more we can develop the record on what's feasible and what's infeasible, the more comprehensible this is all going to be for those people who are

going to find themselves with a partial dose reconstruction.

Also, we are looking hard at the language that we use in our communications to this particular group of claimants. When we send out partial dose reconstructions -- you saw some language that Stu showed you, but we're continuing to evaluate our communication messages about this. We'll be meeting with DOL in the near future to go over some proposed language in that regard, as well, so -- and ways that we can get this message across.

DR. ZIEMER: Pete Turcic.

MR. TURCIC: Yeah, to answer your question, Jim, I think it'd be very useful in the adjudication process for some statement by the Board of what is feasible from -- from two perspectives. One that starts, you know, letting claimants have a better understanding of, you know, what can be done and -- and why it's only that. But then from the other standpoint, start making feasibility -- what is feasible if -- you know, without any -- without any discussion of it or statement of it, that becomes -- starts becoming a precedent, you

know, is this number of external samples for one year, if -- if that's feasible, then you know, that has to be feasible at other locations or else you won't have a uniform application.

DR. MELIUS: Yeah, just one -- one comment on that is that we -- we tend to focus in our workgroups and deliberations on what can't be done, so we tend to explore that and often not -- okay, the external -- yeah, it may be okay, but there's no discussion of it, or there's no -- that, and again, not questioning NIOSH's judgment, but -- but it's just the nature of the process tends to focus on the, you know, negative, what can't be done. And I think maybe exploring what -- you know, at least documenting the concurrence with what can be done would be helpful.

DR. ZIEMER: Larry.

MR. ELLIOTT: It would be great if we can achieve what Pete just outlined, where what we do for one circumstance at one site is transmitted and con-- you know, provides continuity in treatment at another site. But I'm going to say that I doubt that seriously

can be the case in all situations, and you're going to see -- I think you've already seen in the number of classes that we've added and in our -- the evolution of our understanding about feasibility and non-feasibility, and our explanation of each, as -- as we mature in our ability to communicate that and our -- mature in our understanding of the data, I don't -- I doubt seriously that we're going to find ourselves where we can take what -- what we know about Ames and the data that we have for Ames and transmit to that -- that to another facility that did a similar operation. I -- you know, I just think the circumstances are going to set the stage for what we say about feasibility and infeasibility.

DR. ZIEMER: You know, we -- we continue to hear from claimants and those that publicly testify that it appears that there still is difficulty in understanding what they are being told, whether it's that they're being told the dose cannot be reconstructed or can only be partially reconstructed. I'm wondering -- well, it appears what tends to happen is they get an official letter -- I suppose the

Department of Labor, for example, the final letter -- but many times these sort of final letters that one gets from agencies tend to be very legalese type of letters. They have the right words and so on, and we understand what they mean, but they're not necessarily so enlightening to the people who receive them. At least I think we hear that from people. And I'm wondering on the communication end, what efforts are made, either by Labor or by NIOSH, to make this really user-friendly in explaining exactly what the final meaning of things are? Do we have communications experts who -- who put this in language that becomes pretty understandable, or do we think we're doing it or...

MR. TURCIC: Paul, that's a very big problem right now that we're dealing with at our Final Adjudication Branch, and where the problem comes in, it's very difficult to tell the difference between a partial dose reconstruction report and a complete dose reconstruction report. You know, the body of it goes through and oftentimes explains, you know, the kind of efforts and kind of data

that's used, and then there's just one statement saying that, you know, in this situation, you know, because of the SEC, we can't do that. And that has caused tremendous problems in an understanding manner, you know, once -- then when we do the decision, we say based on the partial dose reconstruction. But you know, people don't understand that and the reports are very similar. You know, it may help if it's just a totally different report and, you know, I think another think would be the recommendation that Lars made earlier, you know, maybe a matrix that identifies this was done and this could not be done.

DR. WADE: Just for the record, Paul, Larry is due to talk to the Board tomorrow at 1:45 about, amongst other things, a communication initiative to deal with just the issue that you mention.

DR. ZIEMER: Thank you. Other comments?

(No responses)

(Whereupon, Dr. Ziemer and Dr. Wade conferred off microphone.)

DR. ZIEMER: Okay, we are at today's lunch hour because we -- we've moved it up, you notice, a

half hour. It's 11:30 to 12:30. So we will recess for lunch at this point, and then resume as quickly after 12:30 as we're able to, so make every effort to get back. We have people who will be on line -- that is on the telephone line -- to participate. So we'll recess for lunch.

(Whereupon, a recess was taken from 11:38 a.m. to 12:45 p.m.)

UPDATE ON ISSUES RELATED TO NTS & PPG SEC PETITIONS (250 DAYS), DR. JAMES NETON, NIOSH

DR. ZIEMER: I'd like to call the meeting back to order. We're -- we're scheduled to have a discussion on issues related to Nevada Test Site and the Pacific Proving Grounds, so we are temporarily skipping a little bit ahead on the agenda. We will do some reshuffling later to pick the previous item up, but we have some time-certain things here that we have to take care of.

So we're going to begin with a presentation by Dr. Neton, which will be an update on issues related to Nevada Test Site and the Pacific Proving Ground SEC petitions, particularly relating to the 250-day issue that was

discussed before in the Board. And then also we should have on line, if not already, Lynn Anspaugh from the University of Utah. Lynn, are you on the line?

DR. ANSPAUGH: Yes, I'm here.

DR. ZIEMER: Hello. Welcome, Lynn. We're glad to have you aboard.

DR. ANSPAUGH: Thank you.

DR. ZIEMER: And we will be hearing from Lynn a little bit later. And also we have with us today Sandi Schubert from Senator Reid's office. Sandi's over here and some of her colleagues, and we will hear from them, as well.

So let's begin, Dr. Neton, welcome back.

DR. WADE: Just quickly before you begin, Dr. Neton, the Board does have a conflict of interest policy, and I've talked to many of you about it before. If a Board member is conflicted on a particular site, then that Board member doesn't sit at the table during substantive discussions about an SEC petition. One of our members, Mark Griffon, is conflicted at Nevada Test Site. So when Mark comes I'll meet him at the door and escort him to the

front row. So if you see me doing that, don't think it odd.

MS. MUNN: We're not going to kick him off yet. Maybe later.

DR. NETON: Okay. Thank you, Dr. Ziemer. I'm here to talk a little bit about the Nevada Test Site/Pacific Proving Grounds, provide an update as to the characteristics of the -- the covered class with exposures less than 250 days.

If you recall at the Board meeting in Denver, the Board concurred with NIOSH's recommendation that Pacific Proving Grounds and Nevada Test Site be added as -- as -- to the Special Exposure Cohort, and the recommendation was that it be based on 250 days of covered exposure, although the Board did leave the option open that future investigations would be conducted in this area to help determine if -- if people with less than that time period of exposure should be -- should possibly be included.

So what we've done is, we've taken and looked at the available case data that we have for both of these sites, and so in turn I'd like to go through and talk about the total number of

cases in the SEC that are covered -- currently covered by the -- by the Special Exposure Cohort, look at the number that have less than 250 days, and I also took the opportunity to look at covered exposure less than 250 days at Pacific Proving Grounds because, if you recall our discussion at the last meeting, many of these workers were there 24 hours a day, seven days a week. So it would be somewhat less than that, and I essentially just divided 250 by three. That is, 250 days represents a 2,000-hour work year. When you divide that by three, you end up with an -- 83 days worth of exposure.

So we looked at the number less than 250 days that had presumptive cancers, those were the people, as Stu talked previously, that would be not -- would not have a remedy under the Special Exposure Cohort because they didn't meet the qualification criteria and we'd have to do something with them. We looked at the job categories and description of these cases and also tried to get some information from our database as to what the monitoring status of these workers -- workers was.

I just repeated here the Nevada Test Site SEC post-class definition and -- which is the employees of contractors who were monitored or should have been monitored at the Nevada Test Site for about a dozen-year period here starting in late January '51 through the end of December 1962. If you recall, that was the period where above-ground testing was conducted at Nevada Test Site.

So with that, there were -- in our database there are 444 cases that -- that meet the class definition. That is, have exposure -- not the class definition, but had exposure at Nevada Test Site in between those two time periods. The number with less than 250 days, and had at least one presumptive cancer, is 61. So a fairly significant number of the -- of the cases would not be covered under the current definition of the Special Exposure Cohort.

So we took a look to see what kind of dosimetry data did we have for these workers in our -- in our case files, and it turns out that about 90 percent, 54 of those cases, had external monitoring data. In other words, they worked at the site for less than 250 days, but we do

have external data to assist on reconstruction of their exposures. Only six, about ten percent, had any internal monitoring data, and I'll talk a little bit about that as we go. If you recall, we had almost no internal data. There's a special reason why some of these six had monitoring data, and I'll talk about that a little later.

Just for completeness, there were 17 additional cases in the database that had non-presumptive cancers with less than 250 days.

Okay, what -- what type of job -- then we tried to go into the database and look through the Computer-Assisted Telephone Interviews and the data provided by the claimants and the Department of Labor as to what kind of job -- job were these people doing that had less than 250 days exposure. And it kind of runs the waterfront of job categories if you look at the ones with external data -- you know, miners, assembly men, safety professionals, construction trades workers -- so you would expect you've got, you know, all the cases -- sort of all the job -- many of the job categories covered that you would expect to see

at a site such as Nevada Test Site.
Of the ones without external data -- there were only six, remember -- so I've listed the individual titles for each of those here, and nothing remarkable stands out -- in my mind, at least -- among these other than they do tend to be the trades workers more, although there's one engineer here. But nothing -- nothing unusual about why those people might not have been monitored.
Of the cases with bioassay, I mentioned there was something about them. There are three miners had bioassay in this -- in this time period, and it turns out that although above-ground testing was the main bread and butter of the Nevada Test Site prior to 1963, there were some underground -- there was some underground testing going on, either through vented mine shafts or some deep tunnel testing to look at the explosive characteristics of weapons for Department of Defense, that type of thing. These miners oftentimes would have to go and do what they call drill-back, to go back and pull out instrument packages and such after a detonation. And there were some pretty -- from

my experience, looking at the data -- heavy exposures to tritium. And so of the bioassay data we have in this period, it's primarily tritium type data. In fact, I think one of the first cases that we ever evaluated in -- in OCAS was a -- a miner who had a fairly substantial tritium exposure and I believe ended up being compensated based on tritium exposure alone, which is pretty hard to do. There's a fairly low dose per unit intake of tritium.

So the bioassay data consists of the three miners, a hoe operator, a wireman and a driller.

Cases without bioassay data, since there's only six out of 61, you can imagine the other 90 percent are very similar in make-up to what we see of the cases that have external. There's no rhyme or reason why those people didn't appear to be monitored.

This is just sort of a quick bar histogram that just -- we tried to collapse these 61 job titles into some meaningful characteristics, and we came up with four categories. Twelve adminis-- there's administrative personnel,

construction worker/building trades personnel; and drillers, miners, re-entry, technical folks. You can see that the majority of the workers with less than 250 days do appear to be construction workers -- not the majority, but almost half. But again, there doesn't seem to be any reason for the -- for not monitoring them. It's kind of spread out among -- among the different categories. One case of the administrative area we don't have data yet. We're still awaiting a DOE response.

Okay, a brief summary of the monitoring statistics that we had. Of the 61 workers who had less than 250 days, the 28 that were monitored had no recorded external dose. And by that I mean that all the results in the files were less than the detection limit of the monitoring program. So by all indications, based on their monitoring status, they did not receive any exposure -- externally, anyways -- or whatever we would impute based on less than, you know, the missed dose calculation we would normally use for our dose reconstruction program.

The collective dose for all the 61 workers that

were -- all the workers who have monitoring data was a total of 21 rem. That is, if you add up all the doses that were in the files, you get 21 total rem, which is not a particularly large number averaged over all those cases. Interestingly, 58 percent of that collective dose was received by five miners. Again, these were underground operations doing drill-backs, we suspect, that ended up giving them some fairly high doses. In fact, the highest recorded dose was a miner -- highest recorded annual dose in this time period was a miner who received 4.7 rem recorded external exposure. These are -- these are not significantly -- (unintelligible) high exposures, they're certainly not in the realm of what we'd consider to be an exposure related to a criticality accident, at least.

If you add the internal plus the external, you can get the highest recorded exposure for a year up to about 7 -- 7 rem.

Okay, let's switch gears here and move on to the Pacific Proving Grounds. I've -- we've produced the proposed class definition here, and that was subcontractors or workers who were

employed from -- PPG from '46 to '62 and who were present during this -- who were present at the Pacific Proving Grounds during those years and were monitored or should have been monitored.

The employment statistics, there were a total of 69 cases -- some of this I presented last time; I just include it to refresh folks' memory -- people's memories as to what we discussed. There were 69 total cases in our files that meet the criteria in the SEC class definition. The average length of exposure was 393 days, but it ranged all over the map, from less than -- from one day to greater than 2,500 days. And there were 31 cases in our files that had an exposure duration of less than -- or greater than 250 days. I would say that some cases have additional exposure at the Nevada Test Site during the Nevada Test Site SEC period, so as you -- as you might recall, the regulation allows one to aggregate exposures among different SEC classes.

I'm sure I'm going to be asked the question -- I haven't addressed this yet -- as to how much is that and what does that do to the profile of

these cases. I don't have the answer to that at this time.

And again, this is the histo-- the (unintelligible) frequency diagram I put together for the last meeting just to show that the exposure time, durations, fit -- fit nicely a lognormal probability distribution and to indicate where the 250-day mark is.

Interestingly enough, if we go down to the 83 period, we get -- you know, there are many fewer workers that -- that -- many more workers qualify, and as I'll show you, this drops the number who would not qualify down to I think 19 cases.

The job categories that we reviewed for the total cohort of 69 people were these, and they tended to be more heavily oriented towards the construction operator trades, the folks who were there for a long-haul duration, sort of maintaining the physical plant of the Pacific Proving Ground, building things, trenching, that sort of thing -- the infrastructure activities. And many of those people who were there comment -- you know, report combinations of work and recreation activities. I mean they

just lived there. This was their -- their residence for that period of time.
And this is our collapsed make-up of the different job categories for PPG. This is all cases, all 69 cases. And again, fair -- fairly fair percentage of building trades, scientific/technical, administrative and -- and 13 percent unknown.
I talk a little, though, more about the cases less than 250 days. There's 38 cases of the 69 less than 250-day exposure, and 19 cases less than this calculation I've done for 83 days. The job titles of those with exposures less than 83 days appears to be more heavily weighted -- at least in my mind -- toward the technical/professional folks. And it makes sense. Those are the ones who may have flown into the area and participated in the actual shots themselves somehow, whether they were involved in the detonations or monitoring or what-not, as opposed to the building trades people who may have been there for longer duration. And in fact, if you look at the work descriptions of some of these people who have job titles here -- we don't have full data on

all of these but I tried to pull out what we had -- you know, people were performing leak detection on devices, prepared the firing range detonation signals, took samples -- environmental type samples, tested bomb launches. So these were -- these were activities that you'd expect for people who were technical/professional types who were there to -- to assist in the detonations. It turns out that for these 19 cases, we have external dose measurements for -- for all of them. Every one has some type of external dosimetry. We are awaiting the response from one case -- of the ones we have, we have external data. Five of these cases have no recorded exposure -- that is, again, all their doses are below the detection limit. And I don't have the exact -- the statistics for the cumulative external dose for these -- these cases, but none of them exceeds what we would consider the regulatory limits in effect at the time that they were exposed, which in -- in -- which would then tend to indicate that these exposures were much less than what we'd expect from -- from being present at a criticality

incident, as opposed to participating in a controlled -- somewhat controlled detonation of a nuclear weapon.

Did I skip one here or not?

UNIDENTIFIED: (Off microphone) That's all I've got, Jim.

DR. NETON: That's it?

UNIDENTIFIED: (Off microphone) Yeah, uh-huh.

DR. NETON: Okay, that was it then. With that, I guess I'll -- I'll be happy to answer any questions if there -- if there are any.

DR. ZIEMER: Robert?

MR. PRESLEY: Does the -- are the guards included in the NTS petition?

DR. NETON: Are they included in the NTS -- if they were monitored or should have been monitored, that would be my opinion, yeah.

MR. PRESLEY: Just make sure because, yeah, they were -- they were definitely part of it out there. And the other thing I have is on the 19 cases that were less than 83 days, were there any of these that were involved in both sites?

DR. NETON: I don't -- I don't have that data. I didn't look at it that closely. There is

overlap among those cases, but I don't know if it was specific to those 19 or not. I can't answer that. We could certainly find that out for you.

DR. ZIEMER: Any others?

(No responses)

Okay, apparently no more questions. Again, thank you, Jim.

(Pause)

SENATOR REID'S MESSAGE, SANDI SCHUBERT

Okay, now we'll hear from -- a message at least from Senator Reid -- or from Congressman Reid's -- Senator Reid's office. You have -- I believe, Sandi, you have an item you're going to read or enter into the record? Thank you. Sandi Schubert.

MS. SCHUBERT: Hello -- hello, my name's Sandra Schubert and I'm with the staff of Senator Harry Reid, and I have a short statement to read on his behalf.

(Reading) I am sorry that I cannot be with you today, but want to thank the Advisory Board for moving forward on the Special Exposure Cohort for some Nevada Test Site workers employed at the site from 1951 through 1962, and I want to

speak to the breadth of that compensation. As you are meeting here, I am addressing this issue on the floor of the Senate and urging my colleagues to support compensation for the test sites' atomic energy veterans who valiantly served their country during the above-ground tests.

As you all know, I support a broader SEC than is going forward, including for below-ground workers. However, the discussion today is whether workers employed at the site less than 250 days deserve compensation. Clearly they do.

Five years ago I worked with then-President Bill Clinton to ensure that Department of Energy workers and contractors who were exposed to radiation, beryllium or silica received compensation. Unfortunately, five years later very few test site workers who have cancer have received compensation. As you know, test site workers are receiving compensation at a rate lower than the national average, and many who have waited decades are being told that they have to wait longer. Many have already died while waiting for their compensation, stuck in

the bureaucratic nightmare of obstruction and delay.

Congress and NIOSH have already designated classes of atomic energy veterans at many sites as members of the Special Exposure Cohort under EEOICPA. They have even provided compensation for employees working on sites less than 250 days. Nevada Test Site workers deserve the same designation. The contribution of the State of Nevada to the security of the United States throughout the Cold War and since is unparalleled. The United States conducted 100 above-ground tests and 828 under-ground nuclear tests at the Nevada Test Site from 1951 through 1992. That is 88 percent of the nuclear tests conducted in the United States.

Unfortunately, Nevada Test Site workers, despite performing this service for their country, having worked with significant amounts of radioactive materials and having known exposures leading to cancer, have been denied compensation under EEOICPA as a result of flawed calculations based on records that are incomplete or in error, as well as the use of faulty assumptions and incorrect models. NIOSH

itself acknowledges that it cannot estimate the internal radiation dose received by employees at the Nevada Test Site from 1951 through 1962, yet is arguing that many test site workers, including those present for the atmospheric tests, do not deserve compensation.

There are many reasons that NIOSH cannot estimate dose, including inadequate monitoring, incomplete radionuclide lists, and DOE's ignoring significant data on the site and the tests. We also know that DOE and its contractors did not monitor for beta radiation before 1966; that there were significant efforts to prevent badges from registering dose; that DOE ignored -- that NIOSH ignored voluminous evidence and never even spoke with the lead health physicist at the site during both the above and below-ground tests, although the auditors did; that Nevada Test Site workers frequently worked greater than eight hours; and that DOE claims to have dosimeter readings for workers when they were no longer even employed at the site.

In addition there's voluminous anecdotal information about the severe acute effects that

many workers present during the tests suffer, workers that would not be covered within this cohort. I cannot tell you the number of stories that my staff has been told outlining these effects, many of which have been transmitted to the agencies. Laurie Hunton*, whose father, Earl Triplett*, worked at the site is here to share some of these stories with you.

Further, under NIOSH's reasoning -- further, NIOSH's reasoning is in direct contravention of Congress's intention in passing the Energy Employees Occupational Illness Compensation Program Act of 2000. Under this rationale, someone who was present for all 100 above-ground tests would be denied compensation, even if they were in the front lines. This is not what Congress intended, and it is unfair.

These men and women, our atomic energy veterans, helped this country win the Cold War, sacrificing their personal health in the process. After decades of waiting and suffering, it is time that we honored these sacrifices.

I urge the Advisory Board to do the right thing

and grant an SEC for workers employed at the site less than 250 days. All workers present at the atmospheric tests should be granted compensation. Please let me know how we can assist the Board in these efforts. Thank you.

DR. ZIEMER: Thank you very much, and you have also one of your constituents, I believe, that has a statement for us?

MS. SCHUBERT: Laurie Hunton, whose father worked at the test site, is going to read a statement on behalf of herself, and then some testimony -- testimonial excerpts from other workers and survivors.

DR. ZIEMER: Welcome, Laurie.

MS. HUNTON: Thank you very much. Hello, my name is Laurie Hunton, daughter of former Nevada Test Site worker Earl Triplett. Thank you for the opportunity to speak here today on behalf of my father and thousands of other Nevada Test Site workers that were Cold War veterans.

I am here to ask you to ensure that all who were exposed to radiation at the Nevada Test Site are compensated for their cancers. My father was employed at the Nevada Test Site

from January 30th, 1962 through September 30th, 1970, during the Cold War. My father was diagnosed with lung cancer on August 1st, 1975 and he passed away November 20th, 1975. I was only 16 years old. My mother was a widow at the age of 44. My dad left behind three brothers and me.

During my father's employment in 1962 he was involved in numerous nuclear tests. These included blasts from Operation (unintelligible), PLOWSHARE -- also known as the Sedan series, and the DOMINIC II series. A number of these were above-ground detonations that released particles of radiation into the air. We all remember the mushroom clouds. I would like to be able to tell you exactly what my father's job duties were, but he was not allowed to talk about them, and I was a young child.

Unfortunately, the Department of Energy has not been helpful in getting any information to me and my family. I do remember one night my father came home from work. He had little red cheerios on the side of his face. My brothers and I were saying did you see Dad's face; he

has little red cherries on the side of his face. Wow. Do I remember how old I was when this happened? No. I was a very young child. And again, that information has not been given to me. Little did we know at the time that the cheerio-like marks were caused by deadly radiation. What we did know is that something happened to my father that night at work.

My family has been seeking compensation for our loss for at least a -- for over 29 years, but to -- to no avail. In the beginning we would attend meetings at several of the different union halls. There was always so many people there was standing room only. Where there used to be numerous people, there was only a few left. The familiar faces were gone because they had passed away from their cancers, cancers due to the work that they did at the Nevada Test Site.

I submitted papers of -- papers of employment for my father from January 30th, 1962 through September 30th, 1970. However, the Department of Energy has dosimeter readings for my father through 1975, even though he quit the Nevada Test Site on September 30th, 1970. He was not

employed at the Nevada Test Site for several years during which the Department of Energy says that they have dosimeter readings on him. This just goes to show how bad the Department of Energy's radiation exposure records are. During my father's employment he car-pooled with several men around the neighborhood who have passed away since. It was just not an 8-hour day that they worked. He would be gone over 12 hours a day. They frequently worked long days, overtime and weekends.

Radiation exposure is radiation exposure, very deadly and life-taking, even at the lowest levels, and all it takes is one exposure. It's my understanding if there are acute health effects, like the cheerios on my father's face, then that was a lot of radiation. Can you really tell me, coworkers, other survivors, that our loved ones' cancers weren't caused by this type of exposure? Could you tell your own loved ones the same thing?

My father and other test site workers lost their lives working for their country. During the testing from 1951 to 1962 there were more than 100 above-ground tests. Our government

should compensate all of the workers who were there from 1951 to 1962. And if you need to contact me in the future, please call me at 702/454-3666.

And as you know, I am here today as a representative of other survivors, and as a representative of workers who are still living but who are too frail and sick with their cancer to travel to Washington, D.C. Several people have asked me to share their stories and to urge you to extend compensation to Cold War veterans.

I'm going to read some of their statements. Is that okay?

Testimony (unintelligible) by Diane Milko*.

(Reading) My father worked at the Nevada Test Site from October 5th, 1961 to -- to, I'm sorry, February 21st, 1962. He monitored the weather conditions at ground zero. He often told us how his badge did not detect any radiation, yet cows in the fields around him were dropping dead. He quit the test site because he believed he was in danger, and that the government was not doing enough to protect the workers. Unfortunately his fears became

reality when he was diagnosed with cancer of the stomach wall in 1972. My father died at the age of 43 and left behind eight children to grieve.

And I have testimony prepared by seven surviving children of Archie Gilger*.

(Reading) Many times our dad was scheduled to be at the test site for an entire week because a test was being conducted. It was not unusual, however, to wake up in the morning to get ready for school and to find he was home instead. Why was he home in the middle of the week when he was not scheduled to be home? Because he came home he -- I'm sorry. Because he had come home so hot they sent him home.

Our dad was 47 years old when he began working at the Nevada Test Site. He had -- he had all of his God-given teeth, not a single tooth missing from his head, but after a few years of working at the site his teeth started (unintelligible) one another. He would be fine one day and then the next he'd be having another teeth pulled -- I'm sorry, another tooth pulled.

His clothes were always washed separate from

the family in effort to keep any contaminated dirt away from us kids. He kept a black light in the living room so that he could check for radiation inside the house. He started showing up with cancers on his hands and on his face that had to be surgically removed.

Monitoring was not only unreliable, it was a standing joke with the men that worked out there. I remember Dad saying that they would set their lunch pails on 55-gallon drums and stand around those drums eating, as they had no other place to eat out in the middle of the desert. Those drums contained radioactive waste and material. No place to sit, no place to eat except around the drums of radioactive waste.

I have another testimonial letter from Shirley Breeden*. (Reading) My father was employed at the Nevada Test Site from September the 11th, 1961 through January 15th, 1964 as a mechanic foreman over the drilling rigs. I remember Daddy undressing in the garage when he came home from work because he did not want his clothes in the house. I was in second grade. He would tell my brother and I don't touch

them, especially his boots. Why, we asked. He said because you would glow in the dark. What did that mean? Who really knew? Only my dad. My mother said that when she would ask him about his job, he would tell her he wasn't allowed to talk about it. Again, what did that mean and who really knew? Only my dad.

Then I have another one from Otis Tyrone Thompson. (Reading) My dad served as a head custodian at the Nevada Test Site from 1960 to 1969. Even though my dad was a quiet and reserved man, my father recalls times when he complained of substandard working conditions at the test site. She said Otis would let me know on numerous occasions while he worked at the test site that he would constantly have sharp headaches. He also mentioned problems breathing. What -- one day -- I'm sorry. One (sic) days of testing he would drive home with a powdery substance on his car. He forbidded (sic) me from driving the car until he washed it thoroughly. He felt that the dust on the car was a result of the fallout from the testing, which would have been unsafe for me to be exposed.

The area in which my dad worked was deemed top secret. Therefore we are unsure if we -- I'm sorry -- sure if we had -- if he had been issued appropriate equipment and attire to work in a radiation-free environment.

My dad has a close coworker who also has a pending case with the Department of Labor. His name is Eddie Durer*, Sr. Mr. Durer worked at the Nevada Test Site from the period of 1960 to 1963. During the early '60s he worked as an assistant custodial supervisor in the custodial services. He also recalls various challenges with his health while above-ground testing was done. He saw the mushroom clouds when they were above-ground testing.

We had a careful watch on the clouds because they had shifted near the work areas. We would have to immediately evacuate through the back way, Glendale to I-15 to north Las Vegas, to go home. We had a medic on campus and he -- and we would go to him for minor problems such as burning and itching. Occasionally our skin would break out. We really didn't think much of it at the time. The medic would give us an ointment to make things better.

As I look back, the residue from the clouds would spread everywhere. The dust would cover my car. Sometimes the area of testing would actually be the same area in which I would have to travel home.

I have one more testimonial letter from Irvin Formey -- Forman*, I'm sorry. (Reading) My first employment at the Nevada Test Site was in May of 1957 during the time frame beginning in 1957 and continuing through the middle of 1971. I was employed at the Nevada Test Site for approximately 12 years. The remainder of the time during this period I worked in the Las Vegas area. My duties at the test site were those of heavy duty university -- universal equipment operator. I operated several different types of equipment, from truck cranes to earth-moving, loading and trenching machines. I also served as a worker -- working foreman at different times.

In the early years pads and foundations were built for steel towers that were erected 500 feet and 750 feet for above-ground testing. I recall one 750 feet (sic) steel tower in area T2C where, after the detonation, the

surrounding area was so hot and contaminated that it was necessary to water down and remove the soil with earth-movers and bulldozers before the users could recover their instruments and do further tests. I was part of the crew that did that work.

Many times when we tested for exposure to radiation after working in a hot area, our clothes were confiscated and we were sent home in paper coveralls.

I worked at the Gravel Gertie for several months and we were screen-- we screened the raw gravel in order to make material for roads. This caused a lot of dust and was possibly contaminated by fallout from the surrounding tests. It was next to impossible to keep from inhaling all the dust.

Over the years cancer has become my constant companion. My first encounter with skin cancer was in late 1960. This has been an ongoing battle every (sic) since, with several surgical procedures from cardinomas (sic) on my face, hands and arms. The most recent was a surgical procedure done on my forehead this year that left a deep depression about two inches in

length. In April 1992 a malignant tumor was found in my right lung. This tumor and the entire lower lobe of my right lung was surgically removed. Again in 1999 and 2000 tumors were found in my bladder. In 2001 biopsies revealed prostate cancer. It was necessary to remove my prostate. After that operation, more bladder tumors were removed in April and in November of 2003.

Many of the people I worked with at the Nevada Test Site have afflicted (sic) with cancers and have died. I believe I am entitled to a share of the available compensation. I only hope someone else concurs. I sure would help -- I sure would -- I'm sorry, it should would help to offset some of the mountain of medical expenses I have incurred over the years.

Those are all the testimony letters that I do have.

DR. ZIEMER: Thank you very much, Laurie.

MS. HUNTON: And thank you for your time.

DR. ZIEMER: Now I think we can hear from -- do you -- Sandi, do you have any additional comments from your group? I think we'll --

MS. SCHUBERT: We -- we may have some stuff to

submit to (unintelligible) --

DR. ZIEMER: Sure.

MS. SCHUBERT: -- later.

DR. ZIEMER: Very good. I think we'll hear now from Lynn Anspaugh. Dr. Anspaugh's on the phone, and wishes to add some comments to the record. Lynn?

(NOTE: The telephone connection was inadequate to provide a clear and undistorted transmission of Dr. Anspaugh's statement. What follows is the best efforts of the Court Reporter to understand and transcribe what was said.)

DR. ANSPAUGH: Yes, thank you very much, Dr. Ziemer. I'm a research professor of radiobiology at the University of Utah, and I spent 33 years working at Lawrence Livermore National Laboratory in California and the last nine and half years at the University of Utah where my main activity has been dose reconstructions, most often to members of the general public, but I also did some work for (unintelligible) at the Nevada Test Site. And during the 1960s and '70s I did spend quite some time at the Nevada Test Site and I also spent two weeks at Amchitka.

Now let me reassure you that I am not a claimant and I (unintelligible) any claimant and in the interest of full disclosure (unintelligible) tell you that I have worked for lawyers representing (unintelligible) for some DOE facilities.

So to get down to the topic of (unintelligible), it's my opinion that Congress did not have very good advice when they passed this Energy employees compensation bill, but (unintelligible) decision has to be to compensate and that (unintelligible) we do have (unintelligible).

DR. ZIEMER: Lynn --

DR. ANSPAUGH: Yes?

DR. ZIEMER: -- could I interrupt just a moment. We're getting a lot of echo here. I don't know if it's your phone or our hookups here. I'm sort of looking over to the sound guy. Is there anything we can do to filter that any better?

UNIDENTIFIED: (Off microphone) No.

DR. ZIEMER: Okay, apparently not. Okay --

DR. WADE: (Off microphone) (Unintelligible) louder?

DR. ZIEMER: Maybe just -- we'll -- we'll try to amplify it a little bit, but go ahead, Lynn. Thanks.

DR. ANSPAUGH: Okay. I'd like to discuss three things with you. First is the 250-day requirement. The second is the time (unintelligible) workers, and the last is the definition of Nevada Test Site. My understanding is that the original intent of Congress was to compensate workers at the (unintelligible) diffusion plants. And looking at that legislation, it's a mystery to me why 250 days was (unintelligible) threshold (unintelligible) period. (Unintelligible) that it takes 250 days (unintelligible) exposure to produce compensation. We know (unintelligible) Japanese atomic bomb survivors (unintelligible) certainly (unintelligible) sufficient dose. Now even for the (unintelligible) diffusion plant it's my opinion that any (unintelligible) exposures occurred from (unintelligible). So I think the first point is that there is no (unintelligible) to support this 250-day threshold for (unintelligible), and I've also (unintelligible) that the 250-day requirement

was not in the original petition but is something that was added by (unintelligible) regulation.

But another (unintelligible) point (unintelligible) related to Amchitka and (unintelligible) and I think (unintelligible) for Amchitka (unintelligible) to the (unintelligible) diffusion plants and I (unintelligible) Congressman from Alaska (unintelligible). But Amchitka only had (unintelligible). The last one was in 1971 (unintelligible). They had (unintelligible) only with the first test in 1965 and these were relatively (unintelligible) and (unintelligible) were much more severe at Nevada Test Site than (unintelligible) Amchitka. (Unintelligible) as far as Amchitka (unintelligible) concerned, there is no (unintelligible) for 250 days exposure and the only requirement was that they worked there prior to 1974, and 1974 is three years after the last test at Amchitka.

Another important issue I think is what kinds of exposures actually occurred (unintelligible). It's often said

(unintelligible) but that of course is not true. There was about (unintelligible) in a criticality (unintelligible) experience (unintelligible) plant, but (unintelligible) must consider (unintelligible) criticalities. There were also (unintelligible) some of those that occurred at the Nevada Test Site. There were several (unintelligible) experiments and (unintelligible) hopefully there would not be (unintelligible). So there were several things (unintelligible) resulted in (unintelligible) criticality and I remember one case in particular that people (unintelligible) that they went off without the radiation monitors (unintelligible) monitor (unintelligible) concept there had been a criticality and that they were -- were exposed. (Unintelligible) opposite that situation there (unintelligible) what I call (unintelligible) Nevada Test Site (unintelligible) is the device that does not perform (unintelligible) criteria. And so I can (unintelligible) look at SC&A reports on Nevada Test Site (unintelligible) was that if the one (unintelligible) because the (unintelligible) he was talking about

(unintelligible) other device. And also (unintelligible) interest is this report SC&A (unintelligible) people that (unintelligible) and the comment (unintelligible) instead they received a (unintelligible) exposure, if anything at all. There (unintelligible) long-term (unintelligible) so I think we (unintelligible) exposure (unintelligible) by scientists who perform (unintelligible) conduct the various (unintelligible) placed around the device and (unintelligible) things like (unintelligible) and they would (unintelligible) so that (unintelligible) person would go (unintelligible) so the people who were exposed (unintelligible) were the same people the scientists (unintelligible) people who were (unintelligible). Another (unintelligible) test site. I would (unintelligible) discrete incidents (unintelligible) 250-day rule (unintelligible) another problem that Dr. Neton (unintelligible) about people (unintelligible) not possible to do, so I think this is very (unintelligible) time period of (unintelligible) actually three years after the last test that was conducted

there (unintelligible) up through 1995, so (unintelligible) exposures (unintelligible) I think 250 days (unintelligible) is not (unintelligible) so I think it would be (unintelligible) definition of (unintelligible) time span (unintelligible) the last test (unintelligible). So thank you (unintelligible) questions (unintelligible).

DR. ZIEMER: Lynn, do you have a copy of your testimony in writing that could be made available?

DR. ANSPAUGH: I don't have (unintelligible).

DR. ZIEMER: The connection has been actually fairly bad. We're -- I think a number of things were garbled and also our reporter has some difficulty I think in picking up some of -- maybe a lot of what you said, and so it might be helpful if we could -- if you were able to provide a written version of that to make sure that our record is correct and -- and that Board -- that way Board members could also have a copy. I think there's a lot of points that perhaps were somewhat difficult to follow, simply because of the noise on the line.

DR. WADE: Lynn, are you on a speaker phone or

a cell phone?

DR. ANSPAUGH: I'm on a regular (unintelligible).

DR. WADE: Could you say that again? I can't --

DR. ZIEMER: Line phone, regular --

DR. ANSPAUGH: I'm on a regular phone.

MS. MUNN: Is someone else on the line with a speaker phone? It sounds like two --

DR. ZIEMER: Is anyone else on the line with you there or...

DR. ANSPAUGH: No, not with me.

DR. ZIEMER: Okay.

DR. ROESSLER: (Off microphone) Somebody's been on (unintelligible).

MS. MUNN: Yeah.

DR. WADE: We're just having a very difficult time hearing you and we -- we want to get this on the record in as many ways as possible. Could I ask the audi-- is there someone else -- can you tell us how many people are on the line?

UNIDENTIFIED: (Off microphone) I don't know (unintelligible).

DR. ANSPAUGH: I don't (unintelligible) here.

DR. WADE: Right, I understand that.
DR. ZIEMER: We're getting a lot of echo and kind of static as you speak, Lynn, so it's been very difficult to --
DR. WADE: Could we ask you to --
DR. ZIEMER: -- (unintelligible).
DR. WADE: -- call back in? At least try that?
DR. ANSPAUGH: I can call back in but (unintelligible).
DR. WADE: Okay, why don't you -- we start by you calling back in and then we'll -- we'll take it from there.
DR. ZIEMER: And see if that makes -- helps at all.
DR. ANSPAUGH: (Unintelligible)
DR. ZIEMER: Okay? At which point we'll have some -- maybe some questions. It's very difficult --
DR. ROESSLER: That line's open.
MS. MUNN: The line's open. Someone else is on the line somewhere.
DR. ZIEMER: It may be the fact that there's -- it's an open line and others are on there that's causing additional interference. I really don't know.

DR. WADE: Is there anyone else on the line now?

UNIDENTIFIED: (Off microphone) The line's open.

UNIDENTIFIED: (Off microphone) You can still hear (unintelligible).

DR. ZIEMER: Now it's --

DR. ROESSLER: Ah, it's gone.

DR. ZIEMER: Somebody may have been listening and just has bailed out.

MS. MUNN: (Off microphone) That would be helpful. They were on (unintelligible) --

DR. ZIEMER: Wait just a moment and see if Lynn is able to get back on.

(Pause)

Can you tell when -- will you be able to tell when he comes back on the line or --

UNIDENTIFIED: (Off microphone) Not unless he starts talking.

DR. ZIEMER: Not unless he starts talking. Okay. Lynn, are you --

DR. ANSPAUGH: Hello, it's me again.

DR. ZIEMER: That seems a little clearer, and we think there may have been others on the line who now have left and could -- because the

background static also has cleared up. Lynn, would it be possible for you to kind of give us a quick overall summary of your key points, without repeating all the details, but the key points that you're making.

DR. ANSPAUGH: Okay. By the way, when I came back on I was told there were 12 people on the line.

DR. ZIEMER: You were told there were 12 people on the line?

DR. ANSPAUGH: Yeah.

MS. MUNN: Well, somebody's still on.

DR. ANSPAUGH: So --

DR. ZIEMER: So just now --

DR. ANSPAUGH: -- anyway, I guess (unintelligible) --

DR. ZIEMER: We're still getting a fair amount of echo from you, as well. Go ahead.

DR. ANSPAUGH: I guess a quick summary is, in relationship to the 250-day exposure requirement, I don't think there's any evidence to support that there's a 250-day threshold that's required to endanger health and that a microsecond is more than enough if you have the right kind of dose. And one of the other

situations is, in consideration of parity and fairness, that if you look at Amchitka -- which had only three tests, the last one in 1971, and they only had a problem with one test, which is a relatively minor issue with tritium -- but the definition of that cohort is anybody who worked there prior to 1974, and there's no 250-day requirement. So you know, I don't think that makes any sense compared to the 250-day requirement for Nevada Test Site or Pacific Proving Ground. But my other opinion is that 250 days doesn't make any sense anyway.

The other thing I discussed was what kind of exposures occurred at Nevada Test Site. I believe that these were all episodic exposures that were what I would classify as due to discrete incidents. And I think that is borne out substantially if you look at the SC&A report on NTS, both the interview with Jay Brady and also the consensus document of what they were told by other people that they talked to at the Nevada Test Site. And the general conclusion was that the exposures that did occur were basically acute and were related to discrete events such as re-entries, either into

tunnels or even above-ground situations. And I mentioned there were some unplanned criticality events at the Nevada Test Site, and there were also a lot of duds. And the duds, according to Jay Brady, were the ones that really caused the problem in the sense that if they had a full yield, most of the radionuclides were contained in the molten glass, whereas if they had a dud they typically had radionuclides that were much more prone to migrate and cause problems. So a lot of the exposures that did occur at the Nevada Test Site were not chronic, they were event-related. They were related to diagnostics. There were lots of detectors that were placed around devices, both above-ground and later on below-ground, either through pipes or so forth. And so there were rad-safe technicians who re-entered immediately after tests to establish exposure contours. There were scientists who went in to retrieve various kinds of detectors, and there were also guards that -- and crafts people who were exposed as a result of that. And I did mention that aircraft penetrations were common in the early days and that these aircraft landed at Indian

Springs Air Force Base where these filters, which were quite hot at the time, were removed. So I guess my -- my two major points are that 250 days I don't think makes any sense, either from a scientific standpoint or from the standpoint that relates to exposures at -- the way they actually occurred at the Nevada Test Site.

And my final point was how do you intend to define the Nevada Test Site? There were at least five tests that were on the Air Force bombing and gunnery range, but not in (unintelligible) test site proper. There were additional tests in Nevada. There were two sites in Colorado, three in New Mexico and one in Mississippi. So I was suggesting that you do the following: One is to remove the 250-day requirement and acknowledge that these were discrete incidents. The third one was to extend the time period to make it consistent with Amchitka, which for NTS would actually require that somebody work there prior to 1995, and then be more careful about how you define a test site in the sense that there were nine other sites in the U.S. where testing was

conducted in addition to the Nevada Test Site.

DR. ZIEMER: Ask -- if you'll stand by here, we'll see if any of the Board members have questions to pose to you relative to your own comments. Board members, any questions or points of clarification that you would like to raise?

(No responses)

Okay, it appears not. That -- that was a very good summary and we could hear it quite well, Lynn. We appreciate that. If you do have the opportunity to provide the more detailed testimony, if I can call it that, that would be good for our record, as well.

DR. WADE: And since the line is so good, Lynn, is there anything else that you recall that you -- you said through that first discussion that you -- you thinks bear -- bears repeating now?

DR. ANSPAUGH: Well, I guess one other thing that I didn't mention the second time was what called -- what Dr. Neton called inconsistent logic, and that is if somebody didn't work 250 days, then the requirement is that you do a dose reconstruction, but you've already come to the conclusion that you can't do it. So this

is a major intellectual discontinuity that would be removed if you got rid of the 250-day requirement.

DR. WADE: Thank you. Anything else, Lynn?

DR. ZIEMER: Okay. Thank you, Lynn. Roy DeHart has a comment or question here.

DR. DEHART: You had mentioned that one could -- could consider each event an acute exposure. What about contaminated dust re-- and re-exposure to that sort of thing, are you excluding that, or would that be considered a chronic exposure on any acute exposure?

DR. ANSPAUGH: I think the issue here really relates to resuspension by the shock wave, which Mr. Brady discussed in his interview. And typically this was something that might have lasted for a few days, and I don't believe I -- you would consider that to be a chronic exposure. But again, it's -- it's more of a discrete incident where the shock wave throws this stuff up into the air and it stays in the air for a few days. But also I want to make sure that I remind you that when you have a nuclear explosion you have a very large number of very short-lived radionuclides, and this

field decays very, very rapidly. And so the amount of material -- long-lived material that's on the test site is not all that large because it's not a nuclear reactor where you build up this material, but it's something that happens in less than a second and you -- you really are dominated by very short-lived activity that decays rapidly.

DR. ZIEMER: Thank you. Other questions or comments?

DR. WADE: Lynn, this is Lew Wade. I don't want to get in -- in front of the Board's deliberations, but it's entirely possible that the Board will have a working group that looks into this issue. Would you be willing to accept a call from them and interact with them as they continue their deliberations?

DR. ANSPAUGH: I would -- I would be happy to do that, yes.

DR. WADE: Thank you.

DR. ZIEMER: Thank you very much. Okay, then we'll proceed. Lynn, you're welcome to stay on the line if you wish to listen, or -- or not, as you see fit. But again, I thank you for participating in our deliberations here today.

DR. ANSPAUGH: Okay. Thank you very much, Dr. Ziemer.

DR. WADE: (Off microphone) (Unintelligible) issue of what the Board does, so we need to talk about process (unintelligible).

DR. ZIEMER: Okay. Yes, Dr. Melius.

DR. MELIUS: Just to follow-up on Lew's comment, but we actually have a working group and I think the issue is just to -- we need to activate that working group. We'd asked NIOSH to get some more information, which I think we've heard that from Jim today. I don't know if there's more information you're gathering at the moment, but I -- what I would do is suggest that we try to hold a -- at least a conference call of that working group with NIOSH, perhaps with SC&A, to try to work out what our process would be and a timetable in terms of being able to gather any additional information.

We also need to coordinate that activity with the working group that's looking at the Nevada Test Site review and -- get that. And you know, plan to try to -- try to bring some closure to this issue at the September meeting.

DR. ZIEMER: Other comments, or reactions?

DR. WADE: Just a -- a technical issue. When last we met we talked about a situation with SC&A where there were concerns over some work that they had taken on for DTRA and how that affected their ability to be available to the Board in an unlimited, unfettered kind of a way. That issue has not been completely resolved at this point, but I am operating on the assumption that it will be resolved in a reasonable amount of time. So I don't think the Board should be concerned about that as it does its planning. You certainly will have to check with me before the workgroup meets and invites SC&A to join to make sure that the issue is cleared, but I think we should proceed on the assumption that it would be cleared. I don't know if anybody from SC&A wants to comment.

(No responses)

DR. ZIEMER: Any further discussion on this then?

(No responses)

Now I just want to point out, and Mark Griffon alerted me to the fact that -- with respect to another item on our agenda, the Rocky Flats

update -- that one of the presenters is pushing against a flight that'll be leaving in a little bit, so Mark is -- huh?

DR. WADE: You want to do Rocky Flats?

DR. ZIEMER: -- and I think Mark is asking if we can do the Rocky Flats --

MR. GRIFFON: (Off microphone) (Unintelligible)

ROCKY FLATS SEC UPDATE
MR. MARK GRIFFON, WORKING GROUP CHAIR

DR. ZIEMER: We can return to this, certainly, but if -- if there's no objection, we'll skip ahead momentarily to the Rocky Flats SEC update.

DR. WADE: Right. Now on Rocky Flats, Dr. Poston, you have a conflict, so I would have to ask you to join us in the front row, if you wouldn't mind.

(Whereupon, Dr. Poston left the table and joined the audience.)

UNIDENTIFIED: (Off microphone) Do I still have one?

DR. ZIEMER: No.

UNIDENTIFIED: (Off microphone) Okay.

DR. ZIEMER: Okay. So Mark, you want to kick this off and we'll proceed.

MR. GRIFFON: Yeah, it really -- this is a

update from the workgroup on -- just sort -- basically a status report on where we are with the Rocky Flats SEC petition review, and --

DR. ZIEMER: Oh, and before we do Rocky Flats review, I want -- we do have a party that wanted to be on the line from the petitioners on Rocky Flats. Let's see, Larry, it was --

MR. ELLIOTT: Kay Barker and Terrie -- Terrie --

DR. ZIEMER: -- Kay --

MR. ELLIOTT: -- Barrie.

DR. ZIEMER: -- and Terrie Barrie. Do we know if either of them are on the line? Kay or Terrie?

MS. BARKER: Yes, Dr. Ziemer, this is Kay Barker. I am on the line.

DR. ZIEMER: Oh, good. Is Terrie Barrie on the line, as well?

MS. BARKER: No, she is not. She's in Washington, D.C. and she should be arriving there now.

DR. ZIEMER: Oh, okay. Well, we'll watch for her here, but -- then -- I wanted to make sure you were on the line, so we'll go ahead and proceed then. Thank you.

MS. BARKER: Okay. I do have a comment to make, once it's done.
DR. ZIEMER: Yes, we'll be pleased to hear from you.
MS. BARKER: Thank you.
MR. GRIFFON: I'm wondering if we should proceed if someone's on the way just to see that one section of the meeting.
MS. BARKER: Dr. Ziemer --
DR. ZIEMER: Yes, Ter-- yes, Kay?
MS. BARKER: No, she is not on the way. She had another meeting so that's why I am on the line.
DR. ZIEMER: Okay, then we will proceed.
MR. GRIFFON: Okay.
MS. BARKER: Thank you.
MR. GRIFFON: Yeah, so -- so the main reason we asked to -- to put this earlier on the agenda is that I wanted -- Brant Ulsh from NIOSH actually has the conflict with the flights, but -- and isn't scheduled to present, but I might call on him for clarification when we review the workgroup status, so we moved it up on the agenda.
Basically where we are in the petition review

is we've been going through some -- some issues. We -- we started with a site profile review, actually, and -- oh, good, Joyce made it back. We started with a site profile review matrix and then, once the petition was put before us, we -- we sort of evolved into a petition review process and -- and have a matrix which -- which has been delivered at previous meetings. It hasn't been modified since the last Denver meeting. We can certainly make it available for people here if -- if some people don't have copies, we can get printouts of that. But that tracks the primary issues that are of relevance to the SEC petition, so we -- we sort of went through this process of narrowing down the issues of the overall site -- site profile concern versus those issues which we felt could impact a decision on the SEC petition.

And at this point, since the meeting in Denver, we've had at least one workgroup meeting, and maybe one other call -- I can't recall exactly. But we've had ongoing work on the workgroup and also directly between NIOSH and -- and SC&A. And we -- we have -- I'll just go through some

of the remaining -- the status on some of the remaining issues and -- and I might call on some -- either Joyce Lipzstein or Joe Fitzgerald or possibly Brant to clarify -- the first item actually is the high-fired plutonium oxide was a -- it's been an issue that we've been -- and NIOSH has put a lot of effort into sort of designing an approach to deal with how to do dose reconstructions for high-fired plutonium oxides at Rocky Flats, and I guess it's extending into a broader effort at -- at some other sites in the program as well.

At -- at the last status we had asked SC&A -- Dr. Lipsztein and Dr. Bistline to do a further review of some of the design cases that were used to support a technical information bulletin that -- that describes the methodology. And since then I think they -- they've done quite a bit of work on that -- that review and I would say that we -- we have also asked for the identifiers of the cases and -- and identified databases, which is a separate issue, but I think there might be some final small pieces to -- to -- of clarification or completion for that review, but basically I

think SC&A has -- is -- is almost at the end of that review of the methodology. And I think at this point maybe I'll give Joyce ten or 15 minutes. She's put out a paper on her review or -- or her and -- and Dr. Bistline's review of the high-fired oxide issue and I think I'll -- I'll let her speak to that and give a status of where they're at on -- on that review.

(Pause)

DR. ZIEMER: Maybe I should call to the Board members' attention, there's a -- there is a document in your folder under the Rocky Flats tab that is really a progress report from SC&A. It has Joe Fitzgerald's name on it. And basically this is what Mark is covering is this material, so -- and you'll notice there the first issue is the super S plutonium issue. You can have that material handy as reference, as well.

Thank you. Go ahead, Joyce. Are you miked up?

(Pause)

DR. LIPSZTEIN: (Off microphone) So we have reviewed the NIOSH approach for plutonium oxides -- the oxides, what's called high-fired plutonium. So the Pu-239 and then making sure

it's 239 because 238 has a different behavior when it's formed by the oxidization of the metal or salt at temperature greater than 2,000 centigrades, then it has been demonstrated that it has a longer retention in the lung than currently predicted using default type S parameters from the ICRP. And this causes a problem. There is no model from the ICRP addressing till now the high-fired plutonium. In the literature there is consensus on how to address how particles are handled within the lungs and how to address the dose and the cells at risk in the lung. So it's not only modifying the retention in the lung. You should put another compartment in the lung for taking into account this longer retention. Then you've got the problem of how to calculate the dose because we tried the cells on this lung compartment that's taking it. So it's not just a mathematical problem but also it has to be a biological problem also on how to handle the doses, the cells that are at risk.

So NIOSH came with a different approach which I personally -- we have had review at SC&A and we think it's a (unintelligible) approach on how

to -- to handle this and how to go around the problem of modeling. So what NIOSH has proposed in this method and in what is the (unintelligible) of the (unintelligible) system but an alternate shift approach for modeling, what they call the dose adjustment factors. And then they gave us two papers. One is OTIB-0049 and the other is a draft on how to calculate the systemic GI and extra-thoracic doses for -- for type -- what they call type SS, which is super type S or the plutonium with a longer retention time. While OTIB-0049 is very well written and the author of the draft material sometimes has to get around to know what they wanted to say about it, but I guess it's a draft so probably going to be better in time, I hope.

So what did SC&A do. First we reviewed and have produced all the lung adjustment factors that NIOSH has produced. It's okay. And what the parameters used to derive empirical lung contents and urinary excretions were not used by NIOSH to calculate equivalent doses to the lung. And that's completely right, because on this alternative approach NIOSH derived an

empirical model that fitted mathematically the data. So they (unintelligible) say that they don't calculate the dose using this empirical model, but the calculate the dose using the type S model and then they multiply by an adjustment factor, and that's correct. So that's the way to go around the problem of you don't know where biologically it's located so we'll treat it like type S that this (unintelligible) and multiply it by an adjustment factor. So SC&A considered this really a way to go around that is very acceptable and -- and very proper.

Now another thing that SC&A was worried about is the effect of smoking, because we know that smoking affects the way the particle behaves and we know that it affects the transfer rate from the lung, and we know (unintelligible) here that most of the workers -- many of the workers were heavy smoker at Rocky Flats. And then we looked at the lung adjustment factors and they way they treated the transport parameters and this is (unintelligible) covered by NIOSH approach, so because the transport rates from the lung are much -- they reduce the

transport rate so much that it covers the (unintelligible) of smoking.

Then we considered also the adjustment factors for the extra-thoracic region and GI tract appropriate. We looked at the reasoning and everything is -- we think it's correct and it's appropriate.

Now -- and we considered that the lung adjustment factor's also theoretically correct and I put the (unintelligible) in red because I want to explain it later. We have a practical problem there, but theoretically it is correct.

And also we considered the adjustment factors suggested for using AMAD -- the particle size (unintelligible) correct.

Okay. Now there are some autopsy data for 90 workers that worked at Rocky Flats. We have independently reviewed the autopsy and bioassay data from the U.S. Transuranium Registry for eight Rocky Flat workers with confirmed uranium intakes. The records contained many data for many workers, but those eight were the ones that really had quantities in the lung that were worthwhile reviewing it because we recognized the lung activities and the organ

activities, mainly bone and liver, with bioassay data so we only wanted to review the cases that had lung activity -- activities in lung that would -- that could be measured. Otherwise we cannot compare (unintelligible). So we saw that the lung activities were overestimated by NIOSH approach when all corrections for high-fired are used, including the correction for particle size. Skeleton and liver dose were overestimated when they were calculated from urine bioassay, but they may be underestimated if you calculate it coming from lung results, from lung counting. But that's expected because many of the workers had burns and had cuts and -- and so the lung would -- the lung (unintelligible) would never be able to catch this.

Now, the -- the empirical model was derived from some design cases. One of the problems that we have with this is that NIOSH did not explain fully how the design cases were selected to derive the adjustment factors. We know that more than 400 people were exposed and many of them were followed for a long time, and we did not have access to all the data so we

believe those were the worst cases, but we didn't have access to that. And another thing that we didn't have access was to the data from Hanford 1, the so-called HAN-1, that was used to derive the empirical model.

So what -- the empirical model was based on those two cases. Hanford 1 and Rocky Flat 872 were the most conservative ones to derive the empirical model, but as we didn't see any of the others so we don't know if they really were the worst ones 'cause we don't -- okay. One of the thing is that, for example, case 872 was not the person that was the most exposed in the fire, so you cannot base your conclusion that this person was -- this were the people that were most exposed, and actually Hanford 1 was not the one from the fire. So (unintelligible).

Another thing is that we wanted to see how good -- well were the -- the empirical model, so in order to see if the urine data and the lung data fitted well the model, one of the things that you do is that you back-calculate the intake from the lung data and from the urine data. And if both of them give the same

intake, then that's because the model is well fitted to the urine and to the lung data. And you can see that in many of the cases, including the one from case 872 that was used in the design case, the urine data don't fit exactly the lung data. And in this case at 872 NIOSH used only the red -- the red dots. The yellow dots were not used by NIOSH, which is -- okay. We -- we need -- we need an explanation from NIOSH. It's okay because actually they -- they used the -- the red -- the red dots, let's say, the urine data, after 15 years and ignored the -- the beginning of it. But when they (unintelligible) the design case, Hanford was used for the first 15 years and 872 was used for the last 15 years. What I -- what I'm saying is I'm guessing those things and I would NIOSH to explain is it really this -- is this really why this were used.

Another thing that we did was to compare with a recent paper in the literature some workers at the Mayak plant in the ex-Soviet Union. There they -- they made a model that they called ICRP 66-A, but it's not an ICRP-approved model. They just named it ICRP 66-A. And they derived

a model, a (unintelligible) plausible model to explain the high-fired -- the -- the behavior of the high-fired oxides at Mayak. So we compared the results from this model with NIOSH results.

So NIOSH approach was found more conservative when applied to bioassay urine results. NIOSH approach was more conservative when applied to calculate lung doses from lung counts. But the ICRP 66-A model was more conservative when applied to calculate dose to systemic organs from lung count.

The reason for that is that they use a behavior for the plutonium, a short-term behavior for the plutonium that is more soluble than type S, so that's why they get a higher dose to the systemic organs from lung count.

Okay. Now doses to the systemic organs. When calculating systemic organ doses derived from lung count, NIOSH states that no correction is necessary without really providing a clear basis for this approach. Because the empirical model is -- it's not a real model and the design cases at the early times, in the first years, the intakes calculated using the lung do

not match urine intakes. And also as far as entrance through wounds are not accounted for from lung counts.

So the only thing is that doses to the systemic organs can be underestimated when calculated from lung measurements. And we know first comparing with 66-A they are underestimate. When comparing with autopsy results, some autopsy results are underestimates. But that's -- I don't think this is a real problem because in generally you don't expect people to calculate systemic doses from lung counts. You generally expect people to calculate systemic doses from urine bioassay. So what we would like to see is that NIOSH would provide explicit guidance to the DR to use urine bioassay data when calculating doses to systemic organs and also how it should be used because NIOSH says on the draft paper that it should be used type S, but what do you do when you have several (unintelligible) and it doesn't fit a type S. So that's some things that needs to be worked more on that draft paper.

Now one problem that we had when we were

looking at the autopsy results is that sometimes the autopsy lung burden was higher than that obtained from lung counting. And you can see here this -- where the lung counts for one of the cases and you have the autopsy result there in pink, so you see you cannot invent activity so it -- it couldn't go up. So the problem is -- I was talking to Dr. Bistline and he said that until the '70s the counting were not as good as it is today, not as sensitive as it is today. So they had a lot of (unintelligible), they did the -- they had the best (unintelligible) that they -- that was available in the rest of that time, but it was just the start of whole body counters and lung counters for -- especially for plutonium, which is very difficult to measure.

And so our problem is that when the adjustment factors are to be used, they should be adjusted downward by the adjustment factor for the year of the chest count used to determine the intake. This is theoretically correct except you have to go back there. You have to start there. But this should be evaluated to account for this inconsistencies between in vivo lung

burden and autopsy results for the lung countings that were done before the '70s.

So in conclusion, SC&A is in agreement with the NIOSH approach for estimating annual doses from intake of plutonium 239 that are retained in the lung longer than predicted by the normal absorption type S model, based on the applicability of the empirically-derived adjustment factors for the lung, systemic organs, GI tract organs and tissues and extra-thoracic regions also. However, NIOSH still needs to demonstrate that the approach bounds the uncertainties associated with all the case-based measured values and analysis, and that case selection itself -- that they were conservative.

So that -- is that okay, Mark?

MR. GRIFFON: Thank you, Joyce. You might want to stay for a second in case -- I mean if there's anybody wants to ask a question on that. We've actually come a long way on this issue, so we are close to closure, I think, but -- yeah, Gen, go --

DR. ROESSLER: My -- I have a comment and then a question. The comment is that it's good to

know those autopsy results are being used in a very important way. My question is on the Mayak paper where they generated the ICRP 66-A information. Is that published and where is --

DR. LIPSZTEIN: Yeah, *Health Physics*.

DR. ROESSLER: And who are the authors?

DR. LIPSZTEIN: (Off microphone) It's a Russian scientist and (unintelligible).

DR. ROESSLER: Okay. Okay, thank you. Can I ask one more question, or make one more -- no, question. You talked about the overestimate of the lung dose using this method, but perhaps an underestimate in the systemic organs. But it -- it would seem like the dose in the systemic organs would be so much lower than the dose to the lung that maybe it -- maybe the dose is just really very low, that that's not a real big problem.

DR. LIPSZTEIN: They're two separate things. First of all, the doses to systemic organs are only underestimated when you start with lung count, not -- not when you start with urine. If you start with urine bioassay measurement, it's not underestimated.

DR. ROESSLER: So it's not a problem.

DR. LIPSZTEIN: If you start with urine, no. This -- and you can expect that. There is a problem with plutonium. Plutonium is a (unintelligible) oxides. They are very -- a very difficult compound because it actually behaves -- when it's not high-fired, it actually behaves a little more soluble than a type S, so what you -- when you treat it as type S, there's a part of it that you -- when you had the high-fired, part of it was not completely let's say oxidized, and will come out as plutonium oxide and then would be somewhat more soluble that moves back with type S. So first of all, if you come just with inhalation and they guy didn't have any wound, nothing, if a (unintelligible) -- if you take the lung count and then you treat it as type S like NIOSH is proposing, then you come with a little underestimate.

Second, it doesn't account for other entrance like wound, but --

MR. GRIFFON: Go ahead, Jim, yeah.

DR. NETON: I'd just like to maybe clarify things. Maybe it wasn't clear in our papers, but we would certainly always start with the

urine measurement for -- for estimation -- estimation of systemic burden because, as we've said all along, we believe that the integrated urine is a very good indicator of the systemic exposure, and I can't imagine a scenario where we'd use the lung measurement to -- as a starting point.

MR. GRIFFON: Yeah, I -- Paul.

DR. ZIEMER: I wanted to ask Joyce if you could clarify -- now as I understand it on the -- on the correction -- is it called a correction factor or adjustment factor -- so you're in agreement with the approach or the methodology. The question that you raised had to do with the validation of the actual samples that were used by NIOSH to get that factor. Were these groups of samples? You talked about the Hanford and --

MR. GRIFFON: Yeah, they --

DR. ZIEMER: -- Rocky, were they groups of --

MR. GRIFFON: There were eight design cases --

DR. NETON: We actually started with eight design cases that were available that -- the main reason, and I need to go back to the folks who developed this, but the main reason was

these were the cases where we had sufficient data that we could follow and develop models. You need to have some fairly robust --

DR. ZIEMER: Right.

DR. NETON: -- measurement datasets to do this, and these were the cases. But --

MR. GRIFFON: And als--

DR. NETON: -- they did represent the spectrum, and I would say that the two design cases that were selected were -- were far and away much more insoluble than the -- than the other six cases that were there, and that's all --

DR. ZIEMER: And Joyce --

DR. NETON: -- in the report.

DR. ZIEMER: -- all you're saying is you didn't actually -- you're just telling us you didn't actually see the cases, but if -- if --

DR. LIPSZTEIN: We saw seven of -- the Rocky Flat cases we saw the data, but part of the data, and then we -- we could find in the ORAU --

MR. GRIFFON: Yeah, well, I can -- I mean --

DR. ZIEMER: Can you clarify --

MR. GRIFFON: -- part of the question -- I guess, you know, where we're at -- if I can

summarize, where we're at I think is that there's a couple of I's to dot and T's to cross as far as our -- maybe it's -- it's SC&A and the workgroup's understanding of -- of -- of the model, but also there's this question -- the design cases -- there's eight cases. It -- as we've pursued this further, talked to -- Bistline got involved in this last round of reviews so he's been helpful in helping us understand the history of the cases, and we -- we've been trying to understand -- I think I raised this early on in the workgroup meeting how -- how were the eight cases selected and, you know, one response we have, which makes a lot of sense, is that these -- some of the fire cases that were selected in -- in this TIB-49 -- and correct me if I'm wrong, Jim -- but one of the bases was that they were, quote/unquote, clean cases. They didn't have prior uptakes of plutonium that would have interfered sort of with the analysis from this particular incident and from the super S, so that was one criteria. And then I guess -- you know, it -- it was just unclear 'cause we -- we'd also heard that there were some 400 people involved and probably 25

with very significant lung burdens from the fire. So we -- we just wanted to be able to -- to walk that back and understand how did you go from these 25 to these eight. And part of the process on the workgroup level has been well, can you give us the identifiers for these cases, can we also have the identified database so that we can sort of merge the two and understand just how this -- and -- and again, independently assess it and say yes, it looks like it was a sound selection process as well as a sound model. So I think that's where we're at with it, yeah.

DR. LIPSZTEIN: And also the Hanford model that we didn't have access to the data.

MR. GRIFFON: Right, and the HAN -- there's HAN 1 on the graph is the Hanford model, and -- and I don't think we've seen that, so -- but it, you know -- I think overall the methodology is looking like a fairly conservative approach. We just want to finalize this by walking -- checking it back.

The other -- the other thing I had that I think is -- sort of needs to be understood as the workgroup finishes its work on this issue is

the implementation. And -- and some of that may be just my incomplete understanding of the -- of the TIB -- there's a TIB-49, but there's also another paper that was sort of distributed to the workgroup. I don't -- that's not a TIB, Jim, is it? This super S document?

DR. NETON: No. No, that was a supplement to the --

MR. GRIFFON: Right.

DR. NETON: -- TIB and it --

MR. GRIFFON: Right.

DR. NETON: -- it is a draft, it's in draft form at this point --

MR. GRIFFON: So --

DR. NETON: -- but it will be added to TIB-49 to qualify how we do predominantly the systemic organs --

MR. GRIFFON: And -- and I think --

DR. NETON: -- in the manner Joyce -- Joyce described.

MR. GRIFFON: Right. I think there is a -- there's section 6 in TIB-49 that describes the -- and I don't have it in front of me, but the -- I think it's application of -- when -- when it applies, when it doesn't apply, right, and -

-

DR. NETON: That needs to be changed, that --

MR. GRIFFON: Right.

DR. NETON: We've come up with -- we realized, after we developed TIB-49 and I reviewed it, that there was some inconsistencies in how it would be applied to systemic organs. Therefore we developed this supplement. You know, a lot of this comes out in real time, and --

MR. GRIFFON: Jim -- we've worked together a lot and Jim anticipates my questions now, so...

DR. NETON: But yeah, we're getting there. In fact, we hope to have that all consolidated fairly quickly.

MR. GRIFFON: And I agree, I think the workgroup is -- you know, we -- we've -- we've evolved a long way on this issue and -- and everything is -- you know, we just have to finalize this process, but we've come a long way on cross-walking this with SC&A and the workgroup.

And I could take a few minutes and go through -- this was the biggest -- most -- clearly the most technical issue that we're going to go over, but I would like to run through the other

issues that the workgroup has been covering, if -- if we have time.

DR. WADE: Surely, go...

MR. GRIFFON: Let's see, the -- the second item that we've been addressing on the workgroup level is the approach for dose reconstruction for what we're calling other radionuclides. And you know, this seems to be a recurring theme on some of these SEC reviews, but we do have questions on -- and the other radionuclides consist of -- and I'm not sure I have an exhaustive list here, but americium, neptunium; uranium 233, 235, 234, 238; curium and thorium. And several of these we believe are sort of tracer quantities. They were used in the weapons, but they were tracer quantities, which may not be significant dose contributors. But others I don't think fall into that category so we need to do some more work on that. I think we need to do some follow-up on that. One -- one concern in that area is that one of the earlier responses that we -- we received with regard to this issue was well, we have -- and I forget the time periods, but we have gross alpha sampling data, and in

that situation we would just use the worst-case radionuclide. But in -- in fact it -- it seems like -- we're -- we're not completely clear on this, but it seems like gross alpha data wasn't available for all areas where these isotopes might have been present for all time periods, so we -- we want to close the loop on that. Brant might want to clarify right now.

DR. ULSH: We're still checking on that. We know that gross alpha was the default method for the uranium areas. SC&A has recently asked the question --

MR. GRIFFON: Right.

DR. ULSH: -- was that technique available in the plutonium areas, and that's the part that we're checking on. We don't know that it's not, but --

MR. GRIFFON: Right, and particularly for that americium separation process, right?

DR. ULSH: Yes, exactly.

MR. GRIFFON: That's one -- one where it came up. Right, right.

DR. ULSH: Yeah, and that's -- that's pre-'63. In '63 they implemented widespread americium-specific bioassay.

MR. GRIFFON: Right, right.
DR. ULSH: Before that, we have the gross alpha (unintelligible) --
MR. GRIFFON: So -- yeah. So we have -- you know, we're -- we're in the process of a lot of these. It's not that they haven't done any work on them. Certainly I'm not suggesting that.
So the next item is the methods for -- for reconstructing neutron doses, neutron exposures, and I think -- I presented this at the Denver meeting. Since then SC&A has -- has put together a more complete review of this issue and still -- we still have some outstanding questions on -- on that front. Mainly it's I think a question of the data itself -- a data validity question comes up in here, I think, as well as the different methods for different time periods. I think there's different approaches that are used over different time periods, and we just want to make sure that -- that those approaches are sound and -- and have a good scientific basis for the different time periods. In some cases they're using direct measurement -- in the

later time periods they have direct measurement data. In the earlier time periods they're using neutron/photon correction factors and so we're in the process of this but SC&A -- since the last meeting SC&A has put together a review of this issue and so we're -- we've pushed the ball down the road a little bit on that issue and we're making good progress, I think.
Joe, did you have any update on that item? Oh, I thought you were leaning --

MR. FITZGERALD: Yeah, the -- we have actually a pretty good write-up on that, but it wasn't quite ready for this meeting. It'll be ready for next workgroup. But just two -- I would almost consider them loose ends, questions of data validity on neutron and the '69/'70 anomaly. I --

MR. GRIFFON: Oh, yeah.

MR. FITZGERALD: -- think that that's an issue we need to address.

MR. GRIFFON: You know, the data validity and the '69/'70 issue is there seems to be a gap in -- in data in that time period, is that -- or -- or --

MR. FITZGERALD: Well, I think the issue there

is we're seeing more anomalies, more zeroes, for a two-year period. Now that's not to -- that's not to say that you don't see increased zeroes later on in time, but you know, that -- those two years you do see that, and we're also picking up some questions coming out of the data integrity review that we're doing in parallel you'll talk about in a second --

MR. GRIFFON: Right.

MR. FITZGERALD: -- to also raise questions about missing records for '69 and '70, which of course is the time frame of the fire, so we're trying to pin that down from two directions, one from looking at the records and data on the external dosimetry side, and also looking at it from the question of this -- the data reliability probe that we're doing with NIOSH as well. So we're just trying to pin down what happened in '69/'70, why are certain records apparently not available and what does that mean. We don't have any conclusions yet, though.

MR. GRIFFON: Right. Okay. The next item or -- I'm not sure it follows with the handouts there, but there's a question on -- on -- and

this was kind of a new item that was raised at the Denver meeting and we pursued it on the workgroup level. It's the decontamination and decommissioning workers -- yeah -- and the -- the particular concern here, and NIOSH has just begun -- you know, just to give us some initial responses on this, but the issue raised I guess is that during those late -- that later time period, the -- the program -- it see-- it appears, anyway, that the approach to internal dose measurements was mo-- was -- was changed, and it seemed that they went away from bioassay, at least to some extent, and -- let me finish, Brant -- and -- and had a much more -- an increased reliance on BZA, breathing zone air sampling. And at the last workgroup meeting NIOSH reported back to us that -- that they in fact did still have a routine bioassay component, but -- and they had BZA sampling as well, and the BZAs would trigger a special bioassay. Now when we questioned further on this, it was unclear -- at least to me and from my notes -- as to whether this program applied to everyone. It seemed like it definitely applied to the contractor, but subcontractors

were a question that I thought was still open-ended. So I -- I think we -- you know, this one might be something that we can close out easily. The -- the question -- it -- still at the end of the day if it turns out that there's a gap in -- in bioassay, urinalysis type records, we're not necessarily saying at this point that doses can't be reconstructed 'cause they still may have air sampling data, but -- but they may need to present a different approach is what -- what our position is right now. But at this point, what we know is that there was at least some bioassay sampling done during that period, and it -- it appears that at least the contract workers were on some -- some sort of routine bioassay program, so that would -- would, you know, probably minimize that concern. Still an outstanding question I think -- at least in my mind -- on subcontractors and if this program filtered down to everyone.

Anything to add, Brant, or did I...

DR. ULSH: I think in general you adequately -- or you accurately summarized what we talked about in the last workgroup meeting. At the

last workgroup meeting we had some site experts on the line to answer some questions, have some dialogue about the D&D era, and what we heard was that this was, you know, in the '90s and the 2000s. And the philosophy was that anyone who would have had the potential to receive greater than 100 millirem was monitored. And certainly during the D&D era the philosophy was that access to radiation areas was controlled based on rad worker training. You had to have rad worker 2 training to be allowed to go into these areas.

And you're correct, Mark, that SC&A asked some questions about the BZ samples and the results of our discussion at the last workgroup meeting clarified that indeed BZs were used not as a substitute for bioassays but rather as a trigger for special bioassays. So that was on top of the routine bioassay program.

And yes, some questions did come up about whether or not the subs -- subcontractors were included in the bioassay program, and the site experts confirmed that yes, indeed, they were.

MR. GRIFFON: I don't -- I don't quite remember it that -- my notes are a little different than

that, but I'm not going to -- I mean we -- we can figure --

DR. ULSH: It sounds like we need to --

MR. GRIFFON: -- that out as we go --

DR. ULSH: -- talk about it some more --

MR. GRIFFON: -- yeah, yeah.

DR. ULSH: -- at the next workgroup meeting.

MR. GRIFFON: Yeah.

DR. ULSH: But in general, those are the -- the high points of the D&D concerns.

MR. GRIFFON: And I think also we just want to -- want to run back -- I mean I understand philo-- philosophies on this, but I think we need to check reality, too, and just make sure that -- that the program as described was implemented -- you know, as it's being described and I -- I think that, you know, the -- well, the basis of -- of the monitoring program, if it was triggered based on surveys as in the rad worker approach or RWP approach, then -- then we've seen flaws in this in other sites, so we -- you know, we just want to take this to an end and make sure that -- that at least large groups of subcontractors weren't being missed in this sort of approach.

MR. FITZGERALD: Right, and just -- just quickly, another thing that gave us some pause was some contemporary defense (unintelligible) and other audits at that time, early '90s, that raised some questions about whether in fact the second, third tier subcontractors were receiving this bioassay program and their records were being in fact centralized in this database. So I think just to cross that T, to compare the records --

MR. GRIFFON: Yeah.

MR. FITZGERALD: -- with the data would give us some assurance that that was happening because of some of those doubts.

MR. GRIFFON: Right. Okay. Yeah, Mike.

MR. GIBSON: (Off microphone) (Unintelligible) recall correctly (unintelligible) there was the issue of -- well, it was called the routine bioassay sampling program during the production years and how that same acronym or same name was used, but it was transferred to a once yearly bioassay sampling once the D&D work started. And so it seems like a similar path at other sites and so that's an issue that -- where workers may not be as closely monitored

(unintelligible) you know, yearly as opposed to quarterly.

MR. GRIFFON: Yeah, there -- there is some -- there's some things we just have to finalize in this and there -- there was a little bit of clarification needed on some -- you know, it -- we had some statements that indicated that everybody got a closeout lung count or urinalysis, and then there was some contradiction to that, that -- so I just think we need to -- to ver-- to, you know, walk this through a little further. But we -- we've had some dialogue on it and we're -- and we're making some progress on that.

And then -- let's see where I am here. The -- the last item and probably the item which requi-- is still the most work for us to do I think is under the big heading of data reliability. And I -- a -- a couple of items under there. One, the database validation and NIOSH's continuing efforts to check the data reliability for the database. And again, it's -- in the past meeting I think we'd talked about the fact that they don't use -- at least with the current claimants that they have, they

don't expect a reliance on coworker models. Nonetheless, we -- we wanted -- check this electronic database because I think a lot of the hard copy records that are in claimants' files are actually printouts from the database itself. I don't think they're original raw -- what I would consider, you know, original records. So we want to check to make sure that this data is in fact reliable. And to the extent we can go back to -- as I always say, go back to the laboratory counts if you can, but we want to get back to origi-- more original sources and confirm that this electronic database is -- is reliable and accurate and can be used in the dose reconstruction program. And recently, in one of the last workgroup meetings actually, this item has been expanded a little bit to include -- we -- we discussed that there were urine log books, as identified in -- in the -- in the tech basis document itself, the internal dosimetry tech basis document at the end -- one of the attachments notes the use of urinalysis log books. And NIOSH has indicated that they will make efforts to -- to retrieve these and -- and again, we're

talking about retrieving a sampling of these log books and comparing to the electronic data. The other thing that NIOSH is -- has indicated they will do for the workgroup is -- and I think it's under way -- they're going to provide the databases in an identified form with identifiers, and this -- this has come up in both the Y-12 workgroup and -- and this Rocky Flats workgroup, that oftentimes, especially with several of the things we're going to discuss in a minute, there's specific cases -- specific allegations by individuals, and NIOSH has had access to the individual's record, but we have de-identified data, as SC&A and the workgroup. So it would expedite matters if we were both looking at a identified version of the data and we could cross-walk this together and -- and, you know, take this to an end. So they are providing that identified database.

The third item is what I'm terming investigation and follow-up on data validity questions raised by the petitioners. And it's not only raised by the petitioners, but also as a result of SC&A's interviews with some of the

petitioners, and I think as a result of -- of NIOSH's interviews with the petitioners, so it's kind of a combination -- but these are basically inve-- basically, to use Jim's terminology, pulling the thread on some of these specific allegations to see if -- and -- and some of the claims that were raised in the petition involve allegations that people were working in high exposure areas for a couple of quarters, and for those quarters their records said no data available. And so we want to -- and we are in the process of walking some of these back and checking them. And I think the bigger question is was there any kind of systemic problem of that nature. So along those lines, Joe -- Joe, did you hand that -- was that a draft that you gave me or was that available for...

MR. FITZGERALD: No, that --

MR. GRIFFON: This -- this update --

MR. FITZGERALD: -- that was actually -- that was actually Kathy DeMers' status as of a couple of days ago --

MR. GRIFFON: Oh, okay.

MR. FITZGERALD: -- you know, accounting for

where things stood on the different tasks, but that wasn't circul-- I can certainly --

MR. GRIFFON: This is still --

MR. FITZGERALD: -- circulate that.

MR. GRIFFON: -- an internal --

MR. FITZGERALD: That's internal to just what we're doing.

MR. GRIFFON: Okay.

MR. FITZGERALD: But in a sense, we're still going through the log books and I think reviewing what safety concerns that NIOSH has given. It turns out we're pretty much in agreement with NIOSH on safety concerns, so --

MR. GRIFFON: Yeah, I'm --

MR. FITZGERALD: -- things are -- things are moving ahead.

MR. GRIFFON: Yeah, I'm -- I'm just going to go down these items --

MR. FITZGERALD: Yeah.

MR. GRIFFON: -- from this dra-- this internal report on the -- and -- and I'm basically taking Joe's language on the status of some of these items. It's really been NIOSH and SC&A working together on checking some of this and -- and they're -- they will report back to the

workgroup, but we've kind of let them work together on these issues to bring these to -- to a conclusion.

The -- the first item in -- in this -- it's sort of a report on all of these investigations of various subgroups involving data reliability, but one is under safety concern reports, and these are reports that were -- over the years I guess any employee could issue a safety concern and there'd be a follow-up by the safety office at the site. And some of these were noted by the petitioners and they were -- NIOSH reviewed -- I think there were -- I'm guessing around eight or -- eight or ten of them, or was it that many? I don't know.

MR. FITZGERALD: Roughly that number.

MR. GRIFFON: Yeah, roughly eight to ten of these. And NIOSH reviewed and determined that -- that these -- ones cited in the original list were not pertinent really to data integrity issues and one of the problems here is that the title often looks like it will be something that's related to dosimetry issue, and then you actually find the report and it's not quite the -- what you thought it was. So

most of those were not pertinent to the data integrity issue. SCA -- SC&A had a question on one of them that might -- they feel might still be pertinent so we're -- we're -- we're going to continue on this path with the workgroup. The other question we asked NIOSH if they -- and I believe I made this request of NIOSH -- was to see if there was any listing of the safety concern reports over time and if they could -- because the ones that were listed here were primarily from the petitioners and they -- their work experience was primarily from the '80s and '90s and therefore most of the safety concern reports were dated '90 and after, with one exception in the '70s, and I thought it might be useful to -- if there was a -- again, a simple listing, not to go back and find all these reports, but if there's a listing and try to identify again by title if there were anything of interest here, and NIOSH has agreed to do that.

DR. ZIEMER: And if I could insert at this point --

MR. GRIFFON: Yeah.

DR. ZIEMER: -- that one would wonder what the

impact of the FBI -- shall I call it invasion of Rocky had on those kinds of reports surfacing, so it would be of interest to know what -- what occurred prior to -- the FBI visit I think was actually in '89, as I recall -- early '89, so -- and then you're -- you're looking at things that occurred after that.

MR. GRIFFON: That's true. That's true.

DR. ZIEMER: Okay.

MR. GRIFFON: Okay. The second item is under external dose procedures. I wasn't quite clear on that title, but basically NIOSH is in the process of reviewing the records of specific individuals in this case, so we have identified -- I think went through the process of -- of identifying people that had allegations, and they're in the process of -- of going back to their original records to see if in fact -- I think these were one of -- some of the people that -- that claimed that either they had no data available in their record or that their -- their badge or -- or -- you know, their TLD or badge was in some way mishandled or misrepresented their workplace exposure, and it -- this is a listing of individuals that NIOSH

I think is going back to their case data and saying okay, you know, we do or don't see anything here related to the allegation. And then the third item is -- a question was raised on -- on some of the log books, whether there -- the -- at least the petition said that there were log books that would confirm some of this information, that in fact they worked in a -- a hot area and there -- they had some dosimetry-related information that would basically prove that when they had a zero in their record and -- and there were very high exposures in the workplace, and they pointed to the rad con -- radiation contamination log books and other log books, and I think where we stand with that is NIOSH and SC&A have been to Rocky or are -- worked with the Rocky records people. They've identified some of these log books. They've scanned them and they've initiated reviews -- is that accurate? -- and -- and they are going to provide the scanned versions of these log books for the O drive so that the workbook and other SC&A members have access to those, as well. So that -- that is beginning.

Then the fourth item -- we're almost done here, two more items. Fourth item is a question of destroyed records. There was an allegation that a bunch of records were taken to a trailer of some sort when there was some sort of inspection taking place at the site, and after the inspection was over the allegation is that these records were then disposed -- destroyed or -- or -- you know, destroyed. And I don't think we have any status on this. NIOSH is attempting to -- to track this down, but no status at this point.

And then finally, along the same lines, missing records, and I think this -- this might be related to the one Joe was discussing earlier. NIOSH is tracking at least two individuals that claim that their records were missing after the fire. So this is related to that '69/'70 time period, isn't it, Joe?

MR. FITZGERALD: Yes.

MR. GRIFFON: Yeah. So -- and that's -- that's -- I think that's where we are with -- with the workgroup.

DR. ZIEMER: Okay. Before we have additional discussion, we do have on the line -- Kay, are

you still there?

MS. BARKER: Yes, I am, Dr. Ziemer.

DR. ZIEMER: You wanted to make a statement. Why don't you go ahead and do that now --

MS. BARKER: Okay.

DR. ZIEMER: -- and then we'll proceed.

MS. BARKER: Thank you. Thank you, Dr. Ziemer and Board members, for letting me take a few moments of your valuable time. I just have one question that I would like to ask the Board and that is, since there is a conflict of interest with the Rocky Flats site profile and evaluation report on the petition, what if anything are you going to do about this conflict?

DR. ZIEMER: Okay.

MR. GRIFFON: You can ask her.

DR. ZIEMER: Are you -- you're talking about the conflict of one of the authors, I believe, of the --

MS. BARKER: That's correct.

DR. ZIEMER: -- the site profile. And I'm -- I'm not sure the Board can answer that today. I -- is this -- is it Roger Falk?

MS. BARKER: Yes, it is, sir.

DR. ZIEMER: Okay, yeah. We want to make sure we're on the same page here. Well, let -- let me start generically. I think on conflict of interest issues, certainly ORAU and -- and NIOSH are looking at those issues. I don't know -- Lew, on this particular one, can you enlighten us further on the status or where that one stands?

DR. WADE: I can try. I'm going to be speaking for ORAU, and I don't see ORAU represented, so let me speak for them. My understanding of the ORAU process is that ORAU would go through each of the documents that had been prepared prior to the new conflict of interest policy and would produce an annotated document that would show the contribution of all individuals to that document.

Following that, that document would be reviewed by an independent group within ORAU to determine if the contribution of those individuals that were conflicted in any way substantially changed the document. If the conclusion of that group was that that was the case, then they would commission that document to be rewritten.

All of this will be under the review also of NIOSH and then the review of the Board.

MS. BARKER: Okay.

MS. KIMPAN: Lew, this is Kate -- Dr. Ziemer.

DR. ZIEMER: I'm sorry, say it again?

MS. KIMPAN: This is Kate Kimpan. I --

DR. ZIEMER: Yes.

MS. KIMPAN: I actually had to leave for a brief meeting and just came on the 800 a little bit ago.

DR. ZIEMER: Oh, okay. Did you hear the question, Kate?

MS. KIMPAN: I did, and I -- I (unintelligible) --

DR. ZIEMER: We have Kay and we have Kate, and Kate is the ORAU person, so she's going to answer as well.

MS. KIMPAN: -- exactly what Lew said, Kay, and that is that we're right now in the process of doing a full annotation and attribution of the Rocky Flats site profile. And what that means is all of the findings and conclusions and components of all parts of that site profile, all the component documents, will -- will identify where the findings are from, where

conclusions are from. And as Lew said, where a document owner had a conflict, if that occurs as the policy is finalized, we will verify by reviewing again -- even though these documents have sustained many reviews on the ORAU side and many on the NIOSH side, many via other arenas, we will again review all findings and conclusions that were contributed by, developed by or added by someone who, under our new policy, is viewed as conflicted. We will assure that all of those conclusions are sound scientifically. If there was a need to revise or renew any findings or conclusions, we will absolutely do so.

MS. BARKER: Okay. Thank you.

DR. ZIEMER: All right --

DR. WADE: I'd like to add one follow-up to that, as well, and -- and another level of review is the SC&A review that we're going through now. We -- we are having the document -- the site profile and then anything that relates to the SEC petition rigorously reviewed in public by the Board and its contractor.

DR. ZIEMER: So that will give an additional layer of -- of -- of review to the document.

MS. BARKER: Okay.
DR. ZIEMER: Kay, did you have any other comments for us at this time?
MS. BARKER: No, Dr. Ziemer, other than I still am waiting for the information that you had asked NIOSH and SC&A to provide to me on the Rocky Flats workgroup that was on May 30th.
DR. ZIEMER: To -- I'm sorry, provide -- oh, the transcripts.
MS. BARKER: Yes.
DR. ZIEMER: Yes, yes, and we ourselves don't have those transcripts yet, but --
MS. BARKER: Okay.
DR. ZIEMER: -- hopefully those'll be ready -- I'm looking -- I'm sitting here looking at our court reporter who we're overwhelming with various transcripts in the last few months, but he -- he is working feverishly to get all of those caught up. So --
MS. BARKER: Okay.
DR. ZIEMER: -- as soon as we have them, we will get those to you.
MS. BARKER: Thank you so much and --
DR. ZIEMER: Yeah, you bet.
MS. BARKER: -- thank you for letting me speak

today.

DR. ZIEMER: You bet. Thank you. Okay, is there -- Board members, do you have comments or questions on the Rocky Flats report that Mark has given, or related comments? Yes, Wanda.

MS. MUNN: It's not with respect to Mark's report necessarily, but I would like to make a comment or two about SC&A's draft attachment to the SCA task 10008 which was provided to us back in May, on May 9. I could very easily wait until after the break to make that comment, if it's all right with everyone here.

DR. ZIEMER: In fact, you would like to wait until after --

MS. MUNN: I would like to, yes.

DR. ZIEMER: We will break and then -- then learn what your comment is.

(Whereupon, a recess was taken from 2:55 p.m. to 3:20 p.m.)

DR. ZIEMER: I think we're ready to resume our deliberations. I'll begin with a comment from Dr. Wade.

DR. WADE: Yes. Even if we continue our deliberations with a comment on Rocky Flats, apparently I spoke in error when I asked Dr.

Poston to leave the table and that, based upon the information I've been given now, he is not conflicted so he's welcome to join us for Rocky Flats, and I apologize for that.

DR. ZIEMER: He just wanted to leave the table.

DR. WADE: No, I don't think he did. I don't think he did. But yeah, these are complex and ever-evolving issues, and with my apologies.

COMMENT BY MS. WANDA MUNN

DR. ZIEMER: Okay. Thank you. Well, we were -- we were about to hear some comments from Wanda Munn, and so now the Chair recognizes Wanda for the purpose of presenting those comments.

MS. MUNN: Thank you, Dr. Ziemer. With respect, as I noted earlier, to the draft of attachment 2 to SCA -- to your Task I-008, which was submitted to us by SCA on May 9th, this Board chose SC&A as our technical advisor because they had so many qualified individuals available to them and our -- their primary task was to provide us with technical information that might not be obvious to some of us who do not work with this material on a daily basis. This particular attachment 2, site expert

interview summary, that we received was intended to be added to a document which has already been provided to us earlier, but in which this particular discussion was reserved. When I began to read it, I recognized that although the preliminary paragraphs do point out that these are pieces of information that have been derived from interviews with individuals on site, when one takes the various headings of this document and begins to read them without having paid close attention to the preliminaries, one finds a great many extreme allegations that are made by the individuals who have been interviewed. And it's not clear to the casual reader that these are concerns that have been raised by workers. They are presented rather as matter of fact -- again, to the casual reader.

If, for example, I began to read -- under the general information category -- the first thing I see is that the primary goal of the RFP was to meet the commitment made to the government to make a pre-established number of pits. There was less concern with safety in the production years than later. In the '50s and

'60s there was a bull of the woods on the operations floor who would intimidate individuals into completing work, regardless of safety considerations. The safety statistics did not reflect reality.

Now these -- these types of statements, presented as fact, are of concern if they are not re-identified as having been concerns expressed by workers. Of particular concern to me was a statement made under the security heading where it's stated that a storage area in building 707 is pictured on the cover of -- and the title that's given is an extremely inflammatory title. It's a book written by a journalist/historian whose intent, of course, was to sell books. The storage area is not covered, nor is it pictured. This is not information that's helpful to us, nor is it information that would be helpful to the general reader who is expecting this information to be technical information.

I would request that SC&A reread this particular document and perhaps revise it in such a way -- not that any of this material is necessarily changed or revised, but in such a

way that it is very clear and repeatedly referred to as being unconfirmed allegations made by individuals who were interviewed for a site.

DR. ZIEMER: Okay. Thank you for that comment. Any other Board members -- this was a document I think we received very recently -- what's the date on that document?

MS. MUNN: It was dated May 9. We received it in mid-May.

DR. ZIEMER: Yes, it's a few weeks old. Okay, Mike Gibson.

MR. GIBSON: Yeah. I guess my only comment to that would be -- would get back to the point I made yesterday, that there's a lot of information been taken by site experts and used by NIOSH that I'm sure they've done some investigation into it and I would imagine that SC&A has probably done some investigation into these -- these worker allegations, and so, you know, it gets back to my point. Are we going to take people who's ran programs, site managers, rad detection managers and use that as gospel, or are we going to take, you know -- again, how many -- how many workers, both

hourly and salaried, that's been out in the field for years and actually had their hands on the stuff doing the work, how many of them are going to write -- are going to be considered site experts and write -- help write site profiles, et cetera.

DR. ZIEMER: Thank you. Wanda, do you have another comment?

MS. MUNN: And to SC&A's credit, they were cautious to identify the job titles of the types of individuals that they did interview. They didn't make it very clear that these were the only individuals, so that it was not imminently clear that -- that out of 12 individuals, all of this information was obtained. But nevertheless, they -- they did do an excellent job of covering, in my personal view, the types of individuals who would have been actually involved in the work.

DR. ZIEMER: So the concern here is the possibility that these are allegations which have not necessarily been confirmed, but may sound as if they had been. Mike's point is it cuts both ways. We need to assure that whatever is used to characterize the site has

been confirmed as being factual. Yeah. Other comments on this point? And this -- this you hear as a request from a Board member. Generally if we are tasking our contractor to do something, we -- we like to at least have some level of -- of consensus so that the -- the contractor's not taking orders from individual Board members. But maybe others can weigh in in terms of -- pro or con as to this point that Wanda's made. And again, keep in mind the related point that Mike has made. Others -- Roy.

DR. DEHART: I haven't had the opportunity to review that particular document that's being referred to, but I do think that we need to be clear on any document that we're putting out as to source and reliability.

DR. ZIEMER: Okay. And Brad.

MR. CLAWSON: I -- I read that article and actually I was quite interested by it. One of the things that I did find out, and I thought that they spelled out that these were workers making these accusations, and maybe from my knowledge in the workforce I was taking it as that, but both sides have a very valid point.

Mike's point -- you know, this is a double-edged sword, and I think SC&A, in my eyes, did a good job. I -- I enjoyed this report. I enjoyed the information. But -- but you are correct that we need to be very careful. But I -- I personally felt that they had called out that this was workers that made these accusations. Now you're right, it -- a casual reader just browsing through it, that'd be correct. It could be misconstrued. But I felt that it was -- I thought it was well put together.

DR. ZIEMER: Okay, so your -- you have less concern on that point, it appears. Others, pro or con on this? I'm not necessarily looking for a motion, but I want to get kind of the sense of the Board before we ask a contractor to spend a lot of time, although it may be an easy fix, with a page or something, and maybe even a paragraph that maybe Wanda could help provide if -- if necessary. I don't know. I'm just -- this is top of the head for me, but -- what would the fix be, in your mind, Wanda?

MS. MUNN: There's only one item which I would request be removed entirely, or changed in such

a way so that it has some relevance, and that's one with the reference to the inflammatory title on the -- on the book, without any further reference to it or without the picture that it refers to as being there.

Other than that, my only suggestion would be an occasional reminder, underneath the various topic headings, that among the allegations from the 12 members -- the 12 workers interviewed, were these comments. If that were inserted occasionally, I think it would resolve the primary concern.

DR. ZIEMER: Other Board members have any -- yes, Mike, another comment.

MR. GIBSON: Yeah, I guess I would say that, you know, again, on the other side of the coin, if there's any of these site experts that's written up parts of these reports, they've been in any -- any incidents where they've been in a supervisor position or in charge in any event and there's been an -- an occurrence or Price Anderson violation or anything else, then I think that should be also referenced.

DR. ZIEMER: And perhaps that is the case. I -- I get the idea that the annotation approach

that ORAU is going to use may in part help to address that. At least it will identify who the information is from, and that helps the individual reading it to weigh its value. I guess we also will know not only who that individual is, but there will be on file the conflict of interest information on each of those.

Other comments on this?

(No responses)

I don't know, John, if -- if you -- if you want to react to this at all. I don't want to put you on the spot, necessarily -- well, maybe I do.

DR. MAURO: That -- that's fine. We're -- we're -- we're very much aware of the concern and we have spoken about it before. We agree that we do need to do some editing to make it clear who's saying what and that's very minor effort. It'll take just some paragraphs to be rewritten, some proper attribution, who's saying what -- easy fix. And we apologize for the concerns that were raised here and we will in future certainly make it very clear who is saying what and it's -- it's done.

DR. ZIEMER: Thank you. It appears then that we need to take no further action. The concern has been noted both ways and it's an ongoing concern that the Board will need to keep in mind as we look at future documents, both of our contractor and of NIOSH's contractor.

DR. WADE: And for the record, I was there when this issue was raised and John's reaction was immediate and -- and very positive, and I think it's a problem that's really behind us, so --

DR. ZIEMER: Thank you.

DR. WADE: -- I appreciate their professionalism.

MS. MUNN: Thank you.

DR. WADE: (Off microphone) (Unintelligible) Y-12.

DR. ZIEMER: Yeah, I'm -- I'm looking at the schedule here because we also have -- we have an SCA report on the fourth round of cases that we also --

DR. WADE: There are three agenda items we've skipped over.

DR. ZIEMER: That we need -- yeah.

DR. WADE: The status of the SECs, the fourth round report from SC&A, and then the Board's

discussion of its -- its working groups. I've been completely unable to predict the time it would take to do an agenda item, but I'm operating on the assumption that Rocky -- that, excuse me, Y-12 might not take as long. If we have time after Y-12, then we'll hear from SC&A on the fourth round. If we have time then, we'll hear from LaVon on the SEC petitions. And if we have time then, we'll deal with the Board's discussion. But more likely the Board's discussion will go to tomorrow.

DR. ZIEMER: Will go to tomorrow, and on the fourth round, the point is that I think Kathy and Hans will be leaving this evening --

DR. WADE: No, no, they've made adjustments.

DR. ZIEMER: Oh, they have. Oh, okay. Okay, good.

Y12 SEC UPDATE:

DR. WADE: And -- but we would like to accommodate them if at all possible, so let's -- let's take the step off the pier on Y-12 and see where we wind up.

MS. MUNN: Okay.

DR. ZIEMER: The first one to step off the pier will be Jim Neton.

DR. WADE: I've got the list -- there are many conflicts on Y-12. Unfortunately I have to ask Drs. DeHart, Presley and Ziemer to leave the table, and I hope I got that right.

DR. ZIEMER: That's correct.

UNIDENTIFIED: (Off microphone) If not, we'll let you know.

DR. WADE: I have no doubt. I do think that there's -- in keeping with the venue and our political bent, I think there is a letter from the Senators from the great state of Tennessee to be read. Jason, are you going to do that? Could we have the lights up a bit, please? I don't know who I'm calling to, but -- to a higher power -- let there be light.

MR. BROEHM: Hi, Jason Broehm from the CDC Washington office, and I have a letter here from Senators Bill Frist and Lamar Alexander of Tennessee related to the Y-12 site, and neither -- none of their staff were able to be here today so they asked me to read this into the transcript.

(Reading) Dear Chairman Ziemer, we are writing to express our support for adding workers who were engaged in uranium enrichment and other

radiological activities at the Y-12 national security complex in Oak Ridge between 1948 and 1957 to the Special Exposure Cohort.

On July 26th, 2005 the Board recommended granting SEC status to workers employed at Y-12 between 1943 and 1947 in response to the first part of the petition submitted on behalf of Y-12 workers. The designation became effective on September 24th, 2005, and we commend the Board for thoroughly and expeditiously reviewing the petition. It is our understanding that more than 800 cases would be affected by the Board's recommendation on part two of the petition, years 1948 through 1957, which is of utmost importance to us and our constituents.

Y-12 was among our nation's first nuclear production facilities, and began operating at a time when there was very limited knowledge about the effects of radiation exposure, and little or no monitoring of workers. Congress enacted the Energy Employees Occupational Illness Compensation Program Act to ensure that workers who were harmed by their service would receive compensation, and specifically created

the SEC to grant presumption of causation when there is incomplete information regarding radiation exposures and it is reasonable to believe that such exposures may have endangered the health of workers.

The men and women who worked at Y-12 between 1948 and 1957, and their families, should be awarded the same benefits and compensation as those who worked at the facility between 1943 and 1947 if it is determined that health of employees may have been endangered and there is insufficient information to accurately determine the level of radiation exposure.

Thank you for your attention to this matter, and your continued efforts to ensure that our nation's atomic workers and their families received the benefits they deserve.

Sincerely, William H. Frist, M.D., Majority Leader, United States Senate, and Lamar Alexander, United States Senator.

Thank you.

DR. WADE: Thank you, Jason. I know that that letter was electronically sent to Board members. We'll have hard copies put in front of Board members now, and there'll be copies on

the back table as well. LaShawn, if you could see that Board members get hard copies of that letter, I'd appreciate it.

Okay, now we're on to the presentation by NIOSH. Dr. Neton.

NIOSH PRESENTATION, DR. JAMES NETON, NIOSH

DR. NETON: Thank you, Dr. Wade. Before I take a step off this pier, I'd just make sure the Board's aware that I'm not a particularly strong swimmer, so with that...

I'm here to talk about an update to the SEC evaluation report for the Y-12 SEC class. And in particular I'm here to talk about an update that we issued to the SEC evaluation report that was sent -- it was published on June 9th, and I believe it was put out on our web site, sent to the petitioners and members of the Board as well.

But before I get into the contents of the supplement to the petition, I'd like to take a step back and just sort of refresh your memory as to what -- what transpired at the Board meeting in Denver related to SEC petition 28. That is we had a petition submitted under Paragraph 83.13 with an initial class

definition that you see here, which was all steam fitters, pipe fitters and plumbers who worked from October '44 through '57. As you recall, we expanded our evaluation to include a review of all workers who were at the site between 1948 and '57. And the reason that we started in '48 was because there were several other petitions -- that is, petition 18 and 26 -- that had already been reviewed and a class was added for all workers prior to 1948. So the bottom line was that the period left to evaluate was '48 to '57 at Y-12.

And of course, you've heard this many times, there's a two-pronged test. We evaluated whether we could estimate the doses with sufficient accuracy; and if we could not, then was there a reasonable likelihood that the dose may have endangered the -- the health of the members of the class.

Based on our analysis, we reported in our evaluation report that the sources of internal exposures were there in five different buildings -- which are listed here -- and that we lacked sufficient accuracy to estimate the internal dose for exposures in those buildings,

and particularly the exposures for thorium. And as I just said, that we believed that we could not reconstruct -- that health was endangered from this exposure. And our evaluation was that the exposures that were incurred in these buildings were the result of episodic exposures, chronic and episodic exposures to thorium where we had little to no monitoring data. And we recommended a proposed class -- if I can get this thing to move -- as you see on the screen here, which was five buildings, Building 9202, 9204-1, 9204-3, 9206 and 9212. So anyone who worked in those buildings for at least 250 days between December -- January '48 and 1957 were recommended to be members of the -- of the class.

That's the background. Now let's talk about what happened with the supplement.

After the Board meeting we had a working group meeting in Cincinnati that I thought was pretty productive, and we've had these ongoing meetings and I've lost count now how many, but they've always been pretty productive. And in our minds, two particular issues came up that

really merited further research on our part, after a fairly good, robust discussion of all topics. And those two issues I've listed here. One is that -- has NIOSH really identified all buildings that were involved in thorium production. How confident were we that we've covered the waterfront on all the buildings, how do we know where this thorium was. Our initial five buildings were based on reported incidents in buildings and health physics reports where there may have been some surveys done. But we really didn't have a comprehensive listing that we could hang our hat on for those buildings.

And the second issue was can the incident reports for Cyclotron operations that we portrayed in our evaluation report, could they really adequately bound the internal exposures for -- for workers during that period.

So we set out to do some research, and I want to report on those two specific issues today. The first -- the first issue with the thorium operations, I think the Board members are aware that we had access to these records which were called material balance ledgers. Some of our

information came from those ledgers, but at the point that we issued our evaluation report, we had not tracked down all these ledgers. These are still classified documents that one has to have a Q clearance to read and -- and observe -- or, you know, to read and digest, and there were still a few missing.

Well, subsequent to the Board meeting, we had a couple of people with the appropriate clearances go and review these material mass balance ledgers, and in fact they found a mass balance ledger for every year of the SEC period. And in a review of those ledgers we discovered an additional building, 9201-3, where there appeared -- or there was, according to the ledger, a very large quantity of thorium that was handled. It was in the range of thousands of kilograms. We really don't know exactly what happened in this building. It seems to have been tied to some type of reactor experimentation. But we have no process knowledge, no source term -- well, we knew the source term, we know how much was -- approximately how much was there -- or any indication of what type of monitoring was done

to evaluate exposures. So this gave us some -- some reason for pause.

There were other buildings, three listed here -- 9203, 9213 and 9995 -- that also were indicated to have thorium during the SEC period, but they were much smaller quantities. I mean much, much, much less than a kilogram of material, on the order of grams of material. And they were clearly associated with buildings that appeared to be related to laboratory assays, that type of -- of operation where one might have calibration source quantities. Although I will say that one building I think was listed -- it was abbreviated, but I think we can interpret it to mean production experimentation, but it was, again, a very small quantity of grams of material. And there were such discrete amounts that, based on our opinion, our looking at these values, that we believe that we could use a source term model to reconstruct internal exposures for these buildings. And in fact, we have proposed to use something akin to the logic that's contained in new Reg. 1400, which is a document written -- it talks about how -- when -- when

there's a need for air sampling in the workplace. And in fact, we would do a backwards calculation and say what would be the projected exposure from this source term in the air -- air -- in the work environment, and using some conservative factors that would be claimant-favorable, we believe we could bound the exposures to workers in these three buildings.

So as such, based on this, this is the -- then this is the only building, 9201-3, that was not in the original list, those five buildings that I mentioned, that we're proposing now to add to the proposed class definition for thorium exposures, which would bring the total number up to six buildings now. Okay. And that's defined or outlined in the -- it's a fairly brief supplement, I think it's four or five pages, but we have a page or two that discusses the issues behind that.

Okay, let's turn now to the second issue, which is the Cyclotron dose reconstructions. NIOSH, in our evaluation report in Denver, proposed an approach to reconstruct doses to Cyclotron workers during the period using what we believe

to be a large cadre of incident reports. Now this goes under the paraphrase you can't judge an incident report by its cover or its title, because we had access to -- we had indications -- several indicators that there were a large number of incident reports available, and the titles appeared to indicate that they were fairly good treatments of what happened with incidents at these Cyclotrons. And in fact, there's a database that we talked about before called the Delta View database that had an indication that there were around 800 reports that were on file that we could use to look and figure out exactly what the nature of the exposures were during these incidents. 'Cause if you remember, at the Cyclotrons -- with the exception of the polonium 208 production -- the sources are sealed sources. They're sealed in -- in a -- some -- some sort of a container during irradiation, and only when they're opened -- which they're opened in the X-10 facility -- would there be any potential for exposure. We do know, though, based on some incident reports in the 1960s, that sometimes these -- cladding, containers

around the sources, ruptured and did release significant quantities of -- of material, airborne activity to the workplace.

At any rate, we looked through this -- ORAU looked through this database of the 800 incident reports and, to our surprise, we could not find any useful incident reports for reconstructing internal exposures during the SEC period. There were a lot of incident reports, but they did not deal with internal exposures. And that, coupled with the fact that we know incidents -- incident reports existed in the '60s that documented some fairly large internal exposures, we knew there -- they probably existed, we just -- we just don't have the thread as to where they are. They must be somewhere -- they're certainly not where we've been looking, and in fact, we've sort of run out of avenues at this point and don't believe that we're going to be able to find any of these reports in a timely manner.

So because of this, we've looked at the definition and -- or looked at the evaluation report and decided to revise our class definition to include Cyclotron workers who

worked -- this is the Cyclotron building, 9201-2. So that's our -- that's the gist of what's in our supplement that we -- we sent out and -- there should be one more slide there, isn't there?

(Pause)

Okay. So this is the revised class definition that you'll see in our -- in our supplement, which is now a two-prong -- well, not two-pronged, a two-part definition. One is the original thorium definition that was updated to include the additional building, so you'll see it now reads all thor-- thorium exposures while working in buildings 9201-3, 9202, 9204-1, 9204-3, 9206 or 9212 at Y-12 for at least 250 work days for the ten-year period that's listed here on the screen, 1948 through '57.

And then the additional part now is radionuclide exposures associated with Cyclotron operations in building 9201, again for 250 days during the period from January '48 through '57.

So that's the quick story of our -- of supplement. I'll be happy to answer any questions.

DR. WADE: Board members, any questions for Dr. Neton? Dr. Melius.

DR. MELIUS: Yeah, I don't know if this is a question for you or for Pete Turcic from Department of Labor, but last time we had a discussion at this meeting of this issue of monitored or should have been monitored for thorium exposures, and I -- I think it's really the issue of how to best define the class in a way that they'll be sort of appropriately identified and readily identified by the Department of Labor. And I guess I would ask you -- first of all you, Jim, and then maybe Pete, if you want to add to that, as to where are we in terms of those discussions and -- and so forth as -- sort of how do we make this definition operational?

DR. NETON: I think Pete did such an excellent job at the last meeting describing how they're going to do it that I'd refer that -- I'd prefer that he answer that question.

MR. TURCIC: Again, we would look at individuals that were in those buildings, and the issue as far as monitoring would be, again, based on today's standards, should they have

been monitored for internal monitoring, and that's how we would evaluate whether they were in the class.

Now in order to do that, we really look at three different groups. Normally what we would -- what we would do is we would look at occupations, where we know -- it's obvious were associated with those functions in those buildings.

DR. MELIUS: Uh-huh.

MR. TURCIC: Then there's -- there's the other group that may -- probably were not -- you know, we could get things like cafeteria worker. Then in the middle group of -- there are a large number of occupations where maybe they weren't in those buildings continuously, things like electricians, maintenance people, that would routinely be, you know, assigned to those buildings.

DR. MELIUS: Uh-huh.

MR. TURCIC: And the way we work those three different groups would be the first group, we would just make a determination based on that occupation and not require any further development work.

DR. MELIUS: Uh-huh.

MR. TURCIC: The other group, the -- the middle group, what we would attempt to do there would be we would do some development work, you know, if it was a -- an electrician or something like that, and we would accept that they were in there if there was no contrary evidence in the file. You know, if we had evidence in the file that they were assigned somewhere else and they were not routinely assigned to those buildings, then they would have to show 250 days in those buildings.

And then the third group, we would need positive evidence to show that they were in -- in one of those buildings for 250 days during that time period.

DR. MELIUS: One of the issue that at least I recall from that meeting was the -- was it should have -- were monitored or should have been monitored for thorium, or was it for radiation exposures, because --

DR. NETON: The original definition was thorium.

DR. MELIUS: I know, but when we had discussion whether radiation exposure since that's sort of

the -- the threshold for monitoring is not just a single exposure, but --

MR. GRIFFON: Single isotope.

DR. MELIUS: Single isotope.

DR. NETON: Right, I -- I think it was -- it was described that if -- if a person was in the building, then thorium exposure was assumed to have occurred if you couldn't prove otherwise.

DR. MELIUS: Right.

DR. NETON: Or couldn't demonstrate otherwise.

DR. MELIUS: Yeah.

DR. NETON: So in other words, you didn't have to prove that you were exposed to thorium. If you were in the building and we couldn't restrict the exposure to one very narrow segment of a building, I think working in that building would constitute exposure to thorium.

DR. MELIUS: Yeah. Yeah. No, I just want to clarify that -- that whatever we --

MR. GRIFFON: (Off microphone) (Unintelligible) clarified on the record --

DR. MELIUS: Okay, well (unintelligible) --

DR. NETON: I don't want to speak for Department of Labor so maybe Pete --

DR. MELIUS: -- if we do leave it at thorium,

'cause there was some disagreement on that last time or uncertainty about that, that -- that we're making it a definition that's usable by the -- appropriately, you know, operational and usable by the Department of Labor. I mean --

MR. TURCIC: Yeah, I mean, but you could -- you could have some -- you could have some occupations where people may have gone in there -- once a week or something like that -- and they wouldn't be required to be monitored for a short period of time and they would not be in that class --

DR. MELIUS: Yeah.

MR. TURCIC: -- unless they can show 250 days.

DR. MELIUS: Thank you.

DR. WADE: Any other questions for Jim?

(No responses)

Okay. This is the part of the agenda now -- oh, I'm sorry.

MR. GRIFFON: I got a -- I got a follow-up for Pete, maybe. Might as well do it now instead of waiting till...

Along those same lines, as far as implementing that, I'm trying to understand 'cause oftentimes we've got survivor claims and we've

got department information and job title information, and specifically -- I mean we know from our workgroup efforts and from, you know, some site experts that have contributed that these departments are -- are not linked specifically to one building. Oftentimes, anyway. I don't know if there's some times when they are. But how -- you know, from an implementation standpoint, again, how are you going to --

MR. TURCIC: Okay, if I --

MR. GRIFFON: -- identify from someone's records, especially when the spouse often would say all I know is he worked at Y-12 --

MR. TURCIC: Yeah.

MR. GRIFFON: -- everything else was secretive and -- you know.

MR. TURCIC: One thing that we do when -- since DOE employees are also covered by Part E, we ask -- we get from DOE what we call our -- the DAR reports, and that has a lot more information. It may have occupational information. If -- again, it depends in which of those groups. You know, if -- if the occupation was something that you normally

wouldn't associate that they were in those buildings, then we would need positive evidence that -- you know, some positive evidence that they were routinely assigned to those buildings.

In that middle group, again, without contrary evidence, we would accept and put them in there.

MR. GRIFFON: Okay, and one final clarification. You said monitored or should have been monitored for internal radiation exposures this time. I think in --

MR. TURCIC: Yeah.

MR. GRIFFON: -- in Denver you said for radiation exposures.

MR. TURCIC: Right.

MR. GRIFFON: (Unintelligible) the difference?

MR. TURCIC: Internal, because you're saying monitored for thorium. How would you monitor for thorium? It would be an internal measurement. Right?

MR. GRIFFON: Yeah, and how do -- how -- how are you -- I mean from an implementation standpoint, how are you going to retrospectively determine who was -- should

have been monitored for internal exposures?
MR. TURCIC: Okay.
MR. GRIFFON: I'm assuming you're basing it on current standards, which are 100 millirem from --
MR. TURCIC: (Unintelligible)
MR. GRIFFON: -- (unintelligible) radionuclides for, you know, 50 -- 50-year (unintelligible) --
MR. TURCIC: Current --
MR. GRIFFON: -- yeah.
MR. TURCIC: -- current standards.
MR. GRIFFON: Right.
MR. TURCIC: Uh-huh.
MR. GRIFFON: By -- by current standards, but how -- how do you determine, if --
MR. TURCIC: Well --
MR. GRIFFON: -- someone goes in and out of buildings, how often do they have to --
MR. TURCIC: We would then start looking and -- and again, all this stuff -- you're going to find every possible combination you could think of of situation. We would have to start looking at occupations and weigh in the evidence -- you know, if all we have is an

occupation, and you weigh the evidence of what would currently be done with that occupation today, you know, and in other cases you may have affidavits to support it. So it's really a case-by-case adjudication based on the evidence with the general principles being that -- you know, how do you fall into those three groups.

DR. WADE: Jim.

DR. MELIUS: Yeah -- yeah, I -- I just think we need to try to make sure -- we just want to make sure that we're being as clear as we can be in our recommendation so that, you know, it doesn't -- makes it easier for you and -- and more straightforward, that's all.

I have a question for Jim. Sorry, don't --

DR. WADE: He tried to --

DR. MELIUS: Yeah, he tried to get off --

DR. NETON: I tried to sneak away.

DR. MELIUS: Can you speak a little bit about the end point for these operations and so forth, particularly the Cyclotron? I --

DR. NETON: Yeah, that's a good question. I probably should have given that a little better treatment. In the Cyclotron arena or area --

it didn't stop in 1957. It continued on. So in some sense, our evaluation -- we -- we included Cyclotron workers in the original SEC period, through '57, that was proposed, but we have not continued to evaluate beyond that where there were exposures. We do know we have incident reports in the '60s that we might be able to use, but -- but we're silent on that at this point. It doesn't preclude us using the 83.14 process, for example, of adding Cyclotron workers after 1957. But at this point, this is as far as we've been able to take our analysis. Good -- very good question.

MR. GRIFFON: Are you planning on continuing your investigation --

DR. NETON: Yes --

MR. GRIFFON: -- into those (unintelligible)?

DR. NETON: -- we will continue to look through the Cyclotron operations, but you know, the Cyclotron area came up at -- at sort of the 11th hour, so to speak, and we just didn't have a complete picture after that, so you know, for -- for speed purposes, we -- we've gone forward with what we've got available.

DR. WADE: So the Board can expect to hear back

from NIOSH on the issue post-'57 then.

DR. NETON: Yes.

DR. WADE: Good. Other questions?

(No responses)

All right. AT this point now we would hear from petitioners, but I don't believe there's any petitioners or their representatives on the line -- but I'll ask. Any petitioners or representatives to make a comment?

UNIDENTIFIED: (Off microphone) (Unintelligible)

DR. WADE: Absent that, I'll turn it over to the chair of the working group who can decide how best to proceed with information.

UNIDENTIFIED: (Off microphone) 28's on the line --

DR. WADE: Mark.

UNIDENTIFIED: -- but we have no comment.

MR. GRIFFON: You have someone on --

DR. WADE: I'm sorry, could you repeat?

MR. DUVALL: Twenty-eight, James Duvall.

MR. GRIFFON: Is that a petitioner?

DR. WADE: Are you a petitioner? That's -- please make a statement, sir.

MR. DUVALL: Oh, we have no statement.

DR. WADE: Okay. Thank you for being here, and please -- if at any point in the deliberations something occurs to you that's important for us to hear, please raise it.

MR. DUVALL: Thank you.

DR. WADE: Thank you.

WORKING GROUP REPORT

MR. GRIFFON: Yeah, I -- I was -- I think I'll -- you know, I will try to be brief -- briefer than the Rocky Flats report, but I would like to give just a -- a workgroup update and I won't be re-- Jim's covered a lot of it, so I'll go through -- the last workgroup conference ca-- as Jim said, we've had -- I can't even count how many workgroup meetings, but you know, I think we -- we've proven that this process works. It might be a little slow at times, but it does work and we've gotten a lot out of this. The last one was June 8th, I think -- June 8th, and on the list at the time we talked about the thorium exposures was one of the primary things, and Jim outlined that very well and I don't think we have anything to add.

The one -- I -- I guess one thing, and this

comes up a few times in the process -- and -- and this is one thing that sort of maybe lengthened our review process in this whole effort is that, as Jim pointed out, these ledgers are classified. So NIOSH reviewed and provided us reports on this. SC&A and the -- and the workgroup have not seen these, but -- and -- and that's true of some bits and pieces of -- of the review, but overall we -- we were very happy with the effort they made to track down this information and find out exactly where additional thorium was and -- so -- so we were able to close out on that item pretty well.

And you know, with regard to the laboratories, they -- I -- you know, I think the workgroup was in agreement, I think SC&A was in agreement. We -- we just -- you know, this was June 8th I think. An outline of a model has been provided. I don't even think I've opened the document on this one, but it's pretty clear there were small laboratory quantities and there should be methods by which they can bound these exposures for those -- for those workers in those buildings -- those laboratories in

those buildings. And if any workgroup members disagree with me, please point this out.
The second issue on the agenda was the Cyclotron work and, as Jim pointed out, polonium and these other exotic radionuclides were the principal item. And I was going to mention the extended time period, I think we just brought that up so I won't go into that any further. I think it -- it was important for the record that some of the discussions on the workgroup level was well, you know, most of these exotic radionuclides wouldn't have contributed very significantly, if at all, to internal exposures. But Jim pointed out in the workgroup deliberations that in fact some of the early polonium runs extensively contaminated the areas and -- and there was residual -- potential exposures to residual contamination during subsequent runs, I guess, so there was -- there was sort -- there was an unknown and significant internal dose component and I think that was important to justifying the addition of -- of -- of this group of workers to an SEC.
The next item we talked about was plutonium

exposures, and this is along the lines, as we were discussing earlier, of what exposures or what doses we can reconstruct as opposed to the groups we cannot reconstruct. I think we should point this out. There were some Calutron runs in the late '50s I think -- mid to late '50s -- within the time frame still, '54, 5, 6, something like that -- and -- but they do have -- and they've presented a model to us. SC&A and the workgroup are in agreement that they can bound -- they can determine upper estimates with this model.

Additionally there was another building identified, building 9205, which seems to be one of these support laboratories that had fair -- a fair amount of plutonium air sampling and they have just provided us with some documentation that basically says the previous model provided more than bounds those identified air sampling measures within that laboratory. So I think we're confident that, for those two groups of plutonium exposed workers, those doses can be reconstructed.

The fourth item we discussed was data validation, and this was both on external

radiation do-- data and internal bioassay data. And for Y-12 it was -- for those of -- who haven't heard this before, for Y-12 it was much more important to us because a large percentage, I think it was 75 percent or 80 percent, of the claimants were in some way going to rely on a coworker model to reconstruct their -- their doses, coworker model being that they were going to use this electronic database data to develop a distribution and then assign intakes based on that or -- or external exposure databased on that. And so therefore we -- we felt it important, especially on this site, to validate the data.

The second very important reason for validation in this case is that in fact this -- this data -- it was the Y-12 database, but it -- it was currently I guess owned, for lack of a better word, by ORAU research branch. And ORAU being the contractor on this project, we felt it very important to do independent validation of this data. And it was not as easy as asking for all the urine log books and doing a statistical sampling and matching up with the database

data. It would have been nice if that was the case. But it might have been a little patchwork at times, but I think at the end of the day SC&A felt comfortable with both the external data and the internal data. And we did this through a combination of looking at health physics reports. They had summary statistics within those health physics reports. This did get cumbersome right down to the end and -- and I've -- but -- but I appreciate Larry Elliott's involvement at the end, along with DOE. Libby White was helpful. We -- we asked for identified data and we went through various iterations of getting identified data and -- but at the end of the day, within the last couple of weeks we have a database with all the identifiers. And the reason it was important on this aspect, and I'm bringing this up because I think it's going to come up again -- Rocky Flats is one example -- but the reason it was important in this especially was that we were getting reports back from NIOSH from these health physics reports. The health physics reports are still classified, so we didn't have direct access to those. We got summary notes

saying here's five individuals who their average dose for this year or this quarter was this within the health physics report. We compared it to the database and it was the same in many -- you know. So they -- they presented a fair argument there that the data was valid. Unfortunately, we didn't have a database that had any names in it and we didn't have the health physics reports, so we were kind of at a -- at a loss for just accepting this on -- on its face. And we -- we asked to pull that thread a little further and NIOSH did help us out. And since then actually I've -- I've got responses from Bill Tankersley on some of my questions that I -- I couldn't get certain values to -- to match his calculated values, and I think we -- I'm -- I'm comfortable with his responses on those items. So at the end of the day I think we met, you know, our -- our enough is enough question on the data validation for this -- for this topic.

MS. MUNN: Let's hope.

MR. GRIFFON: It might have felt like it took a long time, but we got there.

The fifth item that we discussed was the

follow-up on the coworker models on the gamma and beta exposure models. And this was really ba-- based -- in part it was a data validation question, but also in part it was this -- the method by which they were back-extrapolating exposures. And I think, again, at the end of the day where we left this was even though we have some outstanding questions on this -- the methodology, it was clear to all involved that -- that a plausible upper-bound dose could be calculated. So we're comfortable that it's not an SEC issue. There may remain some outstanding questions on -- in terms of the site profile review, but we're comfortable it's not an SEC issue.

The coworker -- there was a coworker model for internal uranium exposures which was also discussed, and this was the coworker model used to back-extrapolate for early uranium workers where they had no data. I think it's '47/'48 -- '48/'49 -- '48/'49. And basically -- really that was a matter of just verifying that we actually had later data for those individuals and we could use that later data to back-extrapolate and it would be -- it would be

applicable to those -- that -- that group of workers, it would be representative, and we did close out that item at the last workgroup meeting, as well. Everybody was comfortable with that model, that approach.

And the neutron -- we discussed neutron dose reconstruction very briefly. I think at -- the only remaining item at that point was -- was we wanted a -- to have some follow-up references provided, and those were provided. SC&A reviewed those and -- and was satisfied to close that item out.

And then the question of recycled uranium and the -- the approach that was going to be used, and I think this also was a -- a question of -- it -- it's -- we're comfortable with it from an SEC standpoint. There's some remaining questions on implementation and -- but -- but it's not that dose can't be bounded. We're comfortable that they can get a plausible upper bound for doses and so that item was closed out from an SEC standpoint.

And -- and that's basically where we -- where we concluded with the workgroup.

BOARD DISCUSSION

DR. WADE: Thank you. Other workgroup -- now the workgroup also consisted of Mike and Wanda and Robert, although Robert is conflicted on Y-12. Wanda or Mike, any comments you would like to make from a workgroup perspective for the record?

MS. MUNN: No, other than this has been a very arduous task, and I individually am very appreciative of the efforts that have gone into it, and thanks to Mark for continuing to try to keep this matrix as current as possible. It's a difficult task and both our NIOSH and ORAU and SC&A teams have spent a great deal of time. My concern continues to be that we work in such real time that it's really hard for us to give extended thought to some of these last-minute things that occur. So if we're brief or if Mark seems to be long-winded sometime, it's because we haven't had an --

MR. GRIFFON: I'm rarely accused of that.

DR. WADE: Yeah, right.

MS. MUNN: -- we rarely have an opportunity to concentrate our thoughts into the kind of presentation we'd like to have.

DR. WADE: Right.

MR. GIBSON: You think he's brief -- or long-winded here, you ought to be on the conference calls.

MS. MUNN: Yeah, you're right.

DR. WADE: I mean I'd offer an observation, particularly on this case. I mean if -- if you're looking for an example of where SC&A's involvement has brought value to the process, this is a very clear example. If you're looking for an example where NIOSH has demonstrated an ability to listen and to adjust and to modify based upon what's discussed, this is an example. If you're looking for a positive example of how the workgroup process can work, this is an example.

Now it doesn't say that it's been efficient, but it has -- the process has worked and I think all are to be complimented.

Other questions for the workgroup by the Board?

(No responses)

I will point out that there's an SC&A presentation in your book. I don't think it needs to be made, but I would -- since they took the effort of putting it together, I'd suggest you do take a look at it.

Now it's for Board deliberation as we look at the Board's action on Y-12, so I open it up for discussion. Comment. Motions.

MR. GRIFFON: I mean we -- we -- I -- I think the whole workgroup is pretty comfortable with the -- you know, we -- we've had a lot of last-minute stuff. The -- coming into this meeting I guess my -- my one final sort of desire was to close out this question of how -- you know, how -- how do we craft a recommendation to -- that -- that Labor can implement, you know, effectively, and that we understand sort of how it's going to be implemented. So I think Pete was helpful in clarifying that, but -- Jim, I don't know if you have any...

DR. MELIUS: Well, let me explain where we are, then I think we can decide how to go forward. Mark and I have worked on a draft, mostly -- again -- Mark providing the technical input, and he and I went over it some at breakfast this morning. But there were still some issues, like significant questions that were related to -- to how to describe the cohort, and then I think also frank-- the issue about -- that we talked about here this morning or

early this afternoon about the non-SEC cancers and what to -- what we should be communicating here in terms of not only what can't be done, but what can be suitably dose-reconstructed. So we have a draft. It's not quite ready for prime time yet. I think it could easily be put together and prepared for consideration first thing tomorrow morning by that. It -- it --

MS. MUNN: Please.

MR. GRIFFON: Yeah, I think -- I think --

DR. MELIUS: And I think it -- you know, basically what would be recommended would -- would basically be the -- the definition that -- that NIOSH put forward there and I -- I think I'm assuming there's -- there's good concurrence among the Board that that's the general way we want to go. I think we need to, you know, just tighten up some of the arguments and so forth to -- to have a -- an actual motion and letter that would be ready to go to the Secretary.

MR. GRIFFON: Just -- just to explain a little, I -- Jim had the skeleton letter, which we all know Jim has been doing for a lot of these SEC reports that we've been -- put out, and I -- I

tried to draft some -- some of the bullet items that were in there, and they -- they -- it tracked pretty well along what I just gave as a workgroup update, the -- the fact that we can reconstruct the uranium exposures, I think we want to point that out very -- it's very important because a lot of those thorium buildings had uranium exposures, so -- and -- and the fact that we can do these plutonium -- this -- this subset of plutonium workers, and the fact that we can do ex-- we have external dose information that we can reconstruct, so -- and then the -- the cannots are obviously the thorium and the Cyclotron related to those specific buildings. So that's generally what it looks like, but it's real -- it's very rough at this point, so...

DR. WADE: I think it's quite reasonable that the -- the Board has learned today how important these motion -- these -- these drafts need to be in terms of not only what can't be done but what could be done, so I think we would applaud the time being spent this evening to bring back the motion to the Board in the morning. But I would ask if there's anyone on

the Board who would like to offer a contrary opinion to these fine gentlemen moving forward with drafting such a motion.

MS. MUNN: No, but I would like to offer all the encouragement I can. Please do.

DR. WADE: So noted. So only encouragement. So I think we can close this discussion then and -- and again, I would suggest we take this up first thing in the morning if --

DR. MELIUS: Yeah, we'll --

DR. WADE: -- what we hope to happen happens, and then we can entertain the motion and do what the Board needs to do with it. So at that point I will close our discussion on Y-12 and desperately ask Dr. Ziemer to come back to the desk.

DR. ZIEMER: Thank you. You made excellent progress and worked well --

DR. WADE: Where've you been?

DR. ZIEMER: I should be away more often.

DR. WADE: SC&A.

SC&A INITIAL PRESENTATION ON 4TH ROUND OF DOSE RECONSTRUCTION CASES, MS. KATHY BEHLING, SC&A

DR. ZIEMER: Let's do that. I think if Hans and Kathy, on behalf of SC&A -- this is the

swap item from Friday. You recall we were swapping two SC&A items so it would be what originally was a Friday morning item, SC&A initial presentation on fourth round of dose reconstruction cases. And Hans and Kathy, we do have a public comment period at 5:00, so are we okay on -- as far as your --

MS. BEHLING: (Off microphone) (Unintelligible)

DR. ZIEMER: Okay, let's push ahead.

(Pause)

MS. BEHLING: My slides are in the back, Ray.

THE COURT REPORTER: We don't have them?

MS. BEHLING: Yes, they're in the back.

DR. ZIEMER: Yeah, I'm not -- this was not in our packet, I guess. Is that correct?

MS. BEHLING: It should have been; I had sent it. It is in the back. You don't have it. This is for -- it was scheduled for tomorrow and it is the summary of the fourth set of cases, if y'all need it.

Tell me when you're ready to proceed.

(Pause)

DR. ZIEMER: Okay.

MS. BEHLING: Okay. I'm Kathy Behling with SC&A, and I appreciate having the opportunity

to present our summary of the fourth set of cases -- case reviews. I know at this time of the day it's easy to start to fade, but I also know Dr. Ziemer has faith in the fact that I have a very exciting presentation to give you. Our draft report was published in April -- on April 7th, 2006, and at this point in time it's still considered a draft. And prior to publishing this report we met with the two-member Advisory Board team members and discussed their cases and the findings associated with those cases. Today I have generated a matrix that has just been forwarded to the Board and to NIOSH, but we have not started our issues resolution process. So everything that I'm going to discuss today with regard to our findings is still preliminary findings.

I went too far, sorry. Let me go back here. Okay, I'm going to begin by starting back in the very beginning of this project to serve as a reminder and to refresh everyone's memory as to what SC&A's initial charter was under our statement of work. And you'll see four items here.

First of all, we were asked to determine if dose estimates are reasonable. And NIOSH can -- has three different approaches to determining estimates of dose. They were -- they can estimate dose using maximizing assumptions in which they intentionally are overestimating doses when they know that the case is likely not going to be compensable or close to 50 percent.

The second approach, which is also an efficiency approach, is a minimized approach to dose reconstruction where it becomes apparent that, even by doing only a partial dose reconstruction, the individual will be compensated. And so for efficiency purposes the -- NIOSH concludes their dose after they have determined that this individual is most likely going to be -- or is going to be compensated and just based on let's say external dose alone and that may be sufficient for -- for the case to be a compensable case.

And finally, and these are the -- the cases that we've seen the least amount of and the cases that NIOSH doesn't have quite as many of, and those are the best-estimate cases. In this

particular set, as -- as I'll talk about a little later, there ha-- there are several best-estimate cases. And these are cases where when they calculate the dose the probability of causation is very close to that critical 50 percent POC.

Now I go on to bullet two. One of the things we were also asked to look for is assumpt-- the assumptions that are being used. Often there are gaps in this data, and so we look very closely at the assumptions, and these assumptions will differ based on the type of dose reconstruction that's being done. If it's a minimized or max-- well, if it's a maximized dose reconstruction, the assumptions will be overestimating and claimant-favorable. If it's a best-estimate dose reconstruction we look for ensuring that the assumptions are scientifically sound.

The third item -- also we look at the sufficiency and the completeness of the data that the -- that NIOSH is getting from the DOE or whatever source they're using for that data. We look for completeness and readability and ensure that they can adequately use the data

that's available. You hear that a lot in the discussions that are going on with the site profiles.

And lastly, our statement of work indicates that we look at the cases and ensure that these dose reconstructions are being done in compliance with the written procedures, and they are being conducted in a consistent manner and consistent between cases.

I'm going to expand a little bit more on this issue of the details provided in the statement of work, and this also is -- has become the basis of SC&A's audit process.

There are three primary areas that we look at, and that, first of all, is we do a review of the data collection. Now data collection -- we, again, ensure that all the data NIOSH has requested -- that they did receive it and that this data is sufficient to calculate a reasonable estimate of the dose.

We also look very closely at the interview information, the CATI report, and any documentation that's provided by the claimant. We ensure that NIOSH uses that appropriately and if they don't use that data we ensure that

the -- that if there's a good reason for them not to use that data or they have other information that's consistent with the data that they're using for the dose -- is more compelling for their dose estimates.

And then finally we look at the internal and external dose estimates, and here's where we also spend a great deal of time. And as you can see, statement of work indicates that we look at all assumptions and that we ensure that those assumptions -- appropriate and give the benefit of the doubt to the claimant. And also that we look at issues such as -- we -- we look at all the dose calculations and re-- and try to recalculate those dose calculations. We look at issues such as obviously the treatment of missed dose and unmonitored dose.

Now you -- we talked about this earlier. Missed dose is that dose where the individual has actually been monitored, but the monitoring results indicate that, for the external dose, the individual had values less than the limits of detection. In that case the dose reconstructor had the opportunity to either use a conservative approach to assigning this dose,

which would be number of monitoring periods -- N times LOD where -- and it's number of monitoring periods times that LOD. Often they'll use a little bit less conservative approach, but consistent with their procedures, of N times LOD over two. In other words, the number of monitoring periods times the LOD divided by two.

That differs from the unmonitored dose in which NIOSH must use a different approach, such as cohort -- coworker modeling, as we've been talking about earlier.

Also we look at -- for each dose reconstruction we look at the methods that were used and we ensure that they were interpreted properly and that the appropriate methods were -- were used by NIOSH, as specified in the NIOSH procedures.

Okay. Okay, this slide gives you an overview of the fourth set of cases. The first column is our tab number, and that's just our separator in our report and our sequential numbering so that you can see we've now done 80 cases to date with the completion of this report. In this -- these 20 cases, six represent AWE facilities and 14 are DOE

facilities. These cases also had -- we -- we've looked at 14 different types of cancer, and we've looked -- six out of the 20 were compensable cases, and obviously 14 were non-compensable.

Let me explain the last column again a little bit. The maximized doses -- as you can see, in -- in some cases -- in fact, from -- well, from -- some of the -- some of the Hanford cases and the cases that are less than the 50 percent where you see it maximized external and internal doses, those are what we have seen in many of the previous cases. We -- where there's been many overestimating assumptions used, and a lot of the findings that we have identified in those cases are similar to what we've seen in the previous 60 cases.

Of the AWE facilities, the first six listed there, three of the AWE facilities were compensable cases and three were non-compensable cases. And in each of these -- at each of these facilities and each of these cases, NIOSH used the same guidance document, which was OTIB-0004, which is a complex-wide generic procedure that, to this point in time,

SC&A has interpreted that procedure to be a maximizing procedure, and therefore we are questioning the appropriateness of using that procedure for the first three cases that were compensated. And so many of our findings associated with those first three cases have to do with that issue and questioning whether OTIB-4 was the appropriate procedure to be used.

You'll also see tabs 67 and 68 are identified as best estimates, and tab 69 -- I have a question mark behind maximized and I have best estimate listed there because NIOSH identified that as a maximizing procedure -- approach to dose reconstruction. However, when I looked at that case and I looked at the POC value, it became apparent that that really should have been classified as a best estimate and we viewed it as a best estimate case. Best estimates are typically done for external dose. They use a workbook that incorporates Crystal Ball and -- that uses a Monte Carlo procedure to input uncertainty associated with the DCFs and the uncertainty associated with the dosimeter. And they also ran IMBA for the

internal dose. They did a full internal and external evaluation of this case number -- tab 69, and so we're classifying that also as a best estimate.

These best estimate doses -- we found in these particular cases of best estimates, we've seen two best estimates I believe previous to this, and I guess I was somewhat surprised at just the level of detail and the amount of complexity and the time-consuming nature that went into estimating doses for these particular best estimates. In fact, in one of these cases there were -- there was an individual who worked there for 30 years and had around -- about 648 tritium bioassay results. And although NIOSH could have used a site-specific procedure or a Technical Basis Document for assessing that internal dose, they went through a painstaking approach of identifying each and every one of those 640 bioassays and inputting all of that into IREP and really scrutinized over this data and refined the data quite a bit. And most of our findings associated with these best estimates have to do with assumptions used by NIOSH in -- in making some

of their determinations.
Okay, on this slide I'm tr-- I broke down the findings for you based on the initial categories as stated on this statement of work that I discussed in a previous slide. As you can see, data collection, external dose, internal dose, and then the CATI information. And because we have a total of 100 findings, you can see the total by the bottom by the per-- percentage of findings that fall under each of those categories. As you can see at least from this small selection of data, these 20 cases, it appears and -- and you'll see later that it is consistent with what we had for all 80 cases, the data collection process does not seem to be something that is -- has been a problem for NIOSH. We don't see a lot of incidences where DOE or AW-- AWEs don't' really have that much data, but DOE is -- is not giving them the data that they've been asking for.
Obviously you'll see a lot more findings under the external and the internal dose. We have 40 categories of -- of -- on our checklist that we look at under the external, and I believe eight

or so categories under the internal. And that's where we see most of -- of our deficiencies or findings.

And then the last category, again, is the CATI information. And here again we're looking at what the -- what the interview -- interviewer stated in his interview process, and we compare that to what NIOSH actually used in their dose reconstruction report.

Okay. Okay, I -- here I broke down the findings related to how they impact dose, and this is something that you will see on our checklist that's included with each of the individual reports. And under "low", that indicates that the deficiency has a marginal impact on dose, and obviously "medium" and "high" mean -- higher impact on dose under "high". "Under review" is that category where obviously everything under the data collection process is under review because we feel that NIOSH did not receive all the data that they should have, and so we're making a recommendation that they contact DOE and, you know, review that or -- or try to determine if there's more information for that. So that's

why certain fall -- certain of these findings fall under the category of "under review". Okay. Now here I've broken down these 100 findings and I've tried to compress them into areas where we find discrepancies. And as you can see, the largest percentage, 38 percent, of the findings associated with these 20 cases, these 100 findings, fell under the incorrect procedure, method or assumption used. And as I stated previously, a lot of the findings had to do with we felt that OTIB-4 was not a correct procedure to be used for compensating the -- the AWE facilities, and so there's a lot of findings from those cases. And also the best estimate cases we're questioning some of the assumptions associated with that very detailed, refined assessment that NIOSH has done.

I'll just pick out a few of these categories to give you examples. Model/assumption -- model/assumption selection not scientifically sound. Now this is a category that is an ef-- it's a built-in efficiency process that NIOSH uses in cases such as -- which you've heard before -- when they know that it's going to be a compensable case they will select the colon

as the highest non-metabolic organ for the hypothetical internal intake, and it does give the highest dose and it is considered, quote, claimant-favorable. However, it -- obviously, as you hear during public comment sessions so often, I think it tends to confuse the claimant and it's an identification of often a cancer that's not even related to -- to their cancer. And so in this case it's something that we pointed out. And from SC&A's point of view, it is -- we recognize that we're making this -- we're stating a finding that NIOSH is overestimating the dose, excessively overestimating dose, and that's where most of the findings fall into that category.

The dose reconstructions -- another set of findings is dose reconstructions did not consider all potential sources or those sources are not properly accounted for, and that was 23 percent of these case. Many of the findings here -- a lot of the cases were cases where the individual worked in the early years, and so there were times, like for the occupational medical exposure, some -- a lot of our findings indicated that possibly NIOSH did not consider

photofluorography X-ray exams back in the early days, and it's that type of finding that falls under that category.

And I'll go up to the top left where misinterpretation of procedures or procedural non-compliance, and here again -- I guess we've discussed this so many times before, but we have identified certain procedures such as this OTIB-8 and OTIB-10 which is a means of estimating and determining missed dose for film badge and TLDs, and it's those procedures that are not as clearly written as they could be and they are routinely misinterpreted. But as you also heard yesterday, I believe that NIOSH has corrected those. And it's that type of finding that falls under that category.

And I did the same type of breakdown for all 80 cases. The fourth set of cases is -- falls under -- all of the percentages are pretty close to what we find here. The only thing -- there were two sets of findings, a very small set of findings, for calculational errors and procedures not being referenced that we did not identify in the previous -- in the most recent set of cases. And again, as I mentioned

earlier, I think this does indicate that data collection issues do not seem to be a problem that we're identifying very often, certainly not calculational errors.

I will point out that we do have a category of reviewer could not reproduce dose that you see on the bottom here, 13 percent. In some cases, but ver-- very few, it may ultimately result that that is a calculational error, but -- however, typically that's not the case because a lot of findings that fall under that particular category have to do with the fact that when a best estimate is used or when a workbook is used, that uses the Crystal Ball Monte Carlo technique. It's sometimes difficult for us to sit down and reproduce all of those doses. Other times the -- the dose reconstruction report is not always as clear as it could be and when we sit down with our guidance -- with the guidance that should have been used and the guidance that they supposedly stated was used and apply that guidance, we cannot reproduce the values that are in the dose reconstruction report.

Okay. With all that said -- so we can ask what

-- what has been the impact of -- of SC&A's audit process and all of the identification of findings. And I think to date, and we've confirmed this, we have identified to NIOSH procedures that are routinely misinterpreted, and that is being corrected. We have also identified procedures that have some inconsistencies, there's inconsistencies between one Technical Basis Document and another or a Technical Basis Document and a Technical Information Bulletin, and often some excessive complexity is built into some of these TIBs, as you can see in some of the previous slides. And I -- I will take the opportunity here to state that based on everything that we're -- we've heard about so far that's going on right now with the site profile work, I can only expect that that particular category of excessive complexity is -- is going to increase. We're going to see more findings associated with that because of the complexity of the TIBs, the complexity of the cases. And I would only hope -- I'm getting off on a side issue here a little bit, but I would only hope that for -- that for

NIOSH's sake and for the auditor's sake, some of the complexity of those is being built into facilities such as the Y-12 -- I would hope that there are certain dose reconstructors that are assigned to just doing Y-12 cases and can become very familiar with those types of guidance documents so that it makes it a little it easier on everyone.

Also this next one is interesting. If you go back to your first set of 20 cases, tab number 7, when we were working through that tab Hans identified this issue of looking at lymphatic cancers and reassessing the dose reconstructions in behalf of that. And I can only assume that it was because of that identification of that finding that NIOSH did go forward, make that change -- which has affected about 1,000 cases, I guess, at this point.

The other thing we've done, as I've alluded to before, is recommend that NIOSH avoid this excessive overestimation, which just is not scientifically sound. It adds confusion. It's difficult for the claimant to understand. And I think when claimants, as -- as we hear, they

compare notes, and it -- it's a confusing issue. We should try to be as consistent and as scientifically sound as possible, especially in cases like this hypothetical internal intake. Selecting the colon over the breast or some other cancer is -- it's just as easy to select one -- one cancer -- the correct cancer as opposed to the colon or something else. You're not compromising efficiency.

And then lastly, and I think we -- we've talked about this also today. From the very beginning I think one of the most difficult items that we had, as auditors, was trying to get a full understanding of what the dose reconstructor did. The dose reconstruction report has not always been as clear as it could be, and I think NIOSH has also recognized that and they're working on -- on changing the wording associated with that. But that doesn't only benefit us as auditors. It obviously benefits the claimants, and it benefits, hopefully, NIOSH's internal QA process. We heard earlier today about including a matrix for assumptions. SC&A has also recommended we put into our report -- in the summary we identify the doses,

all the external dose, internal dose, identify it on the IREP sheet, and I think that would also be beneficial for NIOSH's internal auditing process and -- and the claimant themselves.

And then my last slide, and I guess I have to correct my number here. My first -- I guess I pulled this number off the internet, and I believe we had a correction to that number, but NIOSH has completed somewhere around 12,000 cases or over 12,000 cases that have been sent up to DOL. And obviously, as you've seen through my presentation, SC&A has only audited 80 cases of that more than 12,000.

So it's clear that 80 cases represent only a small percentage of the dose reconstructions, and therefore any discrepancies that we find -- the -- the value of this audit has to be to improve, like I said, future dose reconstructions by amending procedures when appropriate. I think that's -- that's been a helpful item that we've added, that we are -- something that SC&A has benefited the program.

Also if we can lay -- the second item, re-evaluate or revise completed dose

reconstructions, such as the lymphoma cancers that I mentioned earlier, that have already -- that have impacted cases that have been adjudicated.

And lastly, if we can -- if -- if these findings can assist NIOSH in improving their internal QA program, I think SC&A has -- has had benefit in that, even in these few -- 80 cases.

So I believe that's my last slide and -- Hans, did you have anything else you wanted to say?

DR. BEHLING: I think you said it all.

MS. BEHLING: Okay. At least I gave you a chance here.

DR. ZIEMER: He knows the right answer to that question.

Thank you very much, Kathy. Let me ask Board members -- Roy, it looks like you have a question here.

DR. DEHART: Kathy, it's been a pleasure working with you and Hans as we work on these cases, and I've found it informative and helpful. I don't want to be prescriptive in this, but I would suggest that when you have the high significant findings -- we have three

in this -- this set, and we've run about that same number, as I recall, in the earlier sets -- it would be helpful if you could identify those specifically, with -- with the concern that you have, so that we can go back and look in the book ourselves --

MS. BEHLING: Yes.

DR. DEHART: -- because we're only dealing with about 20 percent of the cases, at most.

MS. BEHLING: Yes, that's a very good idea, and I apologize for not doing that. The other thing I will point out that, you just jogged my memory on that particular slide, the fact that we have a lot of low impact findings in -- in most of the cases, because now we're starting to see the best estimate cases. In fact, I should have also pointed out -- and it was on one of my previous slides -- the three best estimate cases, they have the most findings, I think -- nine, 11, and so on -- so if you have even -- if we confirm that these truly are deficiencies and you have several low impact dose deficiencies, in those cases -- that one case I believe was 48 per-- over 48 percent, so we'll see how that plays itself out, but I do

agree with you with regard to the high -- high dose. That's a very good suggestion.

DR. ZIEMER: Wanda Munn.

MS. MUNN: I noticed in the pie chart of the breakdown for the fourth set, as opposed to the breakdown of findings for all 80 cases, the segment that reports the irreproduceable results dropped from 13 for the overall down to eight. I'm assuming that in those cases where you were unable to reproduce the exact result -- I'd gotten the impression from what you said in the past that the impact of that was relatively low and that it didn't make a major difference in most of the cases, but can we also assume from this that that's becoming less of an issue as we get more familiar with the cases and the workbooks get used more thoroughly?

MS. BEHLING: I think that is correct. As I said, I believe it was during our prev-- our third set of cases where we first started to become aware -- or maybe the second set of cases -- of the workbooks that exist out there, and we were not familiar with how to even interpret the data in those workbooks. So yes,

you do see a decline in that -- SC&A's ability (sic) to reproduce the dose, and often that is because in -- in -- I think in some cases they're -- they're attempting to also include all of their references -- in some cases I do see things such as where they -- they break up the -- the -- I can't think of the word right now, but they're a little bit more descriptive in their dose reconstructions, and so that does help us. And we are becoming more familiar with interpreting the workbooks and going into those workbooks and seeing what information is being used, and so it's a little bit easier for us to reproduce.

DR. ZIEMER: Okay. Other comments? Kathy, I guess -- and again, this will lead to a matrix, a resolution matrix, as we have for the others.

MS. BEHLING: In fact I have generated a matrix, but you may not have even -- I just generated the matrix probably earlier this week when you -- you probably didn't even get it before you left, so it is --

DR. ZIEMER: No, but -- yeah, the Board -- the Board will have that expectation, if they haven't already got it. The matrix is --

MS. BEHLING: Yes.
DR. ZIEMER: -- follows, and we're --
MS. BEHLING: Yes.
DR. ZIEMER: -- we're under way then with --
MS. BEHLING: With the issue --
DR. ZIEMER: -- the process.
MS. BEHLING: That's right, we will -- we'll begin that.
DR. WADE: And for the record to be clear, at this point NIOSH hasn't had a chance to respond --
MS. BEHLING: Exactly.
DR. WADE: -- and, you know, we'll follow that --
DR. ZIEMER: Right.
DR. WADE: -- process that's been so productive as we continue, but NIOSH has not had a chance to react to this as of yet.
MS. BEHLING: Of course.
DR. ZIEMER: Thank you very much. Let's take about a five-minute break. I need to get the list of -- of speakers, and so we will have the public comment period in five minutes.
(Whereupon, a recess was taken from 5:00 p.m. to 5:07 p.m.)

PUBLIC COMMENT

DR. ZIEMER: Okay, we're going to begin the public comment session. First we'll call on Harriet -- is it pronounced Ruiz, Harriet? Is Harriet here? I understand she --

UNIDENTIFIED: (Off microphone) (Unintelligible)

DR. ZIEMER: What -- what's the correct pronunciation?

MS. RUIZ: It's Harriet Ruiz.

DR. ZIEMER: Ruiz.

MS. RUIZ: Yes.

DR. ZIEMER: Okay. Welcome.

MS. RUIZ: I thought you were asking for (unintelligible) there for a minute.

DR. ZIEMER: No, no. Good.

MS. RUIZ: Good afternoon, Mr. Chairman and members of the committee, and I really appreciate you letting me speak to you today. I appreciate all the hard work you do. I know how hard it is to sit in a committee meeting all day, I am a state representative. And I am going to read a little bit and then kind of talk briefly.

First of all, my name is Harriet Ruiz, it's R-u-i-z, and my phone number is 505-771-3059, and I'd like that in the record.

DR. ZIEMER: It has been recorded. Thank you.

MS. RUIZ: Thank you. Since I filed the SEC petition in January of '06 I have received several requests for more information in a differently-formatted -- in a differently-formatted letter. The burdens placed on petitioners are time-consuming. Records are not readily available and -- to build a case for the SEC. You know, we're just lay people out here, and it is -- it's -- it's a -- it's a very hard thing.

MS. RUIZ: And Harriet, just for the Board's benefit, in case there's any question, you haven't mentioned the state, but I think maybe they've all figured it out. It's --

MS. RUIZ: I'm sorry, I'm from New Mexico.

DR. ZIEMER: -- New Mexico.

MS. RUIZ: Yes.

DR. ZIEMER: Right.

MS. RUIZ: Where am I? Yesterday -- well -- well, let's see, build a case -- NIOSH Director Howard and yesterday Larry Elliott stated to

the Board that they do assist SEC petitioners, but I have not seen evidence of this to this date. The scope of the LANL petition, which I filed with several other state legislators -- and I'm going to mention their names; it's the Speaker of the House Ben Lujan, he also worked in Los Alamos I believe from 1956 through possibly '68, '70, somewhere in that area, I'm -- I'm guessing on that; and also Representative Jeannette Wallace, she represents Los Alamos, so her constituents -- so we figured we would invite Jeannette to be on this because it's of big concern to her and her constituency, so -- the other legislators. And how I did this is in -- I want to cover all the workers in the production areas from 1943 through 1975.

The initial NIOSH response on February of '06 requested that I submit additional -- added information to demonstrate the infeasibility of reconstructing dose -- I'm sorry, it's late. I have not had access to health physicists, and NIOSH has not assisted me in securing historical records to help meet the information requirements which are required under the rule.

I received a second letter from NIOSH on May 26th, '06 asserting deficiencies in my submissions regarding insufficient dose data on the grounds the documents were not categorized according to boxes in the SEC forms used by NIOSH, even though the records are from DOE's 1991 tiger team reports and NIOSH's own site profile presentations -- it's in their own PowerPoints.

I don't think I need to read these unless you would like me to. I have several here that were submitted. If you would like me to, I can, but the -- I -- I'm very aware of the time. Would you like me to, or just go on?

DR. ZIEMER: I don't know that it's necessary, but you --

MS. RUIZ: Okay.

DR. ZIEMER: -- could at least provide them to us for the record.

MS. RUIZ: Well, if I have a clean copy, I will.

DR. ZIEMER: All right.

MS. RUIZ: I'm now in the process of making my third submission, which is due next week, for the time frame of the last letter. This last

letter was -- if I don't do it by June 24th I believe it will be disqualified, and the reason they said that it was not was because my attachments and stuff weren't in the right boxes. And I just don't think this is a friendly way to ask petitioners, especially lay people, to submit petitions. There have been no phone conversations back and forth. I think a phone conversation would have been really nice saying you didn't check the right boxes and we need maybe a more definite explanation to what really was needed. I kind of have an idea now so I'll go home and -- and work.

I was a little bit upset while they were identify-- busy identifying the deficiencies in my SEC petitions and requiring repeated submissions, I understand that NIOSH has, on its own motion, qualified a subset of SEC class covering the workers exposed to radioactive lathium (sic), while my SEC petition lags in bureaucratic purgatory and the likelihood of its ultimate qualification remains uncertain. NIOSH I believe is cherry-picking pieces of a class out and I want to know is that fair.

My husband, Ray Ruiz, who was also a state

representative, and before he passed away he asked me to finish the job. He was approached when he was a state legislator because he worked in Los Alamos, died from exposure out there, by several people who were sick and came to him because they knew he worked there -- at that time he wasn't sick -- and asked him to champion. He carried two memorials in the House to promote getting compensation for the workers. The job that he asked me to do is this job, to be the voice for the disenfranchised workers. They don't have a voice. I still have people calling me saying I'm disqualified; I don't understand. My husband worked in all the sites. He had a Q clearance. He had cancer. She had cancer. After hearing testimony for the last two days and hearing of all the sites and the inadequacies of the record-keeping, the trouble finding the correct documentation to qualify these people for fair compensation, I'm shocked. I -- I guess I just figured it was in Los Alamos, and it's -- it's prevalent. I -- I think why I'm -- I -- I know I filed an SEC simply because of them not paying the

claims in New Mexico compared to other states. Last May I came to Washington with Jeannette Wallace and other people and spoke to the Congressional -- all the Congressional people from New Mexico, just to see if we could speed things along. At that time New Mexico was paying the claims at 19 percent. Hanford, Washington -- which is the same standard as New Mexico -- were paying at 49 percent. That's a 30 percent disparity for my constituents in the state of New Mexico, the injured workers who during the Cold War gave of their time -- unknowing, none of them knew. And I have -- now I do have some affidavits. I do -- I'm -- I'm out there searching. It is a very arduous task and I just thank you for your time. I know how hard it is to sit there, and if at all we could correct any of the oversights, possibly, with NIOSH or even speeding up the SECs to get compensation to these people faster. You know they're dying. The widows -- it's usually a widow left -- are dying. The children aren't going to pursue this because they're raising families. I can feel the pulse of the families. I've been there. I've

watched the suffering, the pain, the medical bills. A lot of these people don't have the wherewithal to pay all these medical bills. But they're not being compensated in a fairly -- a timely manner and I think, knowing my husband and the group of workers that he worked with, and I would have to say as a whole they probably had the same feeling in their hearts that maybe I'll get this compensation and my family, my wife will be taken care of before I pass. And then they pass. Nothing's happened, and the wife is left thinking well, what am I supposed to do now. So that's why I'm here, and I know you hate to hear these sob stories, but I am not a health physicist. I am having a very hard time digesting all of this stuff. But what I'm hearing is -- is prevalent and something needs to be speeded up to get the claims to the people. And thank you for your time. I appreciate it.

DR. ZIEMER: Thank you very much, Harriet. Appreciate your being with us today. Yesterday we had with us Robert Steffan* representing Senator Obama's office, Illinois. He could not be with us today, but has asked

Dan McKeel if he would read that statement into the record. And Dan, if you'd do that at this time.

DR. MCKEEL: Thank you very much, Chairman Ziemer. I -- I should just preface that I'm Dan McKeel. I'm a physician. I will be talking about the same two sites that Dr. -- that Senator Obama's referring to, and I just want you to know that he asked me to preface this remark by saying that -- and noting that yesterday we had two excellent meetings with Department of Labor staff and Peter Turcic, and also with Larry Elliott from NIOSH and his staff, and we are highly encouraging and -- and really hopeful that many of the things that the Senator remarks about, and ourselves, are being addressed. So I -- I want to put that into a very positive perspective.

With that I'll read you a -- a statement from U.S. Senator from Illinois Barack Obama. (Reading) Dear Advisory Board on Radiation and Worker Health. I regret that I am unable to appear before you in person today. However, I wanted to share with you a few thoughts about the former nuclear weapons worker compensation

program. I want to thank all of the Board members, as well as the good people at the various agencies who work every day to help former nuclear worker-- weapons workers receive the compensation they deserve.

Having said this, I am concerned that these workers are not receiving the assistance they need from the government to file their claims. I first became aware of these problems when dozens of these workers contacted my office seeking assistance because they found the claims process to be frustrating, confusing and sometimes misleading. I know that many efforts have been made and continue to be made to address these frustrations, yet deep concerns remain.

I am specifically interested in two aspects of EEOICPA. First, I am committed to ensuring that those Illinois residents who worked on the nuclear weapons program and are eligible for compensation receive a fair hearing about whether the cancer they have today is related to the work they did in support of the Cold War. My staff is working to help the workers from Dow Chemical and General Steel Industries

file special exposure SEC petitions. I will do whatever I can to ensure their petitions are evaluated fairly and through a process in which we can all have confidence. I am also working to support the Special Exposure Cohort petition filed by Blockson Chemical Company in Joliet, Illinois.

Second, I am committed to ensuring that the entire program and the process by which former nuclear weapons workers are compensated is administered in a way that is consistent with the Congressional intent in passing EEOICPA. As so many of you know, our fellow Americans often do not have confidence that their government gets things right. Certainly our government did not get it right when it withheld information from the workers that their jobs might impact their health because of the lack of adequate safety measures. But our government helped right this wrong when it passed legislation to compensate these workers. Unfortunately the impact of this legislation has been minimized by the lack of cooperation that these workers have received from the government in filing their claims. Despite the

best efforts of the Advisory Board members, it seems to me that the jury is still out as to whether the government is doing everything it can to implement EEOICPA. Specifically, this lack of cooperation is exemplified by the following: The failure to release the ORAU report on self-identified SECs; the low number of site profiles completed, and the low number of worker outreach meetings conducted; the failure to even release the name of the contractor officer at Battelle in charge of conducting dose reconstructions and site profiles at the smaller sites; the failure to do dose reconstructions at the Dow and General Steel sites, relying instead on similar data from other sites.

And I -- now I'm interjecting my own, just to put this in -- in perspective. Our sites, which have 833 total claims, only 2.99 percent and 3.66 percent of those claims have been completed at the two sites, so -- so we're talking about very low rates of claims processing.

(Reading) The failure of agencies to provide information that would be helpful in preparing

SEC petitions, and the failure to provide detailed information about the data they used to deny claims.

Despite my reservations about where we are now, I am more concerned with the future direction of this program. I'll look forward to working with all of you to make sure we're expeditiously moving toward a process in which all of us can have confidence. I am also open to any suggestions that you might have to improve this program. I trust that the Advisory Board will fairly evaluate the SEC petitions filed by the workers at Dow, General Steel and Blockson Chemical, and I'll look forward to working with you to ensure that eligible workers at other Illinois sites receive the compensation that they deserve under EEOICPA.

Thank you for your time. Sincerely, Barach Obama, United States Senator.

And if I may, can I give you a copy of this?

DR. ZIEMER: Certainly.

DR. MCKEEL: (Off microphone) And if you'll be so kind as to make copies and distribute those (unintelligible).

DR. ZIEMER: Yeah. And Dan, I think maybe your -- some of your personal notes are in here, but...

DR. MCKEEL: (Off microphone) That's probably a bad idea (unintelligible).

DR. ZIEMER: I might withhold those, but --

DR. MCKEEL: (Off microphone) (Unintelligible) my speech (unintelligible).

DR. ZIEMER: Yeah, and you have additional comments, I believe, do you?

DR. MCKEEL: Yes, sir. That would be fine. Okay, so that was from Senator Obama. This is -- this is mine.

And so I'm going to be speaking to you this afternoon about these two particular sites in Illinois, and we've formed a workgroup to promote our SEC petitions which we're preparing for the two sites, and we call that the Southern Illinois Nuclear Workers.

As some of you all may remember, I assisted with passing the Mallinckrodt Destrehan Street SEC petition, and so we're working on similar SECs for these two Illinois sites.

Both of the sites we're interested in are currently classified as AWE-only sites, and

both -- we're -- we're very certain at this point have a paucity of personnel individual radiation monitoring data, neither has a site profile, and no former worker outreach meetings have been held. We've had some informational meetings, but no NIOSH-sponsored direct meetings.

Both sites held contracts with Mallinckrodt and the Atomic Energy Commission in the past. At GSI the contract was to X-ray uranium-238 ingots, and at Dow it was to extrude uranium-238 metal, really as developmental work for the -- for the program. Both sites were remediated for residual uranium contamination, and at General Steel that was in 1994 by the Department of Energy, and Dow was remediated in 2000 when the Army Corps took over the FUSRAP program.

What's very interesting and unique and might be highly interesting to you folks is that General Steel -- and I should interject that the official name for this site is Granite City Steel, but General Steel was the name of the company when it actually did this work, so I'm going to -- I'm going to call it that. The

industrial radiography sources there included two Allis-Chalmers betatron particle accelerators which produced 24 to 25 million electron vote X-rays. They also had several cobalt-60, radium-192 gamma sources, and all of these were necessary there because they dealt with really massive castings for tanks, submarines, nuclear submarines and things like that, so they had to have a source that would penetrate 15 to 20 inches of steel.

Dow proces-- and in addition at the Dow site, they processed large amounts of thorium and beryllium from 1951 probably through at least 1998. Neither of those metals has been fully remediated, to our knowledge, up to this time. The uranium was; thorium and beryllium have not been.

What I'm particularly interested in in addressing here is -- is timeliness in the program and I would say fairness and equity with the way it's being administered. John Ramspott, who's assisting with the Granite City Steel -- General Steel Industries SEC -- he's going to talk to you some more about that site, and so I'm addressing both sites as a general

topic. And I would say that as far as timeliness, I just need to point out several facts that we were addressing in our meetings yesterday.

One is we sent out an informational letter to Mr. Elliott that OCAS received March 31st. We sent another letter to Peter Turcic, together with a cover letter that was signed by both Illinois Senators and by two Illinois Congressmen, and in -- both of those were letters asking for information we feel is absolutely vital to our SECs. And as I said, we had terrific meetings yesterday. I think a lot of our issues are on the way to being solved. But that's a fair statement of where we stood yesterday, at least.

One of the key questions that we posed to NIOSH was that our sites, particularly at the -- at the General Steel site, out of 427 cases they've had 168 cases that have been forwarded to NIOSH for dose reconstruction. However -- and I -- of those -- and we're trying to find out why this is -- 42 of those have been sent to Battelle to be dose reconstructed. But in any case, there are four -- there are four

cases that have been dose reconstructed, and we're trying to find out how that could be in a -- in a site in which we have letters from Mr. Elliott -- two, in fact, from NIOSH, six months apart -- saying that they don't have any individual monitoring data. So we're -- we're trying to find out what happened with those four -- those four cases in particular one. Another thing that I'll just note about the process that's disturbing to claimants in particular is we have two sources for accessing data about claims status. One is at DOL, of course, and one is at OCAS. And it's interesting that those General Steel cases, on the Department of Labor web site this morning, show that all four dose reconstructed cases have been denied. Whereas yesterday afternoon Larry Elliott mentioned to us that his records indicate that those four dose reconstructed cases have been approved and compensated. So it does seem that a fundamental statistic like that could be gotten straight between the two agencies.

I will also mention that we have been trying to get information from the Department of Energy.

The most recent FOIA we submitted February the 11th. To date we have an interim answer, but no final answer. And the next step for us is what we'll have to do, we'll have to go and file a motion to compel them to provide that -- that information in federal court, which I find extremely distressing.

And then I would finally remind the Board that last August in St. Louis, my good wife Louise sent a letter to the Board and made a public comment where she asked for overall EEOICPA cost data, and -- and that data was promised to her with a comment that it probably may not be too hard to get that from public sources. But in any case, we are here in June in Washington. We still haven't gotten that information. And we're still interested in it.

As far as fairness and equity, I -- I think I -- I need to talk about these two small sites and how they're being treated versus the large DOE sites that are the focus of the attention in the first five years of this program. As -- as you all probably well know, these are two -- two of the sites that are being handled by Battelle under a one-year contract with NIOSH

that began last October. I -- I would say that as a general thing, from what I know about the Battelle sites, that these are all sites that differ in the way they've been handled from the large sites. Very few have site profiles, Technical Information Bulletins. Very few have filed SECs and had them qualified, and they've had far fewer worker outreach meetings. Many of these sites that I know about probably have very little, if any, monitoring data and they -- they're therefore really prime candidates for becoming Special Exposure Cohort centers.
One example, for example, is the Texas City plant in -- in Texas, which is one of the 11 sites that extracted uranium from phosphate rock, just like they did in -- at Blockson. And the AE-- under an AEC contract. And I was asked to go down there and to make an interview at KHOU-TV about the general program, but also to meet with these people. And that -- that's a center where I think they've had about 108 claims by now, and all -- all of the claims that have been processed have been denied. But I was only there about an hour and a half visiting with them directly, and one of the

things I found that will absolutely impact that site is the -- the AEC, when they set up that operation, they built a building for them that the workers called the recovery building. And although the period that's covered under this Act for those workers is '52 to '56, every single person I talked to in that room said oh, yeah, the recovery building was there through at least 1977. And I said well, did -- did you use it? And they said oh, man, said yes, we -- you know, the active extraction was not used, but it was not remediated and it was used for storage and people were in and out of that building all the time. So here's a situation where the -- the -- the era of severe, probably, residual contamination -- it -- the building was in use. So that -- that's the kind of fact that needs to be added to the dossier of these two small sites.

Again, none of these men wore badges, so they couldn't have any individual radiation monitoring data.

So one of the things that we took up at our meeting was who can actually change the dates of coverage under EEOICPA, and I think we did

find that out, that the Department of Labor can do that for us.

But what I want to point out is, these -- these are sites that have -- have no data. They could be self-identified, you know, SEC sites. And -- and we're very interested in finding out will they be on tha-- on such a list. And I simply point out that, as Mr. Elliott said yesterday, there've been five sites now that have been identified, basically flagged by NIOSH and have had expedited SEC petitions under Section 83.14 of 42 CFR 83.

I -- I would note that that -- the original Act, as I read it, really doesn't allow for this type of discriminatory treatment between the AWE and DOE small and large sites. In my opinion, every claimant from an AWE-only small site deserves to be treated the same as any claimant from a large DOE site, and I -- I would just say that although I found the idea initially attractive, this idea that the -- the position that the Board takes, and NIOSH I think, that they will address large site profiles -- site profiles first and SEC petitions from large DOE sites first is -- is

probably not -- not fair and it doesn't seem to be equal treatment of the sites.

We have a site classification issue that's really related to the fate of claims from these two small sites. And as I said, although now both sites are classified as AWE-only, in the first two listings in the *Federal Register* from Department of Energy, they were both listed as -- and I'm quoting now -- AWE/DOE sites. So something's happened between then and now that their classification has been changed. Well, there is a slight window where the -- where the General Steel site might be classified as DOE during a five-day cleanup period in 1993. But with that exception, they -- they don't qualify as DOE sites.

Well, is this important? Yes, it is because workers and -- and survivor claimants are not now eligible for Title E benefits since the DOE classification has been removed.

Interestingly, however, there are 64 claims from Granite City Steel and 16 cases from Dow that have been -- have been or are being processed under Title E. So the workers are very confused by this. This action raises

unrealistic expectations among them. And to me, it's quite wasteful of agency and taxpayer resources. Beyond that, the lack of DOE site status deprives the former Dow workers of the DOE screening and medical treatment benefits for beryllium sensitivity and chronic beryllium lung disease.

The Madison site processed large quantities of both metals, beryllium and thorium, during the time that -- that Dow operated the plant in 1951 to 1974. Thorium we know was processed thereafter by subsequent corporate owners, which were Consolidated Aluminum, Phelps Dodge and -- and more recently the Spectralite Consortium. And again, that was at least through 1998.

Dr. Laurence Fuortes, who presented the Ames petition today, has graciously examined six of our Madison site workers. They're all non-smokers. They all have progressive interstitial lung disease, and he -- he's convinced that this is occupational exposure. It could be beryllium, it could be thorium, it could be something else that was used there. They used lots of metallic alloys. And as we

heard today, thoron gas from that thorium work could certainly have led to this chronic lung disease. So there -- the thorium also -- they worked with it, they extruded it, they ground it, they did a lot of things that released thorium dust into the air, so there were also particulate thorium. And right now they have to travel to Iowa, whereas if they were a DOE site they would of course be eligible for the DOE screening on-site programs. And we do have increasing evidence that supports the original site classification for both of those sites as DOE and AWE sites.

We do need to find out, and that's our job and we can certainly use some help. We need to know whether the thorium work was an AEC effort that was connected with the nuclear weapons program, and so that's one of the things we're trying to find out from the Department of Energy.

I would also note that I think Dow was certainly overlooked when the list of original beryllium vendor sites was made, and according to what I've learned, they used enormous quantities of beryllium. We cannot now get

them qualified as a site because the deadline's passed, and that's a place where probably there needs to be a legislative remedy to correct that -- that thing.

And I've just got a little bit more and I appreciate your -- your -- your attention. I want to talk just for a moment about the claims denial issue, and I'd just point out that as a broad -- very broad generalization, more than half of all the claims submitted under Title B are denied, and it is crucial, I think, for the Department of Labor to start accounting in greater -- much greater detail for the underlying reasons behind denials on a regular basis.

I'm sorry.

(Pause)

I really don't -- I -- I think that's something that they could take as a step. I -- I do think the Act should certainly specify that that kind of detail breakdown of denials should be a -- a -- a required thing to be done. And this is one of the issues that we addressed with Pete Turcic, and I'm not sure whether we'll make progress on that one, but we made

the request.
And then finally, the last thing I wanted to say was just a couple of sentences because I was struck today -- there were at least two incidences where you all talked about needing, among the agencies, access to a database where -- where identi-- patient identifiers or worker identifiers needed to be coupled to a non-identified database, and that this could -- with some great effort, I'm sure -- be accomplished under -- by and among yourselves. And that's noble. That's great. But going back to the theme of -- of access and equity and fairness, the petitioners do not have access to that data, and I've -- I've seen references and certainly hear many references to the information on the O drive. Now I understand that some of that is protected by the Privacy Act and -- but I also know that you all have ready access to all of that data. And in fact I'd note that the Department of Labor published a bulletin, 0218, so back in 2002, called "Use of the (unintelligible) Database", and I'm well aware that you all can sign into that over the internet and use that data.

However, I would point out -- I've done it before -- that the public really hasn't any access to that data. And in particular, SEC applicants have no access to that data. So my solution to that would be -- you know, I understand that some data is protected by the Private -- Privacy Act on the O drive, but it should be easy to -- not easy, but it should be possible to partition that away from the data on the O drive that is not classified, that does not fall under the Privacy Act, but basically is documents that you've captured and that -- I would say that the SEC petitioners need equal access to, as you all do.

So anyway, I will -- I'll leave that as a future hope, and I thank you very much for all the hard work you've done. I'm always impressed at how methodical and systematic and careful this process is, and I -- I do want to end on a note that I'm extremely hopeful and look forward to addressing you as the SECs move along. So...

DR. ZIEMER: Thank you, Dan. While you're at the mike, I have a feeling that your wife's request may have fallen through the cracks, but

for clarity, was she requesting information about the cost of managing the program versus --

DR. MCKEEL: Yes, sir.

DR. ZIEMER: Not the awards --

DR. MCKEEL: No -- well, she -- she --

DR. ZIEMER: The awards information -- I guess we had an update yesterday. Maybe you --

DR. MCKEEL: Right.

DR. ZIEMER: -- were there so you have an idea what that is. It's recently passed, for -- for both Part B and E, the Labor number I think was around $2 billion.

MS. MUNN: $2 billion.

DR. MCKEEL: Right, and I -- and I --

DR. ZIEMER: But you're asking -- she was asking --

DR. MCKEEL: What I -- what I --

DR. ZIEMER: -- the cost of operating the various aspects of the program, in effect?

DR. MCKEEL: That's correct, so her letter that -- that you all received really was to put all that together, so the contract for SC&A, your -- the -- the Board's data, but also including the cost that Department of Labor -- for

administering the program. In other words, the overall -- she -- she was interested in --

DR. ZIEMER: Do we know -

DR. MCKEEL: -- what does this overall effort cost.

DR. ZIEMER: Was there an actual written request?

DR. MCKEEL: Yes, sir. Uh-huh, which she provided to the Board and that was in August of 2000 -- we still have a copy back home. I don't know that I have one with --

DR. ZIEMER: Was that sent to me? I hope it was sent to (unintelligible) --

DR. MCKEEL: I think it was actually given, yes, sir, I think so.

DR. ZIEMER: Okay.

DR. MCKEEL: And as -- and as a follow-up, I -- you know, NIOSH -- we were contacted once by e-mail and told by NIOSH that that -- some of that information was on the way.

DR. ZIEMER: Okay. If that -- if it came to me, I dropped the ball on it. I -- I (unintelligible) --

DR. MCKEEL: Well, I'm not really trying to say it that --

DR. ZIEMER: No, no --
DR. MCKEEL: -- but it was an honest --
DR. ZIEMER: -- those were my words. I was --
DR. MCKEEL: But you know Louise, she doesn't -- she speaks -- you know, it was a sincere request. She's --
DR. ZIEMER: Yes, I understand, and --
DR. MCKEEL: -- really interested in it.
DR. ZIEMER: -- we want to try to accommodate that as -- Stu, did -- have you seen that letter?
MR. HINNEFELD: (Off microphone) (Unintelligible) (on microphone) but we do have it. We do have it in writing and we know we resp-- I thought we had responded and so I'll have to find (unintelligible) --
DR. ZIEMER: Maybe you can track that down. I don't know if we have access to the Labor part of this, but --
MR. HINNEFELD: Our -- exactly, that -- I think our interim response was we can provide everything that's in our control. You know, the Board costs, SC&A costs, our costs, ORAU costs. I don't know that we can get Labor costs or DOE costs, which I think were also

requested, but I'll find out. I'll find out what -- what -- the part we can provide (unintelligible) --

DR. ZIEMER: Let's track it down. Thank you. We also have to be read into the record another statement, Congressional statement. Is -- is Jason -- are you still here? Yes. So he will identify this particular statement and -- and read it into the record, as well.

MR. BROEHM: Yes, I've been in touch this week with Bret Rumbeck* from Senator Schumer's office. He was very much trying to get the Senator here himself, but he had a very busy schedule and was unable to make it. Bret himself was unable to make it and asked me to read this statement -- written statement from Senator Charles Schumer from New York into the record.

(Reading) Mr. Chairman, thank you for allowing me to submit testimony to the Board regarding Bethlehem Steel. Thousands of New Yorkers labored during the late 1940s and early 1950s in ultra-hazardous conditions at Department of Energy and contractor facilities, while being unaware of the health risks. Workers at these

facilities handled high levels of radioactive materials, and were responsible for helping to create the huge nuclear arsenal that served as a deterrent to the Soviet Union during the Cold War.

Although government scientists knew of the dangers posed by the radiation, workers were given little or no protection, and today many have been diagnosed with diseases like cancer that are likely linked to the work they did at these nuclear facilities. Despite having one of the greatest concentrations of facilities involved in nuclear weapons production-related activities in the nation, western New York continues to be severely under-served by the Energy Employees Occupational Illness Compensation Program Act.

As I stated to you in my letter on January 19th, 2006, I was opposed to the Board's motion that, based on the current information on the Bethlehem Steel site profile, the profile was, quote, acceptable for use in the NIOSH dose reconstruction program, unquote. While I'm happy to hear that NIOSH and Sanford Cohen & Associates have come to agreement on five of

the six discrepancies, and continues to work with Ed Walker on the final outstanding issue, I'm still very concerned that the January decision denies compensation to the great majority of potentially-deserving former Bethlehem Steel workers. 42 CFR Chapter 1 Subpart A Section 82.2 lays out the basic principles for dose reconstruction, stating, quote, dose reconstruction is to characterize the radiation environments to which workers were exposed, and then to place each worker in time and space within this exposure environment, unquote. However, the Board approved and NIOSH is currently using information which is not put -- does not put -- does not at all put the former Bethlehem works in their correct working environments, but an entirely different plant, with different data and information.

When the Board recommended Linde Ceramics to be approved for a Special Exposure Cohort, the decision was based on the lack of sufficient information to estimate the radiation claimants may have been exposed -- may have been exposed while working in the plant, and the Board

specifically cited 42 CFR Chapter 1 Subpart C Section 83.6 to back up their decision. I encourage the Board to also use this section to grant a Special Exposure Cohort to the workers of Bethlehem Steel.

Mr. Chairman, I ask you, can an accurate dose reconstruction model be built using only information and data from Bethlehem Steel? If not, then the Board and NIOSH need complete -- need completely overhaul the current Bethlehem Steel site profile using the existing Bethlehem Steel data and not records and data from another plant.

I would also encourage the Board and NIOSH to work with Ed Walker and the Bethlehem Steel Action Group so they can apply for a Special Exposure Cohort. It is unconscionable to continue delaying compensation to these Cold War heroes and their survivors, and unfair to put the burden of proving a cancer-related illness on workers and their surviving families.

On July 27th 2005 Senator Clinton and I, along with our colleagues in the House of Representatives, introduced S-1506, which would

amend the Employee -- the Energy Employees Occupational Illness Compensation Program Act of 2000 to include certain former nuclear weapons program workers in the Special Exposure Cohort under the Energy Employees Occupational Illness Compensation Program. Our bill would correct years of injustice for western New York's nuclear workers. After the sacrifice these Cold War heroes made for our country, they have waited far too long. Being added to a cohort means that these former employees do not have to go through a dose reconstruction process. Instead, if a person has an eligible cancer and worked at a facility when weapons work was performed, their cancer is presumed to have been caused by a workplace exposure and the person's claim is paid. This bill would finally put the former workers on the path to getting the recognition and compensation they deserve. And this is how we should correct this wrongdoing, not by endless bureaucratic red tape.

Again, I thank the Chairman and the Board members for allowing me to submit testimony on behalf of the former nuclear workers in New

York.

DR. ZIEMER: Thank you. We have someone here I believe still from Congressman Udall's staff -- Michelle -- is Michelle still here?

UNIDENTIFIED: (Off microphone) I think he's going to go see.

DR. ZIEMER: I'm not sure of her last name. I'm trying to read it and... Oh, Michelle is here, okay. Did -- did you have an additional comment, Michelle?

UNIDENTIFIED: You know, I think that my boss, Congressman Udall, covered most of what I would have presented in his absence.

DR. ZIEMER: I think that's a super comment to make.

UNIDENTIFIED: I do want to say this. As Congressman Udall's state director who works face to face with a lot of these constituents, primarily the Los Alamos Lab claimants, we do have a family that -- a number of families that are trying to get their hands on the bioassay database information for their loved one. They've never seen it. It's information that was sent directly from the Lab to NIOSH. We were told that they needed FOIA requests to get

that information. I have a family that requested this I believe it was at the end of February. No response. So I'm just putting a bug in your ear that I think that we can do -- there's a real opportunity for improvement to get the information in their hands. It's information that belongs to them. It's the only thing I would add that he didn't cover.

DR. ZIEMER: Okay. Thank you very much.

UNIDENTIFIED: Okay. And thanks for your good work.

DR. ZIEMER: Right. Let's see, Dr. Fuortes, did you have additional comments?

UNIDENTIFIED: (Off microphone) He's gone.

DR. ZIEMER: Okay. Well, he -- he did speak to us yesterday and it wasn't clear to me if this was part of yesterday's list or if he signed up again.

John Ramspott -- John's the individual that Dr. McKeel referred to.

MR. RAMSPOTT: Thank you very much. My name's John Ramspott. I'm helping the claimants, one of them happening to be my father-in-law, at the General Steel castings plant. I recently sent the Board and numerous others a 400-page

workbook -- and I promise I'm not going to review the whole book tonight. I'm going to let you guys get out of here. But -- and I am definitely open to any comments, criticisms, anything.

The intent of that workbook was to fulfill a promise I had made last August to this same Board, obviously with new members which I haven't met yet but I look forward to, and that was to find out what actually went on at that plant and report back to you, as best I could, with a document that I could actually say came from the workers. I know in the cleanup report it said there's nobody left. I have a database of 250 people, who'd be glad to talk to anyone from any organization, that worked there. Many of them are ill. They're looking for hope. They still have faith that the program will work. And Dr. McKeel indicated yesterday we did have some great meetings with both NIOSH and with DOL. There's some things that are going to happen that really I think will help finding out about Battelle, which is looking at that site. Mr. Elliott has offered to let me get one of my workbooks sent to him and he'd

get it to Battelle, 'cause I went to pay them the same professional courtesy that I did everyone else. And if I missed anybody that really needed that information, I'd be glad to do it. All they have to do is contact me. I'll be here again tomorrow.

But the whole idea was sincere in trying to help you folks. I've got 30 years experience in a business just like you guys have in this. It's not easy getting 40, 50-year-old information. Somebody had to do it so I decided to do it. A lot of the claimants that I'm helping, they have no idea how to get this stuff. So I'll give it to anybody that can use it to help these folks.

There are just a couple of real quick things, if I may. In watching the program, I admire everyone that has been involved in doing their presentations because I've been following the program for about a year and a half now 'cause I started going to the Mallinckrodt meetings to watch and tried not to waste people's time and get them what I think they could really use.

One of the things that's in the workbook that I'd like to just call special attention to were

various sources.
The federal documents all say uranium-238 and they did inspection on it with an X-ray. Wasn't just an X-ray. It was a betatron. It was a particle accelerator. And with the encouragement of a lot of people and with the help -- there -- there are a lot of documents on the internet that tell you what happens when a particle accelerator hits something with 24 or 25 million volts. It gets real interesting. I've paid for documents. I've actually gotten information off the health physicists' question and answer web site, which is unbelievable. They -- you know, a common person like myself -- I know some people said they couldn't find information. They actually give it to you over the internet. It's unbelievable. There's people from Duke University that are quoted. You know, I went to the University of Missouri, majored in business. I don't know anything about physics. And you can open my book, I definitely have a disclaimer in there -- please add any information you can, ask me to delete anything that's wrong. So I appreciate that information that -- the sources that are there,

and one of them's a real bell-ringer. (Unintelligible) the easy ones. Cobalt, we knew about that, we mentioned that last August meeting. Iridium-192, we mentioned that. A KVP machine, that's a little machine. Three weeks ago I met a man got, you know, hit by it. He remembered the day. It was the day before John F. Kennedy was shot. He was home from the hospital. He's got a pretty good memory. He's going to help us.

Now the betatrons are a little different deal, though. When you take X-rays of ingots of 238 -- I asked the question myself, wow, I wonder what the heck it does to that. Well, there's a term that came out -- and I really will need some help -- activation. I'd like to know exactly what happens to metal when it's hit with a 24, 25 million volt betatron. I've read what it says it does, and it came from good sources. Los Alamos -- they got a nice 200-page book, it's on the web, that tells you exactly what happens when you do that, especially with something over 10 million volts. It gets real interesting, so I think that should be a source -- a whole new source.

The other thing that gets interesting -- when you do this to uranium, now that's just regular metal. Activation apparently can happen on anything. I'd really like to know what it does to that uranium, though, because now I talked to a man that told me what they did with the uranium when it was at the plants.

They put it in a metal car, they brought it in. They took the so-called picture, but they took four pictures of it. Apparently it won't penetrate on one shot. They had to rotate the ingot, shoot it a quarter, shoot it a quarter, go in -- everything's manual -- go in, rotate it, and then shoot the other quarters. And each time they shoot a quarter, they got to move the camera. That's what they call it in the report, camera -- that's definitely not a -- a little camera.

Now there's one little thing that's missing, though, and that's why I'm -- ask some people to review the site again, and that's why the site profile and outreach meeting was really important. It came in on a company-owned metal car. Railroad wasn't going to let them bring it in. They had to use their own company cars.

That's what they used in the steel plant. Any steel plant has them. They beat them up, they bang them up.

Guess what was missing when they did the cleanup? The cars. Those cars went in every part of that plant. They used it for everyday work. Now they found residual in the tracks. U-238 residual was cleaned up in those railroad tracks. I wonder what was on the car. I think I can guess.

So I really would appreciate your help, your consideration. There's new sources. I think claims have maybe been denied and maybe ought to get reopened. You know, this is an individual talking, but if they all got judged on one uranium ingot, and it wasn't just one -- you know, the web site from FUSRAP's great. It gives you a copy of the purchase orders. That's in that book I sent you. When you see a bill for $2,800 for X-rays and they cost a buck apiece, that's a lot of metal.

So that's just part of my comments. I appreciate your help. Mr. Elliott's helping us. Mr. Turcic's helping us. We're even getting the names changed, I think. They're

going to call it the real thing, because that keeps people from even filing a claim. Most of these claimants -- they don't use the internet, and if they use the internet they have to hit four hyperlinks -- they'd have to look at Granite City Steel first, and Granite City Steel's like calling a -- I think I -- I was telling Mr. Elliott, it's like saying NIOSH is the post office. They're two totally different things. They're government agencies, but they're two totally different things. These two plants were two totally different places. So if you heard about a program like this -- and we had it happen at one meeting, it's a heartbreaker. A guy comes in and he's sick. He worked at Granite City Steel and you've got to tell him you're out of luck, this is for General Steel. I don't want to do that again, so I'm asking for your help.

DR. ZIEMER: Good. Thank you.

MR. RAMSPOTT: Thank you. Appreciate it.

DR. ZIEMER: I think all the Board members did receive the -- the volume. You certainly put a lot of work into that. We thank you for -- for what you've done.

MR. RAMSPOTT: You're welcome.
DR. ZIEMER: And I have Christine Ramspott, also. Is Christine also speaking?
MR. RAMSPOTT: Who?
DR. ZIEMER: Someone wrote Christine Ramspott, I --
MR. RAMSPOTT: (Off microphone) Oh, yeah (unintelligible) --
DR. ZIEMER: It sounds like a relative to me.
MR. RAMSPOTT: (Off microphone) My wife asked me to read a letter for her (unintelligible) --
DR. ZIEMER: Oh, okay, you'd better not forget that.
MR. RAMSPOTT: And it was my wife's dad, so this -- this letter's from her. She addressed the Board last August, as well, and there's a couple of issues and one of them I think's being addressed now, but I'm going to read her letter.
(Reading) Dear sirs and madams. On August 2005 I made public comment before this Board regarding two main issues for my father's workplace, General Steel Industries, also known as Granite City Steel -- under the program -- one of the covered sites under the EEOICP Act.

These issues are still unresolved as far as I know, and I'm seeking guidance in these matters. Perhaps these are not the most pressing problems which face the Board, but these are issues which seem to me are administrative adjustments which could be made fairly easily, or perhaps not.

As a teacher for over 33 years I have learned to become a problem-solver and helper for my students. In my current role as unofficial -- really unofficial assistant to some elderly claimants who don't have any knowledge whatsoever of computers, the internet, how to fill out forms properly or even where to begin when faced with the most minor obstacles, I find it frustrating to try to explain to them why the Social Security report which they receive states that their loved one didn't work in Granite City, Illinois, where they lived all their lives, but they worked in Pennsylvania. The issue concerns the fact that General Steel Industries and National Roll of Avimore*, Pennsylvania, a division of General Steel Industries, seem to both share the same EIN, Employee (sic) Identification Number. As I've

been told, both companies are now out of business -- actually one of them's had a name changed, actually bought by somebody else, and that's not unusual in the steel industry. Or to whom -- what government agency do I address this concern? It now delays claims greatly and confuses and frustrates the claimants, who sometimes stop at the application process. There's two parts of this. First off is we call them Granite City Steel, and it isn't. And then when your Social Security verification of employment comes back, it says you didn't work at either one of those, says you worked at National Roll. How two companies have the same EIN -- I'm not real sure how that happens. That -- somebody's got to fix that 'cause it confuses everybody. I mean not just the claimants, but anybody handling a claim. I might want to add, anybody that we've talked to that's handling claims, polite, nice, easy to deal with. Social Security people good to deal with. But it doesn't get changed. Secondly, there's still a problem of letting the general public for this site know that a claim under this program might be their right.

I personally find it very sad and unfair when meeting a persons like Agnes. Agnes is a widow for over 25 years, her husband dying of cancer at a young age. Agnes was left to raise five children on her own. She did a fine job. She's still working at age 76. Her husband worked at General Steel Industries, and she has filed a claim. The receipt of this monies -- she says she's going to retire. She's deserving. It is only by happenstance that she's learned of the program and my husband shared the program information with her when he was doing research about the site. She would never have known that Granite City Steel, which was doing -- or which was a competing steel company just across town from General Steel Industries -- actually was the name under which former employees of GSI or their families must search to find information about the program. General Steel had more than 3,500 employees for many years. This highly confusing circumstance, the misnaming of companies, does not only affect GSI employees but the employees of many other approved sites throughout the country with multiple names.

It is shameful that many of these Cold War veterans don't even know the program exists. How can that be remedied?

In conclusion, I'd like to remind the Board that I asked a question last August, quote, What happened to my daddy? After more than a year's research with my husband and others, I feel that I know. I'm sure that you can see, too, from the 400-page book which was sent to you. I'm asking for your help in streamlining the program and aiding these most deserving families.

Thank you. Any assistance would be appreciated. Sincerely, Christine Ramspott.

So thank you very much for both of us.

DR. ZIEMER: Thank you. Okay, next, Adrian Beard. Adrian.

MR. BEARD: My name is Adrian Beard. I am a teacher of incarcerated youths in Prince Georges County in Maryland, and I'm not accustomed to being before a committee or commission like you. Give me a room full of carjackers and gang leaders, I'm okay. So --

DR. ZIEMER: Close enough. Close enough.

MS. MUNN: You've come to the right place.

MR. BEARD: My father's Alec Owens. From 1953 to 1980 he worked at the Nevada Test Site. He died in September of 2002. Before he died he filed a claim, and my sister, after his death, inquired about his claim. And we've been trying to get it resolved ever since then. July 22nd we received information from NIOSH and it indicated that they had verified his employment. They also indicated that they had also verified the ailment that he had died from, the particular cancer that would be -- and it was related to abnormal dose of radiation. They also indicated that they were now pushing it towards a health physicist who would proceed to resolve it at this last stage. Now that was in July of 2005. Right -- I received a communication in January 2006. It was identical to the letter that I got a year before. So I guess my family's concern, my concern, is since both letters validate that my father's employment was at the Nevada Test Site, the medical data in both of the documents indicate that the cancer that's responsible for his death was consistent with abnormal dose of radiation, and all the data that I've heard

here and the personal testimony that I've heard from other families and members of those families and the statements that I've heard from Congressional leaders and -- and I'm really getting educated here, more than I ever thought I would be -- indicates that this is a repeated problem. And I'm trying to bring the -- the real seriousness of our concern that we get some resolution and not have a whole year of -- of not knowing the status or any reply or any indication of what is going to happen or not going to happen.

I notice that the Nevada Test Site has something like over a 62 percent completion rate, and that doesn't seem to jive with what has happened with me when I tried to communicate.

I'm also very much impressed with the report of I think Mrs. -- is it Mrs. Behling -- relative to the discrepancies and the difficulty relative to information being transmitted to those claimants and their families. And I found that very interesting.

I also was asked by a number of other families relative to the data of minority claimants, how

many had filed, how many have been processed, how many have been compensated, and I couldn't find any data relative to that. And I was wondering if that was available somewhere. The last thing I wanted to -- to give to you, and I'm not going to -- I know your time is valuable and I don't want to keep you -- is something that I received from my coach. This -- it's in the sense of a story or I guess a anecdote. He was telling me about a young man that he had on his team, and he wasn't a real good player, but he had a lot of spunk so he put him on there. And the time that -- the day that he made the team was the day that he -- the young man found out that his father was -- was diagnosed with cancer. And so the whole time that the young man was playing -- he ended up, because of his talent, basically sitting on the bench. And the day before the last game the young man's father died. And the coach really didn't expect to see him show up for the game, but he did. Not only did he show up, but the coach told me that he really kept begging him, intensely begging him to let him get in the game just for a few minutes. And the

coach, realizing that, you know, what the situation with the young man, it was the last game, he let him in and was going to take him out within a matter of minutes. But what happened was the first thing the young man did was cause a fumble and -- and captured the fumble for his team. Then the next thing he did, he intercepted a pass. And he just kept going like that. When the game was over with, the coach was like what got into you? He says, you know, I never seen you play like this. He said the young man looked him straight in the eye and said Coach, this is the first time that my dad will be able to see me play.

We're kind of in that situation, you know. They're watching to see how we're going to play this. And I'm just asking you not to let it be so difficult for us. I thank you for your time.

DR. ZIEMER: Thank you. And we do have NIOSH case workers here today. I -- perhaps they're still there, but if there's information on this case, we'll get you to the right person.

MR. BEARD: I had signed up to --

DR. ZIEMER: Oh, you have an appointment --

MR. BEARD: -- meet with someone tomorrow at 2:30, but I can do it right now so you don't have a --

DR. ZIEMER: Well, I -- no, if you're signed up, that's the main thing. We'll make sure that you get the information you need, so --

MR. BEARD: Okay. And again, I thank you.

DR. ZIEMER: Veryl -- and I'm having a hard time reading the last name. Am I right -- is there a Veryl? Looks like V-e-r-y-l.

(No responses)

No Veryls -- Veryl -- Veryl? Okay.

Organization looks like it's -- may be DLT or DLF. No?

Okay. I've got one that signed up as Fred, that's it.

(No responses)

No one's admitting to being Fred. Okay, might have started to sign up and realized he was on the wrong sheet. Okay.

That then completes our public comment session. Thank all of you for not only participating but being patient to -- to stick out -- stick it out to hear everyone.

We will reconvene again tomorrow morning at

8:30, so thank you very much. Good night, and we'll see you then.

(Whereupon, the day's business was concluded at 6:15 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF FULTON

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of June 15, 2006; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 8th day of July, 2006.

_____

STEVEN RAY GREEN, CCR

CERTIFIED MERIT COURT REPORTER

CERTIFICATE NUMBER: A-2102