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

convenes the

THIRTY-THIRD MEETING

ADVISORY BOARD ON

RADIATION AND WORKER HEALTH

VOL. IV

DAY THREE

ABRWH BOARD MEETING

The verbatim transcript of the Meeting of the Advisory Board on Radiation and Worker Health held at the Knoxville Marriott, Knoxville, Tennessee, on October 19, 2005.

C O N T E N T S

October 19, 2005

TRANSCRIPT LEGEND

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-- (sic) denotes an incorrect usage or pronunciation of a word which is transcribed in its original form as reported.

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-- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response.

-- "*" denotes a spelling based on phonetics, without reference available.

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P R O C E E D I N G S

(8:30 a.m.)

WELCOME AND OPENING COMMENTS

DR. ZIEMER: Well, good morning, everyone. We come to day three of the Knoxville meeting of the Advisory Board on Radiation and Worker Health. We welcome all who are visiting here. And if you haven't already done so, I need to remind you to register your attendance in the booklet out in the foyer.

This morning we're going to direct our attention to two Special Exposure Cohort petitions.

Before we get underway with those, Mr. Wade will -- Dr. Wade will make a couple of comments. Lew.

DR. WADE: Yeah, just as the mood strikes me, I'll speak. I'd like to just pause and reflect on what a positive meeting we've had to this point, and I think some thanks are in order. I think there are thanks due to the Board for its willingness to put in long hours of not only meeting time but preparation. I'd also like to thank NIOSH and SC&A for their willingness to engage in sometimes very difficult give and take on scientific issues. I think the level,

though, of professionalism that's been attained speaks well to the parties involved. I think it also serves the petitioners and the claimants very well. So I think there's an awful lot to feel good about, and I thank you all for that and look forward to today.

DR. ZIEMER: Okay. Thank you very much, Lew, for those comments.

NBS SEC:

As we get underway here we have two -- two SEC petitions, one involving what was then the National Bureau of Standards, an agency which does not exist under that name any longer; and then the other one is Linde Ceramics. And I think to begin with we'll call on Mr. Elliott from NIOSH to kind of kick off the discussion here for us and then we'll go directly into the petition.

MR. ELLIOTT: Thank you, Mr. Chairman. As a way of introduction for these two SEC petition evaluation reports, let me open with -- one of these is labeled as an 8314. Well, they're both 8314. In both cases, the National Bureau of Standards and the early years at Linde, we've identified that we could not do dose

reconstruction, and you'll hear that from Dr. Neton and Mr. Hinnefeld as they present those evaluation reports to you.

With regard to the National Bureau of Standards, there are some deliberations going on about this particular site and its listing as a covered facility. So those deliberations are going on as you take this up in your deliberation in this forum. The Department of Labor and the Department of Energy are currently -- have evaluated whether it should be presented as a covered site on the list of covered facilities. It was inaccurately listed as an AWE, atomic weapons employer, facility. And as you can, I think, logically understand, it's a -- it was part of the Department of Commerce. It was a federal agency. It still is a federal agency with a different name, and the building that they worked in was a federal building. So DOE and DOL are working through trying to determine how this site either fits in or does not fit in as a covered facility.

I was notified last week by the Department of Labor that this issue existed. The site has been listed from the very start as a covered

facility as an AWE. There's been an ongoing review of the covered facility lists by the Department of Energy in conjunction with (unintelligible) supporting interpretation and input by the Department of Labor for a number of sites, like arsenals, that are under review to either be de-listed or remain on the list. I can't answer any questions more than that. Mrs. Virginia Bond is here as the petitioner for the National Bureau of Standards, and you'll hear her presentation. Mr. Jeff Kotsch is here from the Department of Labor and he is here willing, I think and hope, to answer any questions you might have on the current status. There is a process of establishing this covered facility list. That is the responsibility of the Department of Energy. Department of Labor has some -- some interest in that and they also have some oversight and some responsibilities, as well, as far as the time frame of the covered periods. Right now it's my understanding there is -- a *Federal Register* notice has to be published by the Department of Energy to de-list a site. I understand and I've seen -- I understand that DOL has that

Federal Register notice draft from DOE and are reviewing it and preparing comments on it. It's not clear to me -- I do not have an understanding of when that will be published -- that *Federal Register* notice will be published and when the action -- and what the action will be in the end. So I would just encourage you to hear out the evaluation report, hear out the petitioner, have your deliberation and make your decision, and we'll take it from there.

DR. ZIEMER: Thank you, Larry, and I -- I think what -- then what you're telling us is that the status of this site we should in a sense not pay attention to in our deliberations. Right now it is a listed site and we can proceed on that basis to make a determination, that our determination probably should not be influenced by whether or not we think it will or will not remain on the list. Is that correct?

MR. ELLIOTT: That is correct. That's my understanding. We have no formal notification to provide you that this site has been de-listed, so we --

DR. ZIEMER: Right, so (unintelligible) is on the list, this is a valid petition --

MR. ELLIOTT: The advice that we have --

DR. ZIEMER: -- and deserves the same treatment (unintelligible) --

MR. ELLIOTT: The advice that we have is to proceed as -- in normal fashion and provide -- from your deliberation provide to the Secretary your recommendation --

DR. ZIEMER: Thank you.

MR. ELLIOTT: -- and then it will be handled from that point on.

DR. ZIEMER: And Board members, any questions on that part of the issue?

(No responses)

NIOSH PRESENTATION, DR. JIM NETON

Okay, thank you. Then -- then we will proceed with the National Bureau of Standards SEC petition, and the NIOSH evaluation will be presented by Dr. Neton.

THE COURT REPORTER: Do we have a handout for you?

DR. NETON: Should be. I believe there are handouts available.

DR. WADE: I have one I can give you.

THE COURT REPORTER: Oh, okay.

DR. NETON: I admit they may have arrived here

on Saturday or such, but they are -- they are here.

It's my pleasure to present to you NIOSH's evaluation of an SEC petition we received from the National Bureau of Standards. The Board has seen a number of these petition evaluation reports by now, so the format that you'll see has become somewhat standard, and you should be familiar with the flow of the information as I present it.

This petition was submitted to NIOSH on behalf of a class of employees. It was SEC petition number 0034. It was received for evaluation by NIOSH on May 9th of this year. The definition of the proposed class was all physicists that worked at the National Bureau of Standards which, as Dr. Ziemer pointed out, is now known as the National Institute of Standards and Technology -- all physicists who worked in the Radioactivity Lab in the East Building, and specifically the East Building is located on Van Ness Street in Washington, D.C. And the proposed covered employment period was from 1943 through 1952.

As you know, once a petition meets certain

criteria that are defined in our regulation, it has to be qualified. A petition, when it comes in, has to meet certain qualification parameters. And just in general, to remind you, those are -- a couple of those key parameters are the petitioner must be a member of the proposed class or they must -- it must be a labor organization representing that class or must be -- a person's authorized to speak on behalf of that class. And also the proposed class definition needs to be provided, and the basis for their belief that the records are inadequate to estimate dose.

We looked at all those in the context of this petition, and it was qualified by NIOSH on June 27th of this year. Again, in accordance with the flow and the regulations, this is sort of a process description of where we ended up, we're required to notify the petitioner and publish a notice in the *Federal Register*, which occurred on July 14th.

NIOSH is required then to take that qualified petition and evaluate it against the guidelines in Part 83.13 and provide a summary report to the Advisory Board of our findings. That

report was sent to the petitioners on the 14th of September, and also provided to the Advisory Board on that same date.

As part of the evaluation process, of course, you're all familiar with this so-called two-pronged test now. There's two -- two tests that need to be passed for a petition to be granted. One is, is it feasible to estimate the level of radiation dose with sufficient accuracy, and that's to individual members of the class. And if we can't estimate with sufficient accuracy any cancer in that group, that says we can't do it with sufficient accuracy. And secondly, if that's true, is there a reasonable likelihood that the radiation dose may have endangered the health of the workers.

Let me talk a little bit about the evaluation process, what did NIOSH look at when we were trying to determine if we could reconstruct dose with sufficient accuracy. We identified and reviewed all data sources available to us to look to see if we could come up with any means of bounding -- that is, put an upper limit on the dose received by any of these --

member of this proposed class. And in particular we're looking for information such as personnel monitoring data, air monitoring data, radiation source material. That's consistent with our hierarchical approach for doing dose reconstructions. That is, we'll first preferentially look for personnel data. If we believe it to be valid monitoring data, we'll assume that that is the best data we have to reconstruct dose. But then -- our process allows us to look at air monitoring data, area monitoring, TLDs; and third, process; and then source term -- I mean how much material was there.

So we search for all of those types of pieces of information in a number of various resources. We looked at the NIOSH dose reconstruction database. We looked at the ORAU research database. We went to the National Institute of Standards and Technology, requested information from their library. Not shown on this slide is we also went and contacted the health physics department that currently exists at the National Institute of Standards and Technology requesting records.

We spoke to the chief health physicist of the staff. And the bottom line is we could not find any monitoring records for any of these sources that would indicate the levels of -- potential levels of exposure to these workers. I have to qualify that a little bit. I'm getting ahead of myself a little bit. There -- there is some decontamination survey information I'll speak to later.

I might say that the dose reconstruction database -- normally what we would do is look for individuals who have filed a claim, and then we have in our possession where we're attempting to do dose reconstruction. In this particular instance we only have one claim that fits this class definition. We've looked through the data in that claim, and again we could find no information that was informative about the types of radiation exposures incurred by members of this class.

The dose reconstruction database, again, I just mentioned that. We looked for evidence of internal/external records, any personal monitoring data, and none were found, so that was not useful to us.

Then we looked at a site research database. Site research databases, as the Board knows, we -- we travel -- ORAU and our -- we have travels around the country searching repositories for records -- known repositories of records for DOE exposure information. And in that context, we identified seven documents that were relevant to the National Bureau of Standards. But these documents were sparse. They had histories of activities performed. In other words, we could tell that there was an analytical laboratory. They analyzed samples, worked with radium, kind of got a feel for the types of materials they worked with, but no real evidence of any type of air samples or personnel monitoring devices or even the relative total magnitude of the source term that these folks could have been exposed to. Of note, though, and I just mentioned this briefly before, is that there were two surveys related to decontamination -- two documents related to decontamination of this particular facility. One was a 1952 document that spoke to a decontamination that was performed of the laboratory when the National Bureau of

Standards moved from Van Ness Street in Washington to Gaithersburg, Maryland. Unfortunately, there was no information related to the types of -- the amount of contamination found. It just alluded to the fact that there was a decontamination performed, so that was not informative other than the fact that there was some contamination present there.

The facility was -- they moved out of that facility and four of the rooms were locked, and nothing happened at this facility that we could tell until 1968 when it was being transferred to the District of Columbia for another use. And the District of Columbia and the National Bureau of Standards combined to do a decontamination of the laboratory at that point, 1968. The surveys conducted at that point found evidence of significant contamination in these four rooms that were locked. In addition the contamination was found to have spread down the hallway. It was in the air ducts and the vent fans, and in an auditorium.

The levels were fairly significant, as I mentioned. The data were not recorded in

disintegrations per minute, but counts per minute. But even at that, I believe that they were in the 100,000 to 200,000 counts per minute -- very, very significant levels of contamination. The exposure rates ranged as high as 20 MR per hour in some of these rooms, and radon levels were measured in the vicinity of around 8 picocuries per liter.

Most of this -- although I don't think that the contamination surveys spoke to the contaminant itself, it's -- it can be inferred pretty easily that most of this is probably related to radium because of the high radon levels, the gamma doses and the high levels of alpha contamination. The National Bureau of Standards, during this time period, was responsible for handling medical sources of radium and -- and calibrating them and working with those sources.

Again, we contacted this library and this one document that was found was applicable to the class, but again, it had no -- no information relative -- relevant to reconstructing doses or putting upper bounds on them.

The petitioner supplied a number of documents

and affidavits -- one affidavit and a number of documents, I believe. In total there were 55 documents provided; 40 of these documents were mostly related to newspaper accounts, descriptions of processes, were not really necessarily informative about the site. Fourteen of them, though, spoke to process -- you know, what happened there, what type of materials. But again, nothing related to exposure information, nothing that could be used for -- nothing of exposure information that could be used to reconstruct doses.

So based on the discussion we just had, the evaluation report was revised, because we felt that since this contamination was significant and had spread outside the laboratories where the physicists would be working, we revised the class definition to say -- to cover all atomic weapons employees who worked in the building number two at the NBS facility on Van Ness Street. We just felt that we couldn't parse the information sufficiently to make -- to determine whether it was physicists or anyone -- because the hallway was contaminated, the laboratory was contaminated, the exhaust fans

were contaminated.
This speaks a little more to the process description of what -- what the National Bureau of Standards worked with. A number of radiological activities were performed there in support of pilot studies for uranium processing; many measurements related to identifying, quantifying, purifying uranium. They were developing techniques for the thermal diffusion and separation of isotopes of uranium. There's evidence of thorium handling. We do have an indication that they were authorized to possess around five pounds of thorium, which is a significant source term of thorium, if any of you are familiar with the health physics practices of thorium.
They developed a number of analytical procedures -- quality control measurements, that sort of thing. I had mentioned that these radium standards were probably responsible for the widespread contamination of the facility. These standards were shipped in ampules in the early days of development of sealed sources. There's an affidavit I think that discussed these sources' actual rupturing, the buildup of

the gas pressures. These are very hot medical type sources -- the sources' rupturing, and in fact there is one account of the physicist venting these sources outside the laboratory window, which could account for it being redistributed within the laboratory.

The other thing of note is these activities were highly confidential and secret during their early days of the pre-war. Workers were not informed of the types of materials they were working with. It was sort of on a need-to-know basis. And in fact, the streets around the NBS facility during this time period were completely cordoned off and blocked from public access.

So our conclusion is that we lack sufficient monitoring, process or source information to estimate internal or external doses to this class of employees. We have no film badge data.

I did mention -- I forgot to mention that there was a potential source term for neutron exposures. The NBS was involved in developing -- ironically enough -- guidance for protection against neutron exposures during this time

period. So if they're working with neutron exposures, we have no information as to what the levels may have been to these workers. So again, we lack monitoring, process or source information to do internal or external doses to the class. And again, we find substantial evidence that the contamination had spread beyond the radiological laboratories.

Regarding health endangerment, again, we cannot reconstruct dose. The key issue here then is were these acute, high level exposures that could have occurred such as in a nuclear criticality accident, or were these indeed chronic exposures to radiation over a period of time. Based on our review of what processes and what -- what the practices were with handling these sources, we believe they accumulated substantial chronic exposures to episodic intakes so that in fact the 250-day aggregate requirement for determining health endangerment would apply in this case.

So again, the proposed class is all atomic weapons employees working in building two at the National Bureau of Standards on Van Ness Street for the period 1943 to '52. And our

final slide is it's infeasible for us to reconstruct doses at this facilities and health was endangered.

And that's my -- end of my formal remarks.

DR. ZIEMER: Thank you, Jim. Larry, you have additional comments on --

MR. ELLIOTT: I would, just before the Board starts its -- any questions about this, I'd go back to this last -- this slide on the proposed class definition. We're going to have to change our evaluation report, and I would suggest that anything that comes forward from the Board not use atomic weapons employer, use National Bureau of Standards employee, because this is obviously not an AWE, but we -- you know, you want to I think couch your definition correctly here.

DR. ZIEMER: So in that slide and in related documentation, instead of the words "atomic weapons employees who worked at building two" it would be "NBS employees who worked at building two" -- is that what you're -- everybody catch that one? Thank you.

Let me ask, Board members, do you have any questions for Dr. Neton on this evaluation?

(No responses)

PETITIONER PRESENTATION, MRS. VIRGINIA BOND

Thank you. Next we will hear from the petitioners. We're pleased to have Virginia and John Bond here today -- welcome. And Virginia, you may take the podium and make your presentation.

MS. BOND: Good morning, Dr. Ziemer and members of the Board. I want to thank you for allowing me to appear before you personally to request your approval of Special Exposure Cohort status for the National Bureau of Standards site.

My name is Virginia Bond. My husband John and I have traveled from our home in Mill Creek, Washington so that I can speak as the personal representative of my mom, Elizabeth L. Brown. She is the surviving spouse of my dad, Burrell W. Brown, Sr. My brother Burrell W. Brown, Jr. would have joined us today, but since our mother is 91 we make a point not to ever be out of the area at the same time. He and my mother are listening by telephone this morning, as are many family members, friends and supporters. Thank you for making that service available.

A little over a week ago I began drafting this

presentation. I understood that I needed to explain to you the history of the site, what my father did there, and why I felt NIOSH could not reconstruct the dose. I dragged out the many boxes I've collected over the years and started sorting through the papers. Which ones, I pondered, will convince the Board to agree with NIOSH's assessment and to recommend that the National Bureau of Standards become a member of the Special Exposure Cohort.

I will get to that in a few minutes, but first I must address what I consider to be a completely despicable maneuver on the part of the Department of Energy and the Department of Labor. You've heard a little about this already.

Last Wednesday Mr. Larry Elliott informed me that DOL had requested that this petition be taken off today's agenda. The reason they wanted it removed was the Department of Energy decided that the Bureau of Standards never should have been approved as a covered facility in the first place.

The National Bureau of Standards has been on the list as a covered facility for over four

years. The Department of Labor accepted the claims four years ago and forwarded them to NIOSH for dose reconstruction. One week before your deliberations on this petition these two agencies decided to correct their mistake. This appears to be similar to what the Department of Energy did with the Iowa Army Ammunition Plant (IAAP) petition.

Members of the Board, this action is cruel and unconscionable. The reason the Department of Energy has decided to de-list the Bureau of Standards is because it is a U.S. government agency, and the law exempts employees of certain U.S. governm-- government agencies from this compensation program. This does not seem quite fair or just.

A compassionate Congress passed EEOICPA to correct the past wrongs of nuclear weapons production. My father, Burrell W. Brown, Sr., was involved in the development of the first atomic bomb. He died a horrible death as a result of working with radioactive materials without protective gear, let alone health monitoring.

My dad worked in the Radioactivity Lab of the

National Bureau of Standards from 1931 until May of 1948. He was only 20 years old when he started his career with the Bureau of Standards. There are many records available that identify the National Bureau of Standards as being a crucial part of the Manhattan Project. As the documents I have submitted and the research done by NIOSH clearly proves, there is no doubt that the Bureau of Standards employees were exposed to high levels of AEC and DOE radioactive materials relevant to nuclear weapons production.

The documents listing the levels of radiation found in the National Bureau of Standards buildings are in the packets I supplied today. I think you will be shocked at the levels. In addition to those records, included in my SEC petition is an affidavit from Dr. Rosalind Mendell, who worked in the Radioactivity Lab with my dad from 1944 until 1946. I quote Dr. Mendell (Reading) I was hired by Leon Curtiss of the National Bureau of Standards to do work on the alpha spectroscopy of "W metal". Such was the degree of secrecy or classification of the Manhattan Project in our area. In

principle, I was not kept informed about the nature of my research. I knew that I was working on a project involving artificially-induced fission of uranium only because I knew the energy of alpha particles for U-235 and U-238, because I could see the occasional huge pulses from natural fission of uranium, and because I was measuring the gradual enrichment of U-235 alpha particles relative to those from U-238.

You have a copy of her affidavit in her packet, also.

I also have a document which I quote. (Reading) Mr. Burrell W. Brown of this section informs me that he holds a low number in the selective service lists and may receive a questionnaire at any time. Mr. Brown is engaged in research on problems in radioactivity concerned with national defense, of a confidential nature, which would be seriously delayed if he were called away for a year. This work involves studies of nuclear fission as a source of atomic energy, and requires the use of highly specialized equipment which he has developed and with which

he alone is familiar. It would be difficult to replace him, and it would require at least a year to train a man to attain the desired proficiency in the conduct of these investigations. It therefore appears that the national defense is best served by retaining him in his present work.

You also have a copy of this letter in your packet.

At the onset of World War II my dad felt called to join the Army. But he was told if he did so he would be stationed right back at the National Bureau of Standards, doing the exact same job, but reduced in rank from his P3 to PFC. Obviously he didn't join the Army.

My mother tells of trips with my father to the Radioactivity Lab in the middle of the night to check on experiments. She said at one time he was checking on experiments being done with a garbage can-like container filled with water and positioned on -- there were several of them, positioned on their sides. My dad's responsibilities included being available 24 hours a day, seven days a week, to monitor experiments being conducted in his lab.

Soon however the level of security was increased, and not only was my mom not allowed on these night trips, but even the streets around the Bureau of Standards were blocked off and traffic was no longer allowed into the secure area. Information on this change is readily available.

My father, Burrell W. Brown, Sr., meets the requirements set forth in the EEOICPA statutes. I believe I have proof, and the fact that NIOSH is recommending approval of my SEC proves that they believe, he worked on the Manhattan Project. My dad was exposed to radioactive materials during his work, developed myelofibrosis with myeloid metaplasia, a cancer verified by the Department of Labor as being an approved cancer. NIOSH has now come to the conclusion that they cannot do a dosage reconstruction.

I've included many articles in your packet showing that the National Bureau of Standards was an important part of the Manhattan Project. My father's work was seen as so sacred and he was so valuable that he was not allowed to join the Army when the United States entered World

War II. Among his treasured memorabilia is a gold pin recognizing his distinguished service to the Department of Energy, DOE. Dr. Leon Curtiss, who was my dad's immediate supervisor and a prominent Manhattan Project leader, delivered the results of my father's work to other scientists in Chicago and Oak Ridge. Some things just don't add up here. It seems to me that there is more to this story that has been kept secret besides the development of the world's first atomic bomb.

Additionally I received further information this weekend on the role of the National Bureau of Standards with the Manhattan Project. President Roosevelt approved the formation of a National Defense Research Committee in 1940. This committee was made up of a group of scientists responsible for researching nuclear capabilities for bombs, and thus was a predecessor agency of the Department of Energy. The head of the Uranium Committee was Lyman Briggs, Director of the National Bureau of Standards. In December of 1930 the National Defense Research Committee (NDRC) entered into an agreement with the National Bureau of

Standards for the research and development of proximity fuses and other related articles for rockets, bombs, and mortar shells. At the time, the National Bureau of Standards operated one of the premier scientific research facilities in the government on this campus in the District of Columbia. It can be argued that because of this contract the National Bureau of Standards was also a predecessor of the Department of Energy. I would like to elaborate on my father's collaboration over several years with Dr. Leon Curtiss and other well-known scientists. Burrell W. Brown, Sr. not only worked for Dr. Curtiss, he was also a colleague in the publication of scientific research articles related to radiation. Included among them are the following:

Curtiss, L.F. and Brown, B.W. (1946). An arrangement with small solid angle for measurement of beta rays. *Journal of Research of the National Bureau of Standards*, Volume 37, August 1946.

Brown, B.W. and Curtiss, L.F. (1945). Thin-walled aluminum beta-ray tube counters. *Journal of Research of the National Bureau of*

Standards, Volume 35, August 1945.
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In addition there are pictures and newspaper articles that document my dad's collaboration with Dr. Curtiss. I am holding copies in my hand. If Dr. Curtiss, Astin and Stockmann were integral to the Department of Energy and the Manhattan Project, so indeed was Burrell W. Brown, Sr.
These articles and pictures are also included in your packet.
It is fitting that I am speaking to you this

week. My mom turned 91 yesterday, October 18th. She has been a widow for the last 18 and a half years. My dad would have celebrated his 95th birthday last Sunday, October 16th. His sisters lived well into their nineties. He should be here today to speak to you. He would have been able to answer your questions. But that is the reason we're here, isn't it? The important role he played in the Manhattan Project and the service he performed for our country cost him his life. Which department signed his paychecks should not be the focus. You, as Board members, have an opportunity and responsibility to help ensure that justice is served in this case. If this claim is not paid due to an oversight, it would be a glaring and inexcusable statement of inequity.

I hadn't intended to ask you too many questions today, but I do have a couple that have surfaced because of the actions of the Department of Energy and Department of Labor employees this last week.

What happens to my petition and my claim if the National Bureau of Standards is de-listed?

What appeal mechanism do I have if my claim is

denied due to de-listing of the National Bureau of Standards?

How will the DOL adjudicate my claim if the National Bureau of Standards is de-listed?

Members of the Board, I respectfully request that you accept NIOSH's recommendation and approve this petition and also recommend to the Secretary of Health and Human Services that the National Bureau of Standards become a member of the Special Exposure Cohort. I also respectfully request that you expedite your decision. Please do not delay your decision based on whether or not the National Bureau of Standards is a covered facility. It was covered four years ago. It was covered when DOL accepted my claim. And it was covered when NIOSH accepted and approved my petition. I ask that you deliberate the merits of this petition, not the eleventh-hour changes by the Department of Energy and the Department of Labor. Thank you.

DR. ZIEMER: Thank you very much, Virginia, for that presentation.

Are there any others that are going to speak for your petition? For example, John, are you

-- you're not. Okay, I just wanted to give you that --

MS. BOND: Oh, no.

DR. ZIEMER: -- opportunity. Okay, putting him on the spot. If you would remain there just a moment --

MS. BOND: Oh, sure.

BOARD DISCUSSION AND DECISION

DR. ZIEMER: -- I want to ask if -- well, first on the three questions you asked --

MS. BOND: Yes.

DR. ZIEMER: -- I don't think I know the answer to those. I doubt if our Board members do, but I'm wondering if either NIOSH or Department of Labor representatives know the answers to what happens to the petition if NBS is de-listed; what appeal mechanism do they have and how would DOE (sic) adjudicate the claim if it's de-listed. I don't know if we know the answers to those today. I think -- you'd certainly hope we don't have to ever know the answers to those, but do we know that information now?

MR. ELLIOTT: I think DOL has to answer those questions. NIOSH is not responsible for answering those questions in this regard, so I

don't --

DR. ZIEMER: Jeff, you probably don't at this point know the answer, either, but... Jeff is here from DOL.

MR. KOTSCH: Yeah, Jeff Kotsch, Department of Labor. I -- first of all, I wouldn't know the answer to the first question 'cause I'm not a claims examiner for the case. There is an appeal process for all claimants that allows, at the recommended decision stage if it's denied -- or the -- the claimant has the -- the option to object, present additional evidence that they feel could be used by then the Final Adjudication Branch to review that and -- as they render their final decision, so that's the, you know, standard process for that. And even beyond --

DR. ZIEMER: Would that apply in such a case as she defined here where --

MR. KOTSCH: It would apply for all DOL decisions.

DR. ZIEMER: Okay.

MR. KOTSCH: So does that -- that at least answers the last two.

DR. ZIEMER: There is a formal appeal process,

though.

MR. KOTSCH: Yeah, even after the final decision there is a -- there are additional layers of what they call reconsideration or even reopening requests if -- if the claimant were to have additional evidence that they feel still was not addressed. They could bring that forward.

DR. ZIEMER: So in a sense, that answers two and three here, they both -- there -- there is a process then.

MR. KOTSCH: Yes.

DR. ZIEMER: Okay. Thank you. Now let me ask, Board members, do you have any questions for Virginia on this information that's been presented? And you should have in your packet all the documents that were referred to, including the -- the various publications, the newspaper articles and related materials are all there. And we thank you for providing all of that information. Thank you very much.

DR. WADE: I'd like to speak for the record very briefly, if I could.

DR. ZIEMER: Yes.

DR. WADE: Again, I -- I am not authorized to

speak for the Department of Labor. I would only offer the observation that, you know, based upon the discussions I've been privy to, I don't think there's any attempt to exclude this claim. I think the agencies, DOL and DOE, are just trying to get their procedures correct, and I'd like that on the record. I think we need to proceed according to the information in front of us, but I wouldn't want the record to -- to not contain at least my belief that this is not an attempt to exclude anyone. It's simply an attempt to make sure the procedures are right and correctly followed.

DR. ZIEMER: Okay. Thank you. Board members, this petition now is open for discussion or for action.

MR. PRESLEY: Mr. Chairman?

DR. ZIEMER: Yes.

MR. PRESLEY: I would like to take the action that we accept the NBSB (sic) employees who worked in Building 2 at the National Bureau of Standards, Van Ness Street in Washington, D.C. from 1942 through 1952 as an SEC site.

DR. ZIEMER: Okay --

MS. MUNN: I second that.
DR. MELIUS: Yeah, can --
DR. ZIEMER: Motion made and seconded that the petition be recommended for approval. Discussion? Jim.
DR. MELIUS: I'd like to offer a friendly amendment --
DR. ZIEMER: Friendly --
DR. MELIUS: -- to be a complete -- a little bit more complete motion in the form of a letter in our usual style, if that's --
DR. ZIEMER: I think this will --
DR. MELIUS: Well, let me --
DR. ZIEMER: -- (unintelligible).
DR. MELIUS: Obviously we can do that, and I was hoping to have copies made already. We had a little technical difficulties getting it transferred, but we should be able to shortly. But let me read this and a lot of this language will be familiar to the other members of the Board who've heard this...
(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, and that he immediately works with NIOSH to schedule emergency meeting of the Board to discuss this issue.

Letter. (Reading) The Advisory Board on Radiation and Worker Health (the Board) has evaluated SEC Petition 00034 concerning workers in Building Number 2 at the National Bureau of Standards in Washington, D.C. under the statutory requirements established by EEOICPA and incorporated into 42 CFR 83.13(c)(1) and 42 CFR Section 83.13(c)(3). The Board respectfully recommends that a Special Exposure Cohort be accorded to all National Bureau of Standards employees who worked in Building Number 2 at this facility from 1943 to 1952 and who were employed for a number of work days aggregating at least 250 work days occurring under this employment or in combination with work days of employment occurring within the parameters, excluding aggregate work requirements established for other classes of

employees included in the SEC.

This recommendation is based on the following factors:

1. These workers were employed at a facility that handled substantial amounts of radioactive materials during the early time period for the production of nuclear weapons.

2. NIOSH was unable to find any personal area monitoring data or other data that would be useful for individual dose reconstruction for these workers. However, available data indicate that these workers may have accumulated substantial chronic exposures through episodic intakes of radionucleides (sic), combined with external exposures to gamma, beta, and neutron radiation. Furthermore, radiological contamination in the building extended beyond the laboratories in which the physicists worked.

3. NIOSH has determined that the health of employees at this facility may have been endangered by their radiation exposures. The Board concurs.

Based on these considerations, the Board recommends that this Special Exposure Cohort

petition be granted. Enclosed is supporting documentation from the Advisory Board meeting held October 19th, 2005 in Knoxville, Tennessee. This documentation includes transcripts of public comments on the petition, copies of the petition and the NIOSH review thereof, and related documents distributed by NIOSH and the petitioners.

DR. ZIEMER: This proposed friendly amendment would put the motion in the form of the letter that we normally do transmit. Do you accept --

MR. PRESLEY: I accept that.

DR. ZIEMER: Does the seconder accept that --

MS. MUNN: Yes.

DR. ZIEMER: -- language as a friendly amendment? Then we have before us this motion as read by Jim. You all recognize the language, which is very similar in format to letters of -- SEC petitions that we have used in the past.

Is there discussion on this motion?

(No responses)

Any speaking against the motion?

(No responses)

Any speaking for the motion?

(No responses)

The Chair senses that there is sentiment to proceed. If so, all in favor of this motion please raise your right hand.

(Affirmative responses)

Any opposed?

(No responses)

It appears to be unanimous. No abstentions?

(No responses)

The motion carries. Thank you very much.

Thank you, Virginia.

83.14 SEC:

NIOSH PRESENTATION, MR. STUART HINNEFELD

Next we have Linde Ceramics -- let's see, make sure we -- are we due for a break?

DR. WADE: No. I would criticize the Board, we're a minute off-schedule now, so work a little harder.

DR. ZIEMER: Stu Hinnefeld from NIOSH will present the petition evaluation for Linde Ceramics. You should have a hand-out, as well as the evaluation report.

MR. HINNEFELD: Good morning. At your last meeting in St. Louis I discussed very briefly and handed out a hand-out about procedures to follow when we determine that it's not feasible

to do a dose reconstruction. And I said that we hoped to bring a case like that to you at the next meeting, and this is the case. It did work out the way we had hoped, and so we have a case where -- a situation where we have determined that it's not feasible to do dose reconstruction and we've proceeded down the 83.14 pathway for SEC determination.

The site involved is the Linde Ceramics Plant, and it includes the Tonawanda laboratory. This is the site in Tonawanda, New York -- several buildings associated with that site.

I think all of our SEC presentations have to have this two-pronged test slide in here, and I couldn't think of a good place to put it so I put it up front. Jim went through the two-pronged test. We all -- I won't run back through that. We all know what the two-pronged test is.

Linde Ceramics Plant refers to several buildings in Tonawanda, New York. They produced uranium materials for Manhattan Engineering District clearly from 1942 through 1946. There was a stand-by period that started in the fall of 1946, and then production --

some portion of that production resumed in the fall of 1947, around November of 1947. Clearly one of the early uranium production sites that assisted in the War effort.

There were actually -- the-- referred to a three-step production process, so the production process is referred to in three steps. They're outlined on this slide. One was to take ore and ore-like feed materials to a U_3O_8 compound. Then to convert the U_3O_8 compound to UO_2, they had to go through UO_3 to get to UO_2. And then once they had the UO_2, then they converted that to UF_4. All three of these operations -- all three of these processes were in operation from '42 to '46, and research into these -- how to better do these were done at the Tonawanda laboratory during that period, as well. So this was a very -- a varied uranium production facility, and they did handle ore, including African ores which are relatively high in radium -- actually pretty high in radium.

Following the shut-down from '46 to '47, when production resumed in 1947 in November, only step three was resumed. So step three

continued from '47 to '49. There was a period of time when the plants were essentially cleaned and decontaminated -- that was a multi-year period of time -- for them to be turned over to Linde. These were actually MED-owned plants when they were built. Linde took ownership of them, because they were on their property, in the early '50's. And then there was future FUSRAP remediation in the '70's and '80's. So that's the period of time for the entire site, but we're really here to just talk about the '42 to '47 period.

The information available for performing dose reconstructions at Linde is we do have urinalysis on -- we have several samples on a number of workers. Those samples started in November of 1947. Prior to that time we don't find any radiological bioassay.

There was an air monitoring program established. This is through HASL and the Environmental Measurements Laboratory -- again, in late 1947 -- where they do time motion studies, time-weighted average, the typical air -- air monitoring analysis that we see from HASL, but that again started in 1947.

There are some isolated samples from the earlier period that are -- they seem to be total airborne mass samples. The results are given in milligrams per cubic meter. They're collected on glass tubes. We have a very fragmentary description of the analytical technique, nothing that we're particularly familiar with, and there's not very many of them. And we don't have a lot of confidence that they reflect very well on what exposure may have been during that early period.

The work activities that are described in the documents we have available to us, we did the typical document search in arriving at this conclusion that Jim described in his, the data that has been captured by our various data-capture activities and provided by the Department of Energy at the initiation. And whatever we can find, we've -- we've actually got a pretty decent store of information on what they did. We have quite a number of documents we reviewed.

We have a pretty good description of activities. There are many, many manual activities. Ore arrived in burlap bags and was

stored on-site in burlap bags. People moved things by -- by hand, essentially -- hand-shoveled or hand-troweled or scooped materials into various vessels, hand-scooped materials into oven trays to be heated and in the fluorination furnaces, so there was a lot of manual handling and potential for significant internal exposure.

We do have radiation surveys from quite early on, and we -- and they seem to be consistent with a plant of this type and the materials they had there. So we have radiation surveys of external radiation from early on, and then we have some film badge data that actually started later, in the post-'47 period. So we do have some information that we feel provides us some information about potential external exposures during this period.

And we actually do have a pretty good description of the medical monitoring program which defined the frequency of -- of exam -- medical exam and type of medical exam that should be used to monitor the employees who are going to be working at this plant during the early period.

Our process on this was that we gathered this information in our data capture information and various sources in order to prepare a Linde site profile. That profile was completed earlier this year. And based upon the relative lack of information for these 1942 to 1947 years, we marked as "reserved" the internal dose portions -- you know, how do you do -- how do you do an internal dose reconstruction for Linde. Those sections are reserved in this site profile, meaning that at the time of publication we didn't have a method to do it. And subsequently we've determined that we don't think we're going to find a way to do that. And so in our additional evaluation we've decided that the information for -- available to us in that period is insufficient to support reconstruction of internal doses from the '42 to 1947 period, and the doses that result from that.

So once we had reached that conclusion that it was infeasible to do dose reconstructions during this period, we -- we notified a particular claimant from this population who had worked in that period that we had

determined that dose reconstruction's unfeasible. This puts us on the 83.14 path for SEC.

We sent the individual that letter, and we included a blank SEC petition Form A, which is a short-form petition, which is essentially sign here and send it back. And -- because they -- you know, we had essentially already arrived at the conclusion that it's infeasible for us to do the dose reconstruction.

So that petition then was returned to us on September 29th, and we prepared a petition evaluation report, the basis for which we already determined, and presented it to -- and it was sent to the Board I believe about a week ago, about like that.

Our conclusions on this is that we have determined that we lack sufficient monitoring, process or source information to provide -- to estimate the internal radiation doses to Linde Ceramic employees for the period of October 1942 to October 1947.

And we believe we do have sufficient information to estimate external and medical exposures during that period.

We did not identify a particular acute event, such as criticality, that would -- that might have occurred that would cause -- just presence to lead to health endangerment, but we clearly believe there is a potential for significant chronic exposure, internal exposure, that does lead to a potential health endangerment. So we believe the health endangerment is present for the site.

And so for the period 1942 to 1947, we estimate that -- we find that it is not feasible for us to do dose reconstruction (unintelligible) that period, specifically the internal dose reconstruction during that period and that the health was endangered for the class of people that worked there.

The class definition I neglected to bring up with me. I believe it's all AWE employees who worked at Linde Ceramics from October 1942 through October 1947.

BOARD DISCUSSION AND DECISION

DR. ZIEMER: Okay. Thank you very much, Stu. Let me ask a couple of questions and we'll open the floor to other Board members, as well.

Do I understand correctly that you were not

able to find any inventory information on amounts of material being processed there? You say there's no process or source information?

MR. HINNEFELD: Well, know what the mat-- we know what the material was.

DR. ZIEMER: Right.

MR. HINNEFELD: I don't know that we know definitively how much was there or --

DR. ZIEMER: How much.

MR. HINNEFELD: -- production numbers. Even knowing the production numbers and having -- with the description of the processes that were involved, the manual nature of the processes, I think we'd be hard-pressed to provide a bounding estimate on what the exposures might have been.

DR. ZIEMER: And then my second question is, in -- in some cases, and perhaps Bethlehem Steel is an example, you have used another somewhat similar facility to infer things like air concentrations and so on, such as the Simonds Saw data. Are there any other -- I assume you've looked to see if there's other plants that were sufficiently similar to Linde Ceramics that might serve as a -- a substitute

or a model for -- for bounding the --

MR. HINNEFELD: One -- one that the Board's fairly familiar with that would be fairly similar would be Mallinckrodt St. Louis site, 'cause many of the same activities -- the handling of the African ores and the conversion of uranium compounds from one to another occurred at that site, as well.

DR. ZIEMER: Uh-huh.

MR. HINNEFELD: And we also reached a conclusion early on in response to a petition from Mallinckrodt that from '42 to '47 it was not feasible to do --

DR. ZIEMER: Right.

MR. HINNEFELD: -- dose reconstruction there, as well.

DR. ZIEMER: So that is the one that is most like this facility is --

MR. HINNEFELD: Certainly as far as the ones that have been discussed in front of the Board, that would be the one most like it.

DR. ZIEMER: Okay. Thank you. Other questions, Board members? Yes, Dr. Melius.

DR. MELIUS: I have -- it's more to do with the process. This would not -- this action would

not preclude the -- a petitioner from submitting a petition regarding later time periods. We're -- we're sort of focusing on what, you know, can't be done, not really coming to any sort of assessment of -- from '47 on.

MR. HINNEFELD: That is correct. Our assessment at this date is that we -- we concluded it's not feasible to do it up to '47. There has not been a petition submitted from this site other than the one that was submitted in response to our letter that we can't do the -- your dose reconstruction.

DR. MELIUS: I guess -- does the petitioner understand that? I guess the -- and -- I assume he does 'cause I know him and I know he --

MR. ELLIOTT: I hope he does. We worked really hard with this gentleman and his family, and I think he understands this -- this set of circumstances. And yes, the answer is -- to your earlier question is, as Stu answered it, this does not preclude a petition coming forward for the remaining years beyond '47.

DR. MELIUS: I just think that's important to

have on the record so, should we have to --
MR. ELLIOTT: Right.
DR. MELIUS: -- encounter it, that's --
DR. ZIEMER: Other comments or questions? Okay, then -- the -- for the petitioners, do we have a presentation?
MR. ELLIOTT: I believe they're on the line, but I don't believe they have anything they want to offer.
DR. ZIEMER: Okay. We do have the -- Board members I believe have the petition information. Board members, are there -- you have any questions on the material, as far as the petition itself is concerned?
If not, this petition is open for discussion or for action. Wanda Munn.
MS. MUNN: Since NIOSH is unable to make any determination in this case, I move that we accept this petition as an SEC and I'm sure Dr. Melius has the appropriate words for that.
DR. ZIEMER: She's already ready for the friendly amendment, but is there a second to the motion?
MR. PRESLEY: I'll second.
DR. ZIEMER: And it's seconded. And Jim, are

you prepared to provide suitable wording for this?

DR. MELIUS: Yes, I am. I was -- I was going to hand my computer to Wanda and let her --

DR. ZIEMER: If you would read the official motion then.

DR. MELIUS: Okay. And everyone will forgive me for getting this lengthy document onto the record again, which will sound repetitive. (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, and that he immediately works with NIOSH to schedule an emergency meeting of the Board to discuss this issue.

The letter. (Reading) The Advisory Board on Radiation and Worker Health (the Board) has evaluated SEC Petition 00044 concerning workers at the Linde Ceramics Plant in Niagara Falls, New York under the statutory requirements

established by EEOICPA and incorporated into 42 CFR Section 83.13(c)(1) and 42 CFR Section 83.13(c)(3). The Board respectfully recommends that a Special Exposure Cohort be accorded to all atomics weapons employees who worked at the Linde Ceramics Plant from October 1st, 1942 through October 31st, 1947 and whom were employed for a number of work days aggregating at least 250 work days occurring under this employment or in combination with work days of employment occurring within the parameters (excluding the aggregate work requirements) established for other classes of employees included in the SEC.

This recommendation is based on the following factors:

1. These workers were employed at a facility that processed substantial amounts of radioactive materials during the early time period for the production of nuclear weapons.
2. Monitoring for internal dosimetry was not implemented at this facility until November, 1947. The other monitoring, process and source information available for this facility is not sufficient for estimating internal radiation

exposures in order to conduct individual dose reconstructions for workers at this facility during the earlier time period.

3. NIOSH has determined that the health of employees at this facility may have been endangered by their radiation exposures. The Board concurs.

Based on these considerations, the Board recommends that this Special Exposure Cohort petition be granted. Enclosed is the supporting documentation from the Advisory Board meeting held October 19th, 2005 in Knoxville, Tennessee. This documentation includes transcripts of public comments on the petition, copies of the petition and the NIOSH review thereof, and related documents distributed by NIOSH and the petitioners.

If any of these item-- we don't need to -- that's it.

DR. ZIEMER: Thank you. And the seconder accepts that as the motion, I assume.

Let me ask for clarification on the one statement about no monitoring being done until whatever date you specified. Is that accurate or do we need to modify that. I think I heard

you say there was some monitoring --

MR. HINNEFELD: There were -- there were some isolated air samples, but there was no monitoring. It started in November...

DR. ZIEMER: I want to make sure we have an accurate statement on the monitoring.

DR. MELIUS: Yeah, I -- let me -- let me read it back and just make sure we're -- what you said is that monitoring for internal dosimetry was not implemented at this facility until November of 1947. The other monitoring, process and source information available for this facility is not sufficient. So I was trying to capture that issue, that there was --

MR. HINNEFELD: I'm sure that's (unintelligible) --

DR. MELIUS: I'm not saying there wasn't any other monitoring, but that it wasn't suffi-- that other -- I think I'm accurate about the internal dosimetry.

DR. ZIEMER: I wanted to make sure that date was correct and that -- okay. Any other comments on this motion?

DR. MELIUS: And I actually have also a legal question for Liz. Do we need to site any other

-- we've used the usual citation, and I'm not sure there isn't a separate part of the regulations or -- yeah, yeah.

DR. ZIEMER: And also I'm not sure we had a public comment on this petition. Did we have any?

MS. MUNN: I did not hear any.

DR. ZIEMER: There's a reference made to providing the public comment.

DR. MELIUS: Oh, okay, okay. We're --

MS. MUNN: Public comment. A question was --

MR. GRIFFON: (Unintelligible) a question. I don't know in the past if we've included a statement that indicates, as the recommendation does from NIOSH, that external doses can be calculated for this time period. Do we need to -- I mean I know you said that internal cannot be. Do -- we've -- we've remained silent on that or --

DR. MELIUS: Yeah, my sense was that we would -- you know...

DR. ZIEMER: It's kind of a moot point, I guess, if you can't --

DR. MELIUS: Yeah, they still can't do internal dose reconstruction. I think that's covered,

yeah.

MR. GRIFFON: And we say that we accept NIOSH's recommendation, right, and so that -- that's defined that way.

DR. MELIUS: Yeah.

MR. GRIFFON: Okay.

DR. MELIUS: Yeah.

DR. ZIEMER: We could, if you want to consider including that, Mark, we could consider saying something like although external doses -- although it may be possible to -- to reconstruct external doses, the internal doses cannot be, or something to that --

DR. MELIUS: Well, I thought I'd captured that indirectly, and let me read the whole sentence. (Reading) The other monitoring, process and source information available for this facility is not sufficient for estimating internal radiation exposures in order to conduct individual dose reconstructions.

MR. GRIFFON: Yeah, that's...

DR. MELIUS: So it brings it back to individual --

MR. GRIFFON: Yeah, that's...

DR. MELIUS: It's just a little awkward to say

well, it is -- external's okay, you know --
MR. GRIFFON: I agree, yeah.
DR. MELIUS: Yeah.
DR. ZIEMER: Okay. I guess maybe -- I don't know if counsel can help us. Do we need a statement in there about the public comment, since we had none on this --
DR. MELIUS: Or just say transcripts are --
DR. ZIEMER: -- or would you rather have it in there anyway, or just transcripts of the meeting would be sufficient. We don't have to say anything about the public comment. If it's agreeable, why don't we just delete that, since there wasn't any.
Any other comments? Are you ready to vote on this petition?
(No responses)
Okay. All in favor of recommending approval of this SEC cohort, say aye?
(Affirmative responses)
Any opposed, no?
(No responses)
Any abstentions?
(No responses)
It is so ordered, and the motion carries.

Thank you. And thank you, Stu.

DR. WADE: I'd ask Stu -- could you stay up for a minute, Stu?

DR. ZIEMER: Yeah.

DR. WADE: I mean while we have a few minutes, I wouldn't mind just talking about what we might expect to see relative to this process in the future, and get the Board to have a bit of a dialogue with you as to whether they'd like to see this done in a different way than we've done it or -- so Stu, I'd assume we will continue to -- to look to identify these targets of opportunity and bring them, as appropriate, to the Board?

MR. HINNEFELD: Yes.

DR. WADE: Any speculation as to volume or frequency or...

MR. HINNEFELD: Well, it would -- it would certainly be speculation. I think easily half -- half a dozen.

DR. ZIEMER: Of this type?

MR. HINNEFELD: Yeah.

DR. ZIEMER: Over the next year?

MR. HINNEFELD: It'll probably be a year or more, maybe, to get through that many. Maybe

many --

DR. WADE: I'm not -- I'm not looking for --

MR. HINNEFELD: -- sites with very limited information and a limited number of claims over the next year --

DR. WADE: I just wanted to let the Board know that --

MR. HINNEFELD: -- or about a year from now.

DR. WADE: -- this is a process. And again, I think we would -- NIOSH would intend to approach it the way we've done here. I don't know if the Board has any suggestions for us or -- it could become time-consuming, and yet I think we just have to do this.

DR. MELIUS: Well, I guess my question would be to what extent can we make it not time-consu-- as not time-consuming and is -- are we better sort of bundling them -- (unintelligible) hold up -- (unintelligible) keep it transparent. We don't want to hold up, you know, settlement of some of these claims. I mean would the Secre-- is it better to process these through in -- in a -- sort of in a bunch, you know, to the Secretary or --

MR. HINNEFELD: There is a potential for a

bundle --

DR. MELIUS: A bundle, okay.

DR. ZIEMER: On the other hand --

MR. HINNEFELD: -- (unintelligible).

DR. ZIEMER: -- you don't necessarily want to delay some waiting for others. And frankly, these types are not that time-consuming for us as a Board, as I see it. I mean this is not like Bethlehem or -- well, Bethlehem we didn't have an SEC, but certainly not like Mallinckrodt. The volume of paperwork for these two was relatively low compared to most things we get, and -- and certainly meeting time was not excessive. Larry?

MR. ELLIOTT: I just want to speak to bundling. We're certainly interested in that approach where it makes sense. But I think you need to recognize we -- we want to recognize, as you've seen in these two examples that have been before you today, they're different. And in one we say we can't reconstruct any dose whatsoever, and in this one we're saying we hope we would be able to attempt reconstructing external dose, perhaps for skin cancers. So you know, the bundling approach may be fine and

may provide an efficiency, but we need to be very careful in how we treat what we bundle. I don't want to lose any opportunity here for -- for helping claimants with a non-presumptive case.

DR. MELIUS: Yeah.

DR. ZIEMER: Roy?

DR. DEHART: I think, as well, it's important for the record, and because of that we pretty well have to cover some of this material. But it's certainly an efficient way of doing it. We -- we give the claimant an opportunity to speak, we're hearing NIOSH's report, we've had an opportunity to review the document and events, and we move very quickly.

DR. ZIEMER: Wanda?

MS. MUNN: It's probably wise for us to be extremely sensitive to the individual nature of these claims, whether they are small and relatively direct or not. It appears, if we are to believe our own immediate past history, that as long as NIOSH indicates that it's not possible for them to do the dose reconstruction, that there is no dissention on the Board with accepting that. The only

dissention seems to appear when NIOSH says they can do so and members of the Board do not believe that's the case.

Bundling cannot be perceived, in light of what we've seen today, as being an enormous time-saver. On the other hand, there's some merit to thinking about it. It just doesn't seem wise to break down the process in such a way that the individual case does not get at least the amount of hearing that each one got here today.

DR. ZIEMER: Thank you. Robert?

MR. PRESLEY: Stu, do we -- do you think are going to have any -- the time we have our telephone conference in December -- ready to go?

MR. HINNEFELD: No, I don't believe we'll have any more than these.

MR. PRESLEY: So we're looking at -- at the January meeting somewhere?

MR. HINNEFELD: If then, I --

DR. ZIEMER: At the earliest.

MR. PRESLEY: At the earliest.

MR. HINNEFELD: The process -- you know, once we determine that we have a class of cases, or

a case, that we can't do dose reconstruction, that requires notification to the claimant -- you know, conversation with the claimant and a letter exchange, having them sign the Form A petition and send it back. So we're not at all down that pathway I think on any other population right now, so I don't think -- I don't know that we'll have any more in January.

MR. PRESLEY: Okay.

DR. ZIEMER: Well, Stu, it seems to me that one of the issues that NIOSH has had to deal with, and maybe -- and with your contractor, and I don't have a good feel for this, but one -- how do you decide in a case like Linde that you have come awfully close to exhausting the record search? Or -- or are you able to determine, from the records that exist, that in fact there are not any records out there? In other words, it's clear that they didn't do monitoring or it's obvious -- we don't have to search for monitoring records because we already know from other things that they didn't do in -- they didn't do urinalysis, for example. And maybe you can give us -- use Linde as an example. How did you decide that

for Linde and how would you decide it for other cases --

MR. HINNEFELD: Well --

DR. ZIEMER: -- 'cause that's sort of the -- sort of one of the issues, have you in fact exhausted the records search.

MR. HINNEFELD: I'll say this, with pretty good confidence, is that the records capture people, you know, that we have working for our contractor have reconnoitered, at least, very many -- very many repositories, and at least have some idea about what they're liable to find at various repositories, whether it's actually been retrieved yet or not. So we are -- we think that we are pretty well set in terms of knowing what might be out there. And if we have a site where we have no additional leads and we have collected a lot of information and no additional leads, and it leaves us with this -- this gap in the data, then we're pretty confident the -- you know, I guess theoretically if you look long enough and hard enough, you may actually find something archived, but we're at a point where we feel like it's time to stop and -- and do that.

There's a category -- you know, there's a population of sites that we would expect research to be done in a year, just because -- some contracting arrangements we have, we expect research to be done in a year on a broad category of sites with not very many claims from them. So when I was saying there is an opportunity for a bundle, that is I think the best opportunity for a bundle of these cases that -- research is done, you know, this -- based on this contractual arrangement, these -- research on these is done and we make the decision now on a number of these, so that is a good opportunity for a bundle, and that'll happen about a year from now probably.

DR. ZIEMER: Uh-huh.

DR. MELIUS: I have one other -- I have another question.

DR. ZIEMER: Fine, then we'll have -- Rich Toohey has a comment. Go ahead, Jim.

DR. MELIUS: Well, if you're speaking to Stu's, go ahead -- go ahead. I -- mine's sort of separate.

DR. TOOHEY: Are we on?

UNIDENTIFIED: (Off microphone) Yeah.

DR. TOOHEY: Okay. Dick Toohey, ORAU. I just want to mention one -- one of the key indexes or indicators we use that data might be available are actually the log books from Health and Safety Lab where all the air samples, many of the urine samples were actually analyzed.

DR. ZIEMER: Right.

DR. TOOHEY: So -- and we have all those records. So if, looking at that, we see there's data available from a site --

DR. ZIEMER: Right.

DR. TOOHEY: -- we feel pretty good. If there's no record in the HASL records of measurements from the site, we haven't found it in any search effort, so we figure well, that's it.

DR. ZIEMER: Right. Okay, good.

DR. MELIUS: Yeah, I'd like to ask a sort of a different type of question, and that's related to how do you -- like, for example, with Linde -- intend to publicize this decision? We're pretty far away from Niagara Falls. There's people from -- representing workers at that facility have shown up at a number of our

public meetings on Bethlehem, actually, and -- and spoken, so there's some amount of interest. And I think -- I think there's -- be some benefit to some positive publicity on this to -- for claimants that, you know, may be eligible and are not aware of it. I mean there -- it is also probably going to generate other claims and other time periods, but -- and you know, so be it, I think. I think it's good. But I think it would be good for the program, where you're being proactive, to go out and -- and make sure that -- that people know about that. Now the National Bureau of Standards I think is a little bit different situation, but --

MR. ELLIOTT: Yeah, there weren't that many people that worked at NBS, so --

DR. MELIUS: Right, right, Linde --

MR. ELLIOTT: Ten to 12, is our understanding, and we only had one claim --

DR. MELIUS: Right.

MR. ELLIOTT: -- and that was Mrs. Bond's father's. But I appreciate your question and I agree wholeheartedly that we need to exert a coordinated campaign here to notify people. We will do that on an individual basis, of course,

as we do with all of the classes that are being added. We notify each of the claimants, for claims that we have in our hands, that their claim fits into the class and is being returned to the Department of Labor for a determination of eligibility and adjudication under that class definition. We will use our worker outreach program because the site profile, as you noticed, was developed back in -- earlier this year.

We need to engage those folks and send them back out into the field with that site profile and use that opportunity to tell the -- tell the audience that we have established a class and our site profile covers the later years. We want your input, we want your comment about that. We want to hear your thoughts about our ability to do dose reconstruction or your thoughts about our inability to do dose reconstruction.

We will notify the Congressional delegation, of course, about this class being added. I think -- I think we're going to have to work with DOL, as well, if they have another town hall meeting scheduled, or something like that. If

there's not, then we may need a town hall meeting, as well, to go up into that part of the country and -- and let people know that this class exists now and what we're doing in that regard.

DR. MELIUS: Okay, good.

DR. WADE: If I could have one final comment. I know this Board is painfully aware of the criticism that's been brought to the program of people waiting for years for their dose reconstructions to be completed. I think this is a very positive development, the mechanism that is now available to try and deal with this issue. So I applaud the NIOSH program bringing this forward and I think it was worth the Board spending some time talking about it and developing a little bit of an understanding and appreciation. But I think this is a very positive development, and thank you.

DR. ZIEMER: We're now scheduled for a break, so we'll recess till 10:30. Thank you very much.

(Whereupon, a recess was taken from 10:00 a.m. to 10:30 a.m.)

DR. ZIEMER: We're ready to call the session

back to order, if you'd please take your seats.

MR. ELLIOTT: Dr. Ziemer, if I -- if I might interrupt right now, there was a blue folder left on a chair here. It's got a BEIR VII report in the front. I just wanted to know hadn't claimed it for -- okay. Now I'm going to ask -- Jim, will you get this lady behind you a copy of this? Thank you. Sorry for interrupting.

PUBLIC COMMENT

DR. ZIEMER: Okay. Thank you. You may have noticed that we actually didn't schedule on today's schedule a public comment session. However, we have an individual who -- who drove up from North Carolina for today's meeting, anticipating participating in the public comment session. So we do want to accommodate that, and so without objection, I'd like to have a brief public comment time and allow Sherry Floyd from North Carolina to address the Board. And Sherry, if you would approach the mike, we'd be pleased to hear from you at this time.

MS. FLOYD: Hello, Board. My name is Sherry Floyd. I'm from Murphy, North Carolina, and

this is my daddy, Clyde Floyd. He worked at Savannah River Plant for 35 years. He died of melanoma in May of 2001. And my situation's unique in that he was no longer married to the woman he lived with for 25 years while working there. He married a woman the last two years of his life. This woman took all the money that he had left for me in a trust fund. And I filed a claim as a dependent under my father. My claim was denied and (unintelligible). The unique part of my situation is I was never sent a letter with a final decision. It went to an old address. I missed out on all the appeals processes. And if it wasn't for Terry Berry, I wouldn't have gotten a hearing that's coming up next month. But I did want to thank y'all for approving his claim and trying to help the families. I know you have good intentions. But you need to know this is not the '50's. The men are not still married to the women for 20 or 30 years. There's several wives probably in between. And one woman has ripped my heart out. But losing my daddy was the worst, but I did want to let y'all know. Thank you for letting me speak.

DR. ZIEMER: Okay. Thank you very much for sharing that with the Board.

While we're in an official public comment period, I do want to, if there are others who came today anticipating that opportunity, we do want to open that opportunity as well to any others who -- of the public who have comments for the Board today. Are there any others?

(No responses)

GIBSON COMMENT

If not, we will return to our agenda. Before we actually go into the scientific issues -- and Jim is already -- Jim Neton is on his way to the podium, but one of the Board members has requested the opportunity to make a comment before we begin this session. That's Mike Gibson. Mike, if you'll take the floor at this point and share with us the item you have.

MR. GIBSON: Yeah. Yesterday I -- during the program process -- status report I brought up the fact that I had heard that sometimes claimants and sometimes their survivors are asked to provide documentation and medical information about their claim. And I was able to get a copy of that letter last night, and I

just want to read some generic narrative out of the letter that I think will demonstrate why people are getting frustrated. And then after I read that, if counsel wants to make sure it's been redacted properly, we can make copies of it. But it is a letter from the Department of Labor and it says (Reading) This letter is to inform you that your husband's (blank) claimed under the Energy Employees Occupational Illness Compensation Program Act, Part B, has been forwarded to NIOSH. While we await the completion of your dose reconstruction, we will continue to develop your claim under E.

It says (Reading) We have asked the Department of Energy to confirm the types of toxic substances that (blank) may have been exposed to at the facility. We ask that you provide additional evidence so we can make a decision on your claim.

Then it says (Reading) Please list by name the toxic substances you believe caused or contributed to the claimed conditions. Please describe the nature, extent, frequency of harmful work exposures. You may also submit evidence to establish hazardous employment at

the exposures -- at the (blank) site. Please specify the exact nature of the claimed conditions, when the condition first was onset. Please submit a detailed report from (blank's) treating physician. The doctor should give an opinion with medical justification on the connection, if any, between the toxic employment exposures to the claimed conditions. The narrative medical report should contain a complex history, social, family, work, medical, exam findings, test results, diagnosis, date of diagnosis, course of treatment and a well-rationalized opinion as to whether, how and why the employment exposures caused or contributed to the claimed condition. The physician should discuss the nature and extent of causal relationship; i.e., direct causation, permanent or temporary aggravation between the claimed condition and the harmful work exposure you reported.

Now I -- my question to the Department of Labor, I guess, is how -- well, you know, there's -- and then the last page, (Reading) When we need the information. Please provide the requested information within 30 days from

the date of this letter. As the claimant, it is your responsibility to submit the evidence needed to establish a claim under EEOICPA. I just personally feel that that is just unreasonable to -- to expect that of a survivor when, just as the lady spoke before, the survivor -- the surviving spouse may not even been the -- the spouse that the person was married to when they were employed there. And number two, as most of you know, with a Q clearance you shouldn't discuss what you've been working with. So how is this claimant-friendly? I think this shows why people get frustrated and -- and give up on their complaints. And I think this could really be reworked to be a lot more friendly to the claimants and/or survivors, and so if the Department of Labor would like to comment on --

DR. ZIEMER: Is this a standard Part E letter? I -- Jeff, do you know if that's a standard letter that goes out under Part E?

MR. KOTSCH: Jeff Kotsch, Department of Labor. I have to admit that I'm not that intimately involved with Part E as I am with Part B as a health physicist. But I assume that this is a

standard letter. I'll take it back to my management that the -- I know that sometimes our wording of letters -- it seems like we -- you know, much beyond the scope of what people can provide, so I'll have to check with them and, you know, (unintelligible) --

DR. ZIEMER: Yeah. In this case the issue of burden of -- who -- who does the burden rest on. Certainly in our part of the program we expect -- we don't expect the -- the claimant to come up with all that information. It appears here that the burden is placed on -- clearly on the claimant to --

MR. KOTSCH: Well, even in Part B the burden for medical and employment is -- it at least starts initially with the claimant and then, you know, we provide or we attempt to provide assistance through the Resource Centers and through other mechanisms, the centers to protect workers rights and things like that.

DR. ZIEMER: Right, but certainly this listing of all the compounds and related things seems to go a bit beyond that --

MR. KOTSCH: That may be -- that may not quite be reasonable for a survivor. Hopefully an

employee would have some recollection of what things he might have been exposed to. Plus we have a general feel for -- at the DOE 'cause this -- Part E is just DOE sites. We have a general feel for what toxic materials are at the sites.

MR. GIBSON: This -- this letter was to a survivor.

MR. KOTSCH: Yes, I mean it's probably -- it may not quite be appropriate for the survivor as persons, you know -- perhaps an employee who's still alive.

DR. ZIEMER: I don't know the extent to which this is directly in our purview, but certainly there is, insofar as there's a relationship between these programs, and we certainly end up getting coupled with the Part E activities frequently, it would seem that perhaps -- if -- if it's the sentiment of this Board, that it would be appropriate to ask that that be addressed in some way --

MR. KOTSCH: I will take the comment back.

DR. ZIEMER: -- and perhaps you could report back to us --

MR. KOTSCH: Okay.

DR. ZIEMER: -- the nature of how this is handled, what the -- what the real burden is on the survivor to come up with information which, as Mike indicated, is often classified at the front end, anyway.

MR. KOTSCH: Right.

DR. ZIEMER: You know, I don't know if other Board members have comments on this issue or --

DR. MELIUS: Yeah, I --

DR. ZIEMER: -- suggestions, and -- yes, Jim.

DR. MELIUS: Can I -- can I -- well, one is I think it's important to realize that the Subtitle E program is a very traditional workers compensation program, and so it's sort of modeled on what's expected of someone in a -- filing any other sort of workers compensation claim, and occupational disease claims have always been difficult to assemble the information for and so forth, for a variety of reasons. The Department of Labor is -- has -- my understanding, it has taken some steps to try to develop some of the background documentation that will facilitate the handling of claims and so forth and doing that. And I participated in a workshop -- can't remember if

you -- were you there, Mark, or -- now I can't remember -- with the Department of Energy, and I think Jim Neton -- you were part of that, also -- to try to develop sort of site profile kinds of information and so forth that would -- would facilitate this and -- and so forth. So I think recognize the problem.

On the other hand, it's also the -- what's requested in the letter also goes back to what's in their interim final regulations, and (unintelligible) organization -- other organizations I know have submitted comments on those interim final regulations, pointing out the difficulty of assembling a lot of that information and the burden it'll put on both survivors, as well as people who -- who worked at these facilities to bring together all -- all -- be able to access and get -- get all that information. And so where they -- where the Department of Labor goes with this, I -- you know, where they draw the bounds, we'll have to wait and see. But it -- it -- certainly the points Mike brings -- brings up are -- are very appropriate, and I certainly do worry for what -- particularly people that

won't have -- be able to sort of take advantage of what's done under the OCAS part of the program where there are the site profiles and other information 'cause the site profiles don't cover the chemical exposures and so forth. And a lot of this will have to do -- and -- and again, what we talked about, you know, how do you determine disability for someone going back -- or an impairment going back 20 years. And so it's a lot of difficulties with this program.

DR. ZIEMER: And Roy, you've had some experience with this kind of thing. You have some comments for us?

DR. DEHART: When the original Part D was under the Department of Energy, I did serve as a -- as a consultant and early on an evaluator of the medical documentation. Jim's absolutely right. This is a worker compensation claim situation, and even in the best of circumstances it is often very, very difficult. We're not dealing, in this case, with a loss of limb or musculoskeletal problems which tend to be common worker compensation issues that are more definitive and defining. We're dealing

with heart attack, stroke, metabolic diseases such as diabetes, ulcer diseases, liver diseases. These are the general complaints that they're getting and they're trying to tie that to the kinds of exposures or the work stress that the worker sustained while employed.

The more medical records that are available, the easier it is for an evaluator -- or in this case, generally not a physician, a claims manager -- to make a recommendation. I totally agree that it is beyond the capability of many of the people making the claims to be able to provide the information in detail. But I think it needs to be requested, if available.

I would also suggest that possibly they would be willing to consider -- and I don't know that they do in Part E -- affidavits in lieu of medical records. That would ease the burden if that were possible, but I don't -- I don't know if that is currently allowed in that -- in that process.

I can tell you that I reviewed documents on claims under Part D that would be 600 to 1,000 pages, with all the medical records from

hospitals, et cetera, and this is -- this is what is happening. This is what they're requesting. And the medical records can be very comprehensive. But if a person died in the '50's and there was a worker compensation claim for someone who was in their fifties and theoretically had 15 more years of work to do, there could be substantial dollars involved, but yet unable to acquire the medical records because the records have been destroyed -- which is permissible after a period of time. The practitioners are no longer available -- retired, moved, dead. And it -- it is really a complicated situation and I -- I totally agree, if there's a way of easing that burden on the -- on the claimants who may not have access to records, that would be helpful.

DR. ZIEMER: Yeah. Well, at least Department of Labor's been made aware of these concerns and perhaps Jeff will be able to come back with some positive report for us on that. Thank you very much, Mike.

DR. WADE: (Off microphone) Do you (unintelligible)?

DR. ZIEMER: I think we'll hold that till the

work session.

SCIENCE ISSUES, DR. JIM NETON, NIOSH:

It's been a while since we've addressed our list of what we've called "science issues," which are sort of the backbone of some of the dose reconstruction work. But we have a number of these back on the table for us today, and Jim Neton is going to present some of the breaking issues on -- on our science as far as dose reconstruction is concerned, and some possible upcoming changes to consider.

DR. NETON: Okay. Thank you, Dr. Ziemer. You're absolutely correct, it's been a while since we've had a discussion about science issues, so I'm here to present to you a discussion on four issues that have appeared on the Board's priority listing in the past, and there -- there are four areas where we -- we've done some work, made some progress and, as Dr. Ziemer pointed out, are going to make some changes -- either proposed changes or in the process of making those changes at the current time.

I'd like to acknowledge that, although I'm the spokesman standing up here, I certainly don't

purport to be the expert on all of these issues in depth, and I have a great support staff back there of the science team -- Russ Henshaw and Brant Ulsh, as well as our friends at SENES Oak Ridge who are responsible for some of this work. And in addition, the Health-related Energy Research Branch folks who are here who are engaged in some of this work, as well.

CLL ACTIVITIES

The four issues that we're talking about are chronic lymphocytic leukemia. As the Board is aware, this is the only cancer that is currently excluded from compensation. It's assigned a probability of causation of zero, and I'll get into the reasons for that and what we're going -- where we're going with what we've done so far in that area.

I'd also like to talk a little bit about dose reconstructions for lymphomas -- not the risk model, but really what is the relevant target organ to reconstruct the dose -- where -- where is the relevant target organ for the dose to be reconstructed.

And so the two -- the first two bullets deal with lymphocytes -- the lymph system in

general, and then the last two deal with the cancer risk models. That is the cancer risk adjustment for the age at exposure. There's been some evidence in the literature, as the Board is aware, that the age at which one is exposed to radiation may have an effect on the excess relative risk per Sievert, and also -- will finish up with the probability of causation for lung cancers. And more specifically, some adjustments that have been made by the National Cancer Institute related to smoking and -- and how we propose to incorporate their model into the NIOSH-IREP model.

That said, this go on for a while. I know I tend to be long-winded, so we can stop at each point maybe and have a discussion if that's -- that's preferable. I think that probably is, so I'll proceed that way.

As I mentioned, chronic lymphocytic leukemia is the only cancer that is excluded in 42 CFR 81 from compensation. That regulation was issued in May of 2002. It was excluded for a number of reasons. Primarily, there were no published studies to support an association between

exposure and increased risk for chronic lymphocytic leukemia. We couldn't identify any at the time. It was also traditionally regarded as non-radiogenic by outside expert committees such as the BEIR committee and ANSCEER*. And on top of that, there was no risk model to apply. I mean no one -- no one had come up with a relevant risk model to use at that point.

However, we did note in our evaluation that at a later time frame we would revisit this issue, and that's what I'm here to report on, our progress on where we are with this issue.

So what -- what has been done. There's been a number of things going on that NIOSH has done some research in this area, and at this point I need to acknowledge the work of the Health-related Energy Research Branch, which was provided some money ear-marked by Congress for research into this area specifically. To that extent, HERB -- NIOSH/HERB convened a public meeting in Washington, D.C. in July of last year to have a panel discussion, a frank panel discussion about data gaps in chronic lymphocytic radio-- chronic lymphocytic

leukemia radiogenecity research -- that's a mouthful to say.

This panel discussion was -- included six invited experts. There was a public forum and discussed a wide-ranging array of issues in both molecular and epidemiologic CLL research. There were several written products produced as a result of that meeting. One was an annotated bibliography of the research that had been done in this area, and also the minutes -- or the -- a summary of that meeting has been published. And in fact, as of a week or so ago, that's been published as a NIOSH numbered document. I believe the Board was e-mailed a copy of that. There are also copies available at the back table. It's a fairly extensive write-up -- I think it's about 100 pages long -- that just essentially paraphrases everything that was said by all the participants in that meeting. HERB -- based on the results of that meeting, NIOSH prioritized the CLL efforts under -- how they were going to approach -- you know, what they were going to do with CLL research, and one of the main thrusts of that research was to incorporate, where possible, CLL research into

the ongoing epidemiologic studies that they had already had in place. They have done that. They've included that in two studies thus far that are completed, and redone the analysis to include CLL to see if any excess risk could be teased out of those studies. Thus far they've not been able to make any determin-- definitive determination as to how CLL could be used in an epidemiologic analysis. In fact, this is one of the key issues with CLL is it's very difficult. The number of cancers that are reported in the literature are difficult. Reporting is confusing over time, and it's -- it's just a difficult cancer to develop risk models for from an epidemiologic perspective. NIOSH has intended to produce, as a result of this meeting, a structured review of the literature that would be published in the peer review literature. It's a much-expanded version of the annotated bibliography that would essentially be a critique on the studies that have been done thus far and what the status is at the current time.

We've also worked with the International Agency for Research on Cancer to apply -- to do a

pooled analysis of the data that they had available, I believe it was for the U.S. cohorts, to look at CLL in their cohort to determine if any definitive association between CLL and radiation exposure could be determined, and the results of that are not yet available. So there's a number of areas that the Health-related Energy Research Branch is investigating, and those studies are ongoing. NIOSH activities related to the compensation program -- that is OCAS's mission on this -- have also been ongoing. We solicited opinions from five outside experts in 2004, and we asked them a question relevant in the context of a compensation program only. This was not a research question, but we asked them a specific question, and I provided you a quotation of what was in that packet that we mailed them, and essentially it says (Reading) In your expert evidence -- in your expert judgment, is there evidence between radiation exposure and the risk of developing CLL sufficient to continue to regard CLL as a non-radiogenic cancer and to continue to exclude it, a priori, from eligibility for compensation.

It's a fairly loaded question, but we wanted to get the question on the table and see -- see what we could elicit from these experts. So I'm just going to go through one by one -- and keep in mind when I'm talking, this is just a paraphrase, a snapshot, of what their -- their opinion was. The first -- and these are in alphabetical order so there's no significance to the order that I'm presenting these.

The first opinion was Dr. John Boice, who is the Scientific Director of the International Epidemiologic Institute and a professor of medicine at Vanderbilt University. And Dr. Boice's opinion was that the body of scientific evidence does indicate that CLL is not caused by exposure to ionizing radiation. That was a pretty definitive opinion from Dr. Boice.

If one -- the next opinion that we solicited was from Dr. Mark Crowther, who is associate professor of medicine at McMaster University, and he is board certified in hematology and internal medicine. In Dr. Crowther's opinion, CLL is clearly not different from other forms of cancer. And in his opinion available evidence is insufficient to rule out an

association.
Next opinion, from Dr. David Ozonoff, who is a physician, a professor of environmental health at Boston University, states that the argument for continued exclusions are weak and lacking foundation. And he does support including CLL as a radiogenic cancer and against continuing to exclude it. Actually he believes the practice to be an arbitrary exclusion.
And finally, the opinion -- or next opinion of Dr. David Richardson, who many of you may be familiar with. We've used Dr. Richardson in the past for other -- other issues, such as the lung cancer risk model that we're going to talk about in a little bit. Dr. Richardson's opinion is the available evidence does not provide sufficient grounds for continuing to regard CLL as non-radiogenic.
And finally, the fifth opinion, is from Dr. Lydia Zablotska, who's assistant professor of clinical epidemi-- did I go forward? I'm sorry -- is Dr. Zablotska's opinion. Her opinion is that from an epidemiologic perspective it is not possible to prove that there is no risk. It is only possible to say that we do not have

solid scientific evidence.
So that's sort of in the middle of the -- of the opinions.
So essentially what we have here is three of five outside experts recruited by OCAS argue against excluding CLL and one is sort of in the middle ground.
This is a preliminary report. While we've got these expert opinions in-house, we've got the HERB ongoing research activities. So right now we're still in a pre-decisional status on this. We have not made a determination, but I would say that we are in parallel processing. We're not pre-deciding whether it should or should not be covered. But one also needs to have a risk model to use, so we're in parallel trying to develop a risk model, and that would have to be in place if we were to decide that CLL was a covered cancer. And we'd be happy to report more fully when we've made a decision on this issue.
I think at that point I'll open up the question --
DR. ZIEMER: Okay, so before we go on to lymphomas then, discussion on the CLL issue --

again indicating it's essentially still open as far as the agency's concerned. Roy DeHart.

DR. DEHART: Jim, do you have any idea what the number is of -- of current claimants that would have chronic lymphocytic leukemia?

DR. NETON: No, those are not forwarded to us by the Department of Labor. They're excluded from -- from coming over to us, so I really don't know. I --

DR. DEHART: You don't even see them then.

DR. NETON: No, we don't -- we did early on. There was a -- they were coming over there erroneously. I mean they were passing us on and we sent some back, but you know, there were -- there were not a large number at that point. But I really couldn't speculate as to what the total number is.

DR. DEHART: Is someone maintaining a log of those claimants in case there is a reversal?

DR. NETON: I'm sure the Department of Labor would know which cases have been denied based on the fact that CLL is an uncovered condition. And if there were a reversal, we would -- we would be able to reconstruct that and notify claimants, I'm sure.

DR. MELIUS: Yeah, I --

DR. ZIEMER: Jim.

DR. MELIUS: Yeah. This -- this situation's a little bit different than some of the other issues we're considering 'cause CLL's excluded in the law, so it's not like a decision we can make and -- or recommendation that we can make and that it -- IREP gets changed. It would have to -- require a legislative change. However, having said that, I would urge you to -- I think to take the same approach that you did in the lung cancer case. I thought the documentation that you sent us for that was very -- was excellent. It was very useful to -- to have because it sort of laid out the options and what the implications were -- were of those options.

I think in this case that whatever decision or -- you know, you make or however you want to frame that, I think it would be useful to have the background saying well, what -- what really would be the implication, what would be involved in adding CLL to the IREP risk model and what does it really mean, because I -- the risk's going to be low. I mean that -- in --

no matter how you, you know, cut it and so, you know, what is the -- really the meaningfulness of that -- and it may not even be possible to add it, I mean in sort of a scientifically-defensible way given what's known. And then -- but I think laying that out and whether you want the Board to endorse that in some way or whatever is -- is fine, it's really up to you. This is a little different situation, as I said.

But secondly, I -- but I also urge you in doing -- if you do do that is then also talk about -- lay out what you are doing to address the issue in terms of, you know, research and so forth, to the extent that's appropriate, really since Congress has already asked you to give some prior-- priority to that issue. But I think having that kind of document available would really be helpful 'cause claimants with CLL are going to continue to, you know, be concerned and -- and I think we really do need something that's -- lays out what -- what is -- how much -- what would it really mean, what effect would it have even if you, you know, decide to include it in the IREP model, or is it even

possible to do so. And then -- you know, and it's -- you know, first or -- or lastly, you know, is it really justifiable to do so and -- I also think that for the credibility of the program, it's also important because there are strong differences of opinion sort of expressed there and sort of, you know, just an assumption that it's not related and therefore you shouldn't even consider it. Well, I think you can lay out a good sound document, I think it would be helpful.

DR. NETON: I definitely agree. The reason we're taking such a measured approach here is that this will require rule-making. It wouldn't be a -- it's not a legislative issue. It's in our rule. Liz maybe can speak -- speak to that.

DR. ZIEMER: Yeah, Liz, you want to address that? Is this legislative or rule --

MS. HOMOKI-TITUS: No, it's not in EEOICPA that CLL is excluded. It's actually in the dose reconstruction rule --

DR. MELIUS: The rule --

MS. HOMOKI-TITUS: -- so it wouldn't require a change by Congress. It would require a rule-

making by HHS.

DR. MELIUS: Oh, okay.

DR. NETON: And certainly going through rule-making we'll --

DR. MELIUS: Yes.

DR. NETON: -- this thing will be vetted very thoroughly before we make any changes.

DR. ZIEMER: But aside from that issue, if -- if you did go to rule-making, basically that allows consideration of it. But I think you kind of put your finger on the issue, that even so, the -- the risk value is going to be very slow -- very low. If it wasn't, you wouldn't have this issue to --

DR. NETON: Right.

DR. ZIEMER: -- start with. And the fact that in a sense the experts are split on this accentuates the fact that the risk is so low you can't really -- really ascertain whether it is there or not. So how would you go about actually establishing a risk number that could be used, for example, in IREP, if you took care of the a priori exclusion to start with?

MR. ELLIOTT: Well, that is the challenge for us right now, but -- and I appreciate the well-

made points from Dr. Melius on this. But I would add this for your consideration. There are other cancers that we included in our -- in the IREP, like prostate, that's not recognized as a radiogenic cancer. But yet we were able to come up with a risk model, albeit it's -- the risk coefficients are very, very low there, so I would just posit that, that -- you know, if we can do that, there must be some way we can come up with some sort of risk model for CLL, and that's the challenge that I've placed before the science team. So that's what we're working on.

DR. ZIEMER: So they're -- even as we speak, they're looking at -- are they looking at at this point --

DR. NETON: Yes.

DR. ZIEMER: -- as to how -- how to construct that risk model and --

DR. NETON: Right.

DR. ZIEMER: -- are we going to hear about that at this point or --

DR. NETON: No.

DR. ZIEMER: -- no. There's not --

DR. NETON: We're not -- we're not far enough

down the line on that.

DR. WADE: Are you willing, Jim, to talk about a time frame when the Board would likely hear as to whether you're successful? I assume if you can't develop a risk model, then the question's moot. But if you can, then the question's open.

DR. NETON: Right. I'm reluctant to give a time frame at this point. It is very preliminary. Chronic lymphocytic leukemia -- I feel like Stu, it would be very speculative on my part to -- to make a judgment there. CLL has characteristics of both leukemia and lymphoma, and the model is somehow going to have to address that. We are working with SENES/Oak Ridge, our friends over there, to help us in this endeavor. But I really couldn't speculate at this point.

DR. MELIUS: Yeah, but --

DR. ZIEMER: Another comment, Jim?

DR. MELIUS: I would just elaborate that -- not to say not to take those steps or not to look into what extent you can do it, but as compared to prostate and some of the other cancers, I mean there is a fair amount of scientific

scrutiny that more scientists (unintelligible) put to the CLL issue in terms of studies because other leukemias are so radiogenic and just this one stands out. And so it's -- I think it's a different type of -- of issue in some ways and I think you have to be sensitive to that and, again, to maintain sort of the scientific credibility of what you do. Again, I think laying out sort of the options and not -- not to not pursue what you're doing, but I think it has to be thought about, you know, where's the scientific basis for that and is it feasible to do and then, you know, what are the -- what would be the implications of -- of that.

DR. NETON: This would be -- a very good comment. I agree with that. This would be very precedent-setting. There -- to my knowledge, there's no other compensation program that considers CLL in a radiation compensation arena.

DR. ZIEMER: Other comments on CLL?

DR. WADE: Just before Jim goes on, one of the things that, you know, it would be good for the Board to speak to NIOSH on on science issue --

science issues in general is priority. So I think when we finish these, we -- we could have a discussion giving some sense of priority to NIOSH on these issues.

DR. NETON: Good point. I didn't bring with me the --

DR. ZIEMER: There is an existing priority list --

DR. NETON: Right.

DR. ZIEMER: -- on scientific issues. Of course that could change as we learn more.

DR. NETON: I'm sorry, I probably should have started off with that list, and I didn't. I apologize for that. That would have been instructive to do that.

DR. ZIEMER: Well, let's proceed then with lymphoma, Jim.

LYMPHOMA RISK MODEL

DR. NETON: Okay. Lymphoma is not -- was not really on the scientific issue radar screen. It's something that NIOSH self-identified in our continuing effort to use the best available science to do these dose reconstructions. And if I can get to the slide -- it has to do with the target organ selection. It has nothing to

do with the lymphoma risk model, it has to do with when one is presented with a case of lymphoma and a health physicist receives the packet, what is the relevant organ to reconstruct the dose for. I mean where -- where is that dose relevant. And it turns out that -- on the surface it seems like a very simple issue, and it has turned out, as most things in this program, to be much more complex than one could imagine. And I've learned more about lymphoma biology than I ever thought I would in going through this. And I give Brant Ulsh a lot of credit here. He is -- he has been the main driver behind researching this issue.

So like I said, we initiated a re-examination of the internal and external dosimetry target organs for lymphatic/hematopoietic cancers. What -- what we had done in the past was if we were presented with a lymphoma and it was -- there was a diagnosis that -- a biopsy was taken, we would use that site of biopsy as the organ in which the lymphoma occurred. It turns out that's good in some cases, it's bad in other cases, and let me just tell you the

story.
And our goal was to ensure target organ was correctly reflecting the best science. So we actually went out and obtained an expert opinion from a board-certified clinical hematologist on this, as well as an expert opinion from a dosimetrist who's on the ICRP committee, so we kind of have both issues covered, is this the right organ, and then are we doing the dosimetry right.
So it turns out that there's two types of lymphomas. There is one that we call -- we will call structural lymphoma, and that really is a lymphoma that involves the cells that make up the lymph nodes themselves. These are just structural lymphocyte cells that make up the lymph system that develop a cancer, and it turn out that the site of occurrence of those organs -- of those cancers is instructive as to when -- where the -- where the relevant radiation damage would have occurred. These types of lymphomas would be Hodgkin's Disease, reticular sarcoma and lymphosarcoma. So I have a listing here of the ICD-9 codes, international classification of disease, revision 9 codings

for these -- what we call structural lymphomas. And they're all the 200 series, and so when we have a diagnosis that said that this lymphoma was diagnosed in the abdomen or the pelvic area or the spleen, it gives us a clue as to where we should be dose -- organ we should be reconstructing.

So for instance, in the -- if it was diagnosed in the spleen, we would do an internal dose reconstruction for the spleen. This HNMO stands for highest non-metabolic organ, and what that means is we have no idea that this material concentrates anywhere in particular, so we will assign it the dose of the highest organ that doesn't concentrate this radioactive material. In some locations, like the axilla, this would be the thoracic lymph nodes that are very near the axilla; thoracic lymph nodes again; in the head the extra-thoracic lymph nodes. So we have -- it gives us a clue as to where we should be reconstructing the dose for these structural lymph nodes -- structural lymphomas.

In the external area it's the same thing. We know in general the location of the origin of

the damage, and so we will assign an external dose accordingly. It's a little confusing when you see here why one would use -- let's say, for instance, a stomach for the spleen, and this actually happens to be a point of confusion among many claimants. This has to do with the fact that when we convert a badge dose, a film badge dose to an organ dose, the ICRP models do not give us the dose for every -- the conversion factor for every single organ in the body, so we pick what we would call a surrogate organ that is the organ closest to that -- to that particular organ. So for instance, we would use the ICRP conversion factor from film badge dose to stomach to calculate the dose to the spleen. I hope I haven't confused everybody, but that -- that's been our practice and I -- and where -- where the organs don't match up perfectly, we try to pick one that would actually be a slight overestimate of the dose.

Okay, the picture gets a little murkier when you start talking about B and T cell lymphocytes. These are lymphomas that involve these actual circulating lymphocytes

themselves. These circulating lymphocytes can become malignant and settle in the lymphatic system, and essentially develop tumors themselves. What'll happen oftentimes, as we found out, is a physician will go take a biopsy in a -- in a lymph node that is most convenient. And when they take the biopsy sample, they will use that to diagnose lymphoma. That in no way is informative about where the lymphoma started. Since these same -- these lymphocytes are continually circulating, we really have no a priori knowledge as to where they were when the radiation damage occurred. This is most significant in the internal dose calculation, 'cause if you have no knowledge, then you -- you know, you -- you have to speculate as to where -- where the damage may have occurred. So what we've done is we said if we don't know and one has a lymphoma that is a -- a cancer of a -- that started with a cancer of a circulating lymphocyte and we know that the lymphocytes reside predominantly in the lymph system -- I mean they are in peripheral blood, but most of them are in the lymph system -- we

will pick the highest lymph node. Well, it turns out we -- most -- in most cases, inhalation exposure is the route of entry that gives you the highest dose. And when you do that, there are the thoracic lymph nodes that drain the lung region, and those are the lymph nodes that become most heavily irradiated. So we are proposing a new procedure that I have on my desk that I'm ready to sign any minute to re-evaluate all lymphomas and use the thoracic lymph node as the organ to be reconstructed for internal dose. This will make a huge difference. I think we have about 500 lymphomas that we've evaluated. As I indicated earlier, almost all those were done using the highest non-metabolic organ. The thoracic lymph nodes are a very small mass of tissue, maybe 30 grams of tissue, and they clear all of the radioactivity that's inhaled in the lungs. So the doses to these organs is -- is going to be pretty large, so the -- it's -- it's the first time I think that we're likely to change a -- change a dose reconstruction concept that will result in a large change in the number of compensable claims that have heretofore been

denied.
In the external region we'll pick the highest organ that is -- that -- the highest organ, whether it's the lung or the thymus. It has a difference between -- T cells and B cells stand for bone and thymus lymphocytes. The site of origin for those lymphocytes is relevant, so we'll just pick the -- whether it's the thymus or the lung. If it's a B cell -- let's see, if it's a T cell lymphocyte, we'll pick the thymus. If it's a bone lymphocyte we'll pick the lung. If it's indeterminate, we'll pick the thymus, which tends to give you the highest external dose.
These are pretty trivial corrections compared to what we're doing over here in the internal arena. These -- these doses are going to go up orders of magnitude. This -- this is likely to change by percentage points.
There's a couple of odds and ends that just didn't fit the model, and this is where the devil's in the details and Brant has done a lot of work in all these various ICD-9 codes.
There's a disease called mycosis fungoides -- I hope I'm pronouncing that right, for our

medical folks that are here -- and it's actually a -- involves the skin and it's a lymphocytic and -- cancer that's associated with the skin. So in this particular ICD-9 code we would use the skin dose from an internal dose calculation perspective, and use the external skin -- skin dose to the external -- the external dose to the skin, as well.

While we were looking through this we decided well, let's just take a look at leukemia and multiple myeloma and make sure we're on the right page with that, and -- and fortunately we were. And the external and internal dose is relevant. We calculated the bone marrow, which has been our practice all along, and so we're still comfortable with that. We're just going to proceed that way.

The final note here, hairy cell leukemia is listed as leukemia by nomenclature, but it is a lymphoma under the ICD-9 code, so that's another minor exception.

So I think with this analysis we've got the waterfront covered now on lymphomas. We're eager to go back and start re-reviewing these cases. It becomes a little more complicated,

again, than you'd think because many of these lymphomas were -- were evaluated under the efficiency process. So we've given some very large doses and demonstrated the PC is less than 50 percent. So now it will require us to go back to the drawing board and do a more detailed dose reconstruction to determine what -- what the relevant dose is. It may not be as bad as we think, though, because of the -- it doesn't take much inhalation dose to get those 30 grams of lymph tissue irradiated to a pretty large extent, particularly when you're dealing -- this is most relevant to alpha -- inhalation of alpha-emitting radionuclides.

Okay. And -- and as I suggested, we're currently re-examining our past lymphoma cases and we'll be sending notices to the Department of Labor as -- as we process them.

I've been a little long-winded on that, but I think I've got the message. Are there any questions?

DR. ZIEMER: Let's take some questions. Jim, do -- have you in the past and do you still distinguish between structural and B/T lymphomas? So is this only applied to the B/Ts

that --

DR. NETON: Yeah, it's the -- it's the circulating lymphomas. We've -- I think we've been -- and Brant, help me out here, I think we've been okay with the -- with the Hodgkin's lymphomas. We've been doing the right organ calculation for those. It's --

DR. ZIEMER: So the --

DR. NETON: -- (unintelligible) practice to use the site --

DR. ZIEMER: So the diagnoses do provide that level of distinction --

DR. NETON: Right.

DR. ZIEMER: -- in -- at the front end, so --

DR. NETON: Correct.

DR. ZIEMER: Okay. Okay, Wanda and Jim.

MS. MUNN: Actually Jim was first.

DR. ZIEMER: Jim and Wanda.

(Pause)

MS. MUNN: I think I missed something. What was -- what's the rationale for changing from the highest non-metabolic organ to the lung/thymus?

DR. NETON: Well, the highest non-metabolic organ was for the internal exposures.

MS. MUNN: Right.

DR. NETON: And we believe that the site of -- the site of diagnosis was relevant or the site of diagnosis was informative about where the lymphoma originated. And since the site of diagnosis was in the general lymph system, we just picked -- and the lymph system is not specifically modeled by the ICRP, we assigned it the dose -- the highest dose to what's typically called "other soft tissue" and just used that value in the calculation. Since -- since we believe that the site of diagnosis was not the thoracic lymph nodes. See, if we had a site of diagnosis that said that the lymphoma was diagnosed in the thoracic lymph nodes, we would have done that calculation.

MS. MUNN: Uh-huh.

DR. NETON: But typically what they do is they'll take a biopsy punch of the axillary lymph nodes or some -- someplace else and say here's where we found the lymphoma. So we -- we believe that to be the site of origin. So we did not know what the dose to those lymph nodes were, but we knew that ICRP modeled all soft tissue, so we would just pick the highest

other soft tissue that we could find to assign that dose. Am I -- am I --

MS. MUNN: That sounds reasonable to me, but what I think I hear you saying now is since the lymph system is so pervasive that you have no faith in which organ is the highest non-metabolic organ, and therefore you're going to choose the highest of all potential internal organs; i.e., the lung.

DR. NETON: No, it's a little bit different than that. What we're saying is that the -- the cancer of the circulating lymphocytes could have occurred -- the lymphocytes circulate throughout the body.

MS. MUNN: I understand.

DR. NETON: So the radiation damage to that lymphocyte could have occurred anywhere where it was circulating.

MS. MUNN: Uh-huh.

DR. NETON: Given that, we have no idea in what organ the lymphocyte was when the radiation damage happened. Given that, we will pick then the highest lymph node exposure and assume that that's where the damage occurred, which in -- in almost all cases will be the thoracic lymph

nodes.

MS. MUNN: Well, I can see that would certainly be claimant-friendly. My concern is always whether the claimant-friendly issue is overriding the known science. And what you're telling me is you -- the model that you're working from doesn't really give you that option. Right?

DR. NETON: Right, well, we --

MS. MUNN: Essentially.

DR. NETON: We looked at a few options. One was to take a weighted average of where the lymphocytes reside on a time-weighted basis. I mean we had -- believe it or not, the ICRP models get down to that level.

MS. MUNN: Uh-huh.

DR. NETON: But the values were so uncertain, and by the time we would put uncertainties about those, I thought it was much more defensible just to pick the highest (unintelligible) the highest lymph node value itself.

MS. MUNN: When the bars get out there so far, there's no point --

DR. NETON: That's exactly right.

MS. MUNN: -- in dealing with it, yeah.
MR. ELLIOTT: I'd like to provide maybe a point of clarification that answers your question, if I could, from a simple lay person's interpretation here. What we're saying is that the -- the organ of diagnosis does not lead to -- to understanding of the organ of origin.
MS. MUNN: I understand that.
MR. ELLIOTT: Okay? And so we're picking what we think is the highest organ of origin to use in reconstructing the dose against that.
DR. ZIEMER: Since you can't otherwise (unintelligible) --
MR. ELLIOTT: Since we can't otherwise, right.
MS. MUNN: Yeah.
DR. NETON: That's exactly right.
DR. ZIEMER: Jim.
DR. MELIUS: Yeah, that's a good point. I have one caution and then a procedural question. The caution would be that the nomenclature and classification for lymphomas have changed over time, as well as the way that they are diagnosed -- the diagnostic information. And you may have difficulty with older cases in particular converting them to this scheme.

They -- they -- in terms of the available information and -- and the way that they're -- they're classified in the medical records. And you're going to have to give some thought to that. I -- I'm trying -- I'm trying to think in my mind, going back through the older classification systems for lymphoma, how it -- whether -- to what extent it will impact. But I think it will because I think some of the systemic lymphomas that you're referring to here are going to be classified anatomically in some of the older nomenclatures. And that's what you're -- you're going to see. And some of the newer methods now to determine that they are a certain systemic lymphoma just weren't -- the tests just weren't available 20 years ago or even, some of them, ten years ago. So I -- Roy may have some additional comments on that. My -- I don't think it's insurmountable, but there will be some uncertainty on that. Procedurally, I'm a little concerned that we're making a -- you are, you know, offering up a very significant change, it's going to have significant impact, in terms of your dose reconstruction methods. And that we're being

asked to approve that based on a small number of slides -- presentation, without a document to refer to. And I would even question -- and this goes back since -- to our beginnings as a advisory board -- as to whether this shouldn't be federal -- noticed in the *Federal Register*. I recall, and I don't recall specifically, but we had talked about a -- that significant changes would be noticed and public would have an opportunity to -- to comment on them. I'm personally in favor -- by doing it. I think it is justified, but I am -- even I can say I'm not quite sure what I'm approving of because I don't -- you haven't even written out the classi-- all the classifications here and -- and looked at some of these issues, so I'd like some comment on the procedural issues.

DR. NETON: Well, I'd like to address your first comment, which is that the uncertainty about classification of lymphomas. We -- I'm aware -- I've become aware of that, and it's certainly a big issue. However, that -- the responsibility for that codification lies with the Department of Labor. We take whatever ICD-9 code is delivered and we'll use it. I'm not

saying that makes it better, I'm just saying that we need to make sure that the Department of Labor is very aware of this and --

DR. MELIUS: Yeah, and I -- I think they may need some documentation that helps them do this, and I think you should have -- you have some responsibility getting that to them, parti-- particularly to these older cases, which a lot of these will be, from survivors and -- it's been significant change. I can't, from the top of my head, sort of -- I don't think it'll affect a lot of cases, but I think it -- there'll be a significant number that will be impacted -- there'll be some uncertainty about and how to fit them into the classification. I believe there are even regional differences, particularly before cancer registries became common, that you'll find in older medical records in terms of when -- like hematologists or whoever -- physicians were trained and where they were trained in terms of what -- what some of these tumors are called.

DR. ZIEMER: Roy, can you speak to that point? Roy DeHart, you want to speak to the point

there?

DR. DEHART: Jim, I was really surprised that you're getting significant anatomical location. In reviewing medical documentation over recent years where lymphoma was the issue, the 200 or the 202, usually the codings that I see are .00 -- in other words, non-specific. And to find that we have them pretty well distributed body-wise is a surprise, particularly when you've got states that do not have cancer registries, where they really don't hassle the doctors to be very, very precise in their coding. Do you recall whether the majority of these lymphomas are in fact anatomically specified?

DR. NETON: I don't know that, and I'm sorry if I meant -- I didn't mean to imply that we had that level of knowledge. If we do know, you know, beyond .00, we would apply it. But maybe Russ Henshaw is -- is slightly more familiar with what's been coded and he can help me out here. Russ, please?

MR. HENSHAW: Yes, Russ Henshaw. I don't -- I don't know the exact percentage, Dr. Melius, but some time ago we asked the Department of Labor to go back through all the lymphoma cases

and assign the fifth digits whenever possible. And they actually spent several days doing that for the coding, and so we have a fairly large percentage of cases with that degree of information. I don't know the percentage.

DR. MELIUS: I would be -- I'd be very cautious on this. I don't know what information the Department of Labor had, but this is not an easy task to do, particularly for these older -- older cases, and -- I mean I've reviewed records also on -- series of lymphomas ranging over a time period, and sometimes it -- it's -- you have to go pretty deep into the medical records to -- to be able to understand what's happening.

DR. ZIEMER: Russ, are these cases that might originally have been specified as double-zeroes and you've asked them to go back and --

MR. HENSHAW: Either --

DR. ZIEMER: -- differentiate and --

MR. HENSHAW: Yes, either double-zero or simply no digits beyond the first three.

DR. ZIEMER: In which case the physician involved wouldn't have made the differentiation; it's someone else that has

looked at the --

MR. HENSHAW: Well, typically what -- the process that was followed was to review all the medical records, and in some cases that's several hundred pages per claim. And first look at the pathology report and see if the information can be derived from that or just really all the pages of medical information. But -- but again, the digit assigned was the site of the biopsy, not necessarily the site of origin, the site of radiation injury.

DR. NETON: We tend to have a lot of medical records on these folks. I mean a couple of hundred pages, like Russ said, is not unusual. And Labor has gone back and we've spent, as you can tell, a lot of time looking through, trying to refine this. But I totally understand what you're saying --

DR. MELIUS: Yeah, again, I'm not criticizing exactly what was done 'cause I don't know the detail, but I'm just saying it's not an easy task. And I'm sure if you have some cases from the '50's or something, I'd be surprised how much level of detail would be available. It's an issue we've talked about in terms of missing

records. But the way it was diagnosed in those days was very different.

DR. ZIEMER: But I'm confused then, if they are simply using that -- for example, if the -- if it's spleen, for example, do they still -- are they able to distinguish whether it's a 200 or a 202?

DR. NETON: That's the crux of the issue. Really the site of diagnosis is not that important because we will default to -- well, for the circulating ones it's not important because we're going to always assume the thoracic lymph nodes, but for the non-Hodgkin's -- or for the Hodgkin's type lymphomas, that's going to be important and --

DR. ZIEMER: Well, let me back up and ask it in a different way, maybe ask Roy, when you said they tended to use the double-zero or, you know, just generally unspecified, do they still distinguish between the 200 and 202 classification or...

DR. DEHART: Normally they would, yes.

DR. ZIEMER: They would. So we -- if it's a 202, then it doesn't matter.

MR. HENSHAW: Right, I just (unintelligible) in

many cases also the information is conflicting in these records, or just simply absent, so many of the claims are coded as diffuse, which is, you know, not helpful for this situation.

DR. NETON: And we would certainly adopt a conservative default value in that case.

DR. ZIEMER: What is -- what -- is NIOSH asking for action at this point, or are you just reporting?

DR. NETON: Well, that's -- that speaks to Dr. Melius's second point, which I was going to address. I'm not sure this requires rule-making. I think -- I think, Dr. Melius, you're -- you're thinking about changes to the risk models, which is where, you know, rule-making may -- may be necessary. This is really a just -- not just, but it is a change to a dose reconstruction practice of selecting a target organ.

DR. MELIUS: I'm not talking about rule-making here. I'm talking about opportunity for public comment, public notification --

DR. NETON: Right.

DR. MELIUS: -- and, you know, presentation. That --

DR. NETON: Right.

DR. MELIUS: -- I believe we had another option, short of rule-making, when we originally approved the regulations and we were concerned that the -- they were so general, and given the time frame and so forth, the need to get the program going, we -- I think we all agreed to that. But as things needed to be filled in, that if they would have a significant effect either in the -- dealing with the IREP model or in terms of the dose reconstruction, that we would provide some sort of public -- time for public comment, as well as -- you know, in the notification for that. Now my memory could be faulty. It's a number of years ago, but it's come up periodically and we have -- have discussed it here, and -- and --

DR. ZIEMER: I know we've had the discussion on the IREP model itself. What we're hearing here, though, is the IREP doesn't change. It's just the -- you're using a different target organ.

DR. NETON: Right.

MR. ELLIOTT: Well, we have to go back to our

rule-making effort in the early days and -- and this goes to Dr. Melius's point. In that rule-making, we -- and I asked Liz to check on this -- what it says about -- my recollection in the language is we are to bring substantive changes to the Board for review and advice. Is this a substantive change. You know, I guess I -- you need to weigh in on that. We think it's a substantive change. We think it's a change in the right direction. We think it gives benefit of doubt and it just feels right, it's doing the right thing. Certainly if -- if you need more information about this, we're -- we're ready to do that. I'd hate to see us hold off on, you know, treating 500 claims, and a majority of those that have been denied, where they may be found to be compensable under this approach. So -- but appreciate your input.

DR. MELIUS: Yeah, it's not just a question of what we need to see or whatever. We can talk about that separately. But -- but as I recall, there -- there was an agreement to notice the public if, you know, substantial changes were being -- going to be made, if something would have a substantial effect on a num-- number of

claims, and so that then it would be on the agenda for the next meeting and there'd be an opportunity to talk about -- that was short of rule-making, but I think we need to look back at both what was in the rule and in the Board's discussions of the rule at that point in time and -- again, I'm not trying to -- I just think we need to stick by what we said we would originally do and -- and be consistent on that and not an issue whether it's a good change or a bad change or positive or negative that we -- we really need to follow that.

MR. ELLIOTT: And I agree, we do want to follow that, but -- and this is what the lawyers back in the office are checking on right now --

DR. MELIUS: Okay.

MR. ELLIOTT: -- what does the language of the rule speak to. The POC rule, I'm pretty sure, specifies that substantive changes in the POC rule are to be brought before this -- this Board. I don't -- we're trying to figure out if this -- this is a dose reconstruction methodology, and if that is couched a similar and same way.

I would also offer that we did not agree -- or

I don't think we covered in our agreement that we would put out a *Federal Register* notice. This could serve as public notice that we are interested in moving in this direction, but we welcome your input again.

DR. MELIUS: Yeah, let's -- let's check and we can --

DR. ZIEMER: Anything that's outside of the rule-making issues, which are certainly binding, and irrespective of what this Board may or may not have done in the past, we can do as we wish on -- we can take action today that is even contrary to something we decided to do before, if we so wish. In other words, we can outline a procedure that we think should be followed in this case in terms of public notice and so on. I think those -- that prerogative is open to us, because we are not necessarily bound forever by any actions of the past. We may not have anticipated exactly this kind of thing in the past, or we had something else in mind. But it seems to me we still are not prevented from taking whatever action is appropriate.

DR. MELIUS: Well, I would strongly disagree

with that, Paul. I think we -- we have made a commitment -- if we did, and I'm not saying, you know, we did. But if we did make a commitment that if we were going to make substantial changes in dose reconstruction procedures or some other part of this program and told people that we would publicly notify them and so forth, then I think we do need to -- to follow that. Now if we want to change that procedure and -- to what extent it was in the rule-making and to what extent it was a commitment that NIOSH made in terms of the meeting, we -- I have no problems with discussing that, but I -- I don't think we should just arbitrarily decide that we're going to change our approach or procedures because of some such issue --

DR. ZIEMER: Well, actually we don't disagree. I was looking at it from completely the opposite point of view. It doesn't matter whether -- if we didn't do that in the past, we can still do it.

DR. MELIUS: Okay.

DR. ZIEMER: I was actually looking at it completely the opposite way --

DR. WADE: All right, let me --
DR. ZIEMER: -- not dependent on whether we made a policy in the past on this.
DR. MELIUS: Okay.
DR. WADE: Given the sentiment of the Board, let me propose that we follow this course of action. We can have a rules check and see what the record shows, but I get the sense of this Board that they would like more information on this question, and they would like to see the public noticed of the fact that at the next meeting this item would be discussed. So I think we can follow that path. We can see what the lawyers produce in terms of what the record shows, but other than Larry's caution about wanting to do the right thing quickly, I see nothing wrong with providing this Board with the report that you said was on your desk, for example, Jim. You've got those materials. Provide them to the Board. When we put out the agenda for the next meeting, make it clear that this item's going to be discussed asking for the Board's concurrence, and let the public comment at that meeting if they would like.
DR. ZIEMER: And -- and indeed, we could also

identify previous commitments that we have --
DR. WADE: Sure.
DR. ZIEMER: -- made along --
DR. MELIUS: Yeah.
DR. ZIEMER: -- that line. That's certainly appropriate.
Mark?
MR. GRIFFON: Just to -- just to follow on with what Lew said, the -- I was thinking the same thing. The procedure on your desk -- I don't know if it's a procedure or policy, and I don't know to what exten-- if you can describe that, maybe, if it has --
DR. NETON: This is a --
MR. GRIFFON: -- enough background to help us -- or is it just a --
DR. NETON: It's a procedure that really changes the target organ selection based on our input from our hematologist.
MR. GRIFFON: Does it include any of the basis for the change, or that's really extern--
DR. NETON: I think there is some basis in there about the discussions that took place, but --
MR. GRIFFON: So that might be a -- a --

DR. NETON: -- again, I mean this is not a giant rocket science sort of an issue. I mean if you don't know the target organ, then one has to default to something more conservative, and that's about the extent of the scientific debate, I think.

MR. GRIFFON: Yeah.

DR. NETON: I mean there may be other opinions. Now maybe our one hematologist is not going to be sufficient evidence, I don't know. But --

DR. MELIUS: But I -- I think there's some issues in the -- excuse me for interrupting, but in the details of it that -- about the classification and -- or maybe those can be dealt with on an individual basis, but I do get concerned that -- I mean I would certainly like to see the procedure and understand a little bit more about how it's communicated to the Department of Labor so that we --

DR. NETON: Sure.

DR. MELIUS: -- don't cause problems.

DR. NETON: Again, classification is out of our hands. I mean we -- we have to assume we're getting the appropriate classification from them and they -- you know, that's their issue.

I'm a little concerned, though, because you know, with SC&A's reviews we're making -- we're in the process of -- there's numerous potential changes that could be made and tweaks to dose reconstruction. And if all these have to go through public process, it's going to be --

DR. MELIUS: No, that --

DR. NETON: -- somewhat cumbersome.

DR. MELIUS: -- that was not the intent. This had to do with basic procedures and so forth, not individual dose reconstructions or site pro-- profile reviews.

DR. NETON: Well, no, then there's other issues related to rotations and --

DR. MELIUS: Well, then --

DR. ZIEMER: There's a concern about -- aside from this particular situation, about setting a precedent on how we actually deal with changes of this type, and --

DR. MELIUS: And again, may-- maybe we have to revisit the procedure or our procedure so that we facilitate this. I'm not trying to hold it up, but I do think we need to be, you know, sort of consistent with what we had decided at an earlier point in time.

DR. NETON: Okay.

DR. MELIUS: I also add that I think some of this is the -- some of the reaction is because -- we haven't talked about it yet, but what -- what an excellent job I thought you did with the lung cancer model. That document I thought, when you presented it to us, was excellent and very useful. And I guess when -- then when we don't see it on something else, then we're -- you know, it sort of raises expectations.

DR. NETON: Appreciate that.

DR. ZIEMER: Okay, let's go ahead and -- we don't have to take a particular action right at this point. Let's go ahead with the rest of the presentation, so after lymphoma we're up to age at exposure.

AGE AT TIME OF EXPOSURE

DR. NETON: All right. This one is really just for information only, and we're not asking for any decision on the Board, although we certainly would appreciate any input that the Board might have -- we'll start with that -- on...

This issue was I believe a number two priority

on the Board's list of priority issues -- it was in the second tier of priorities, let's put it that way. It was not a first-tier priority. And this has been an issue for some time, that it's been in the literature that some researchers have suggested that the radiosensitivity to cancer increases with age. There -- there are studies out there that one can quote and cite that -- that demonstrate that there's some statistical effect relative to how old one is in the risk of developing cancer.

We took a look at this and went back and reviewed the relevant major studies that we're aware of that we could find that demonstrated this effect, and just -- just to see where the science is falling on this issue at this particular time. Again, I suggest it's a priority research issue, but it was in the second -- priority.

So what I have here really is sort of a summary of the papers that have been published relative to this, and there are a number of papers and I've cited here on this slide the Hanford study, Wing and Richardson, Gilbert et al,

Stewart and Kneale, the ORNL cohort and the Rocketdyne cohorts. Each of those studies have in some way made -- come to some conclusion that there may be an effect related to age at exposure. That is, older people when they're exposed have a higher risk of developing cancer per unit dose than -- than younger.

They -- they all -- the stan-- this is not a standard analysis method, though, of how one does this. They all -- one can group these age bands differently and come to different conclusions, and that's one of the issues I think here is how one standardizes on this analysis. I think one of the studies actually, you know, picked a before-45 and after-45; one grouped them by decades, that sort of thing. So you can get different conclusions.

So those studies have reported associations, and then on the bottom here we have studies for the Rocky Flats, Atomic Energy of Canada, the United Kingdom Atomic Energy Administration or Agency, and the UK Atomic Weapons Establishment and Sellafield. None of those studies, when they looked for this age of -- at -- issue have identified such an association. So again, you

have conflicting -- conflicting science on this issue.

NIOSH -- HERB, that is, the Health-related Energy Research Branch -- had engaged in some research on this issue in collaboration with Oak Ridge Associated Universities in the past. And they looked at this effect in the ORNL -- the Oak Ridge National Laboratory cohort. And the conclusion of this analysis was that the observed trends may have been due to other factors than age at exposure. This is an issue of confounding within this -- this analysis, and that is these birth-cohort effects. That is, how you group these things from age at exposure, you end up with people who were born in different times. So then you may have confounding due to the fact that these people may have had different smoking habits, medical screening may have been applied differently in that time period. So there's -- there's other plausible issues that come into play here that tend to bring into question the robustness of this analysis.

Richardson and Ashmore just recently looked at this effect in Canadian workers, and their

conclusion was that there was an increase in radiosensitivity with age for lung and leukemia -- lung cancer and leukemia, but not for others. But again, you know, a more detailed analysis determined that this could have been the differences in smoking behavior over time. So again, not -- not conclusive. There's no conclusive determination made here.

An interesting note here is, you know, NIOSH-IREP actually has an age-at-exposure adjustment, and that is -- it's sort of the opposite of what we're talking about here. For most cancers the radiosensitivity decreased with age in the atomic bomb survivors, and that -- those corrections or adjustments are applied to a number of -- almost all of our cancer models with the exception of female genitalia, lung cancer and -- and leukemias and squamous cell carcinoma. So you know, right now we're doing something a little different than what -- if you hear age at exposure, this is different than the age at exposure that I was just talking about.

So you know, just a brief summary on an arm's length view of this issue and -- and I

certainly have more experts here to help me, who can discuss this issue and flesh out the scientific details, but -- but the balance of the evidence right now is not conclusive as to whether or not, you know, we should engage in applying, you know, unilaterally an age-at-exposure adjustment for occupational cohorts. There's certainly evidence out there. More research needs to be done, and we're going to continue to accrue these studies as they come out and -- and, you know, analyze them, keep our ear to the ground as to what the Health-related Energy Research Branch may be doing and see what happens in the future. Right now we're not -- we're not proposing to make any change based on that -- that effect.

DR. ZIEMER: Okay. Now let's open the floor for discussion on the age of -- age at exposure issue. Any questions or comments -- Dr. Melius.

DR. MELIUS: Yeah, would anybody -- Jim or you or any of the other staff here -- be aware of what other studies are currently underway that are likely to be completed shortly in terms of addressing this issue? And also I'd be curious

-- I don't recall what the current -- current BEIR report, most recent one, to what extent it tried to address this issue and what their conclusions were.

DR. NETON: Right, I'm familiar with what -- the BEIR report had a very brief -- several sentences, and maybe Brant can speak to this; he's more familiar with the literature than I am.

DR. ULSH: The first part of your question about what major studies are underway right now, I think the biggest one on the horizon is probably the IARC 15-country study. Preliminary results of that study have been published, but we're still waiting for detailed results to come out and I think that's underway.

DR. MELIUS: Okay.

DR. ULSH: With regard to BEIR VII, it really didn't have a lot to say about this. As Jim indicated, there were a few paragraphs and basically they summarized what we said here in the slides, that some cohorts have some evidence of it and others have not, but they really didn't delve into it in much more detail

than that.

DR. MELIUS: Okay. Thank you, Brant.

DR. ZIEMER: Okay. Other comments or questions on that?

Okay, if not, let's proceed then, Jim.

DR. NETON: I think (unintelligible) more smoothly when we're not making major changes to models.

DR. ZIEMER: Counsel has an issue.

DR. WADE: There goes smooth.

MS. HOMOKI-TITUS: No, I think this'll actually help smooth the last issue. 82.33, which is part of the dose reconstruction rule, how will NIOSH inform the public of changes to the scientific elements underlying the dose reconstruction process. NIOSH will publish a notice in the *Federal Register* informing the public of changes and the rationale for the changes. This notice will also provide a summary of the recommendations of comments received from the Advisory Board and the public, as well as responses to the comments. So therefore, we need to receive y'all's information before we put a *Federal Register* notice out.

DR. NETON: I guess, Liz, I'm not --
MS. HOMOKI-TITUS: Obviously, however you all decide to do that, whether it's hey, we need more information --
DR. ZIEMER: And Liz, I don't know if you can help us on this, but I suppose one of the issues -- Jim kind of said, you know, we're -- we're always massaging the -- the things, it's -- it's, again, this threshold issue of at what point does a change become significant. Do we have any test of that internally, or is it the Board's judgment on these things? I mean this one looks significant insofar as it may cause re-examination and changes in a number of -- of what are now closed cases. Is that the test of significance, or -- I -- I'm -- that's sort of --
MS. HOMOKI-TITUS: I think I would have to --
DR. ZIEMER: -- that's sort of a rhetorical question.
MS. HOMOKI-TITUS: I was going to say, I don't think that we have a standard (unintelligible) --
DR. ZIEMER: Don't have --
MS. HOMOKI-TITUS: -- that.

DR. ZIEMER: -- a standard, it's a judgment call I think, perhaps both on the part of the agency -- in a sense, you've said it's significant because you brought it to us to -- to look at. That's sort of -- implies that you think it's -- has some level of significance.

DR. WADE: You know, I think there'd be two tests. One you just mentioned. If NI-- if the agency brings something to you and says it's significant, then I think we -- we live under this provision. The agency will also be making you aware of all the things that it's doing, and I think at any point the Board can say I consider that significant and would like to follow the procedures that Liz just read to us.

DR. ZIEMER: This could include changes that come about that we become aware of as part of the interaction with the contractor, for example. If something they do causes NIOSH to change a process or a methodology, one might identify that. Dr. Melius?

DR. MELIUS: Yeah, and I think if one would want to go back through the transcripts of all our previous meetings, I -- this actually -- issue has come up before and where we I think

have actually had discussions and decided that the proposed changes really weren't that significant and -- do that, and -- I mean the threshold is fairly -- I think this one does -- is significant, does meet that, you know, sort of arbitrary threshold we -- we've talked about. But we have discussed this before and have decided that it wasn't warranted so...

DR. ZIEMER: Okay, and it does appear that the rule itself is a governing thing over and above anything we might have done in our Board then, in terms of this notification process.

DR. WADE: Could I also ask the agency a question there? Given the fact that now we have significance defined in this term, do you bring this issue to the Board as a significant issue?

DR. NETON: I -- I think I -- I certainly (unintelligible) call this a significant issue, I could not. But I think -- my take on this is this is a fundamental change to dose reconstruction, I don't know. It's a target selection. It's a lower-tier procedure that's being modified, not an implementation guide or an ICRP model. But it is significant, I will

grant you.

MR. ELLIOTT: Is the word "significant" or "substantial"? We don't know, but I would say it's a substantial change.

DR. WADE: So you're bringing it to the Board --

MR. ELLIOTT: Yes.

DR. WADE: Well, the Board has every right to say in order for us to comment, we need certain information and we can proceed down that --

DR. MELIUS: Yeah, and -- I mean I would also say, 'cause it -- something has to be commu-- Department of Labor has to -- I won't say endorse this, but implement this and -- in change and so forth, and -- and since it will -- it does involve the recalculation of a number of completed dose reconstructions, I really think it's better to do it as -- a little bit more formally than we would do, you know, other -- deal with other issues.

DR. NETON: No problem doing that.

DR. WADE: Let's also all pause to realize that we're doing the right thing. There is general agreement about it. We just want to make sure we do it the right way, so --

DR. ZIEMER: Mr. Presley I think has a comment, too.

MR. PRESLEY: Jim, I believe you said this could impact as many as 500 cases?

DR. NETON: That's correct.

MR. PRESLEY: I believe that's a pretty significant number.

DR. NETON: Well, I agree.

DR. ZIEMER: Mark.

MR. GRIFFON: I just wanted to go back one second for the age at exposure, just -- just to follow up on that. I mean the last slide you said evidence does not suggest modifying the NIOSH-IREP model. I guess -- I guess my only concern is the time frame on this because it seems the current model, as -- as you indicated, decreases the ER per sievert over time and some of these studies at least suggest an increase and yet, you know, you wonder if -- if the models should be made to say must at least be neutral over -- for age at exposure. And I guess you're saying there's just not enough evidence yet. I'm just wondering, you know -- 'cause that could significantly change models and results on the IREP outputs, and I

don't know if there's any kind of time frame expectation on resolving this.

DR. MELIUS: Well, that -- can I jump in -- 'cause that was my really sort of my question I was trying to get at and -- and maybe to specify this a little bit more for your question, Mark, is to ask NIOSH to come back to us once this IARC analysis is done 'cause that's the sort of next big thing coming -- at least to inform us of -- of where that stands and then I think we can decide do we need to do a formal -- you know, more complete evaluation of this, given the conclusions of BEIR VII and then given the -- you know, what we -- what we see is coming. I think we -- I'm satisfied with waiting. I would like to know when that IARC report comes out and then when we can decide for --

DR. ZIEMER: Did we -- did we hear that was on the street in a draft form or --

DR. MELIUS: No, the early report of the -- I don't think they've done this kind of analysis yet, at least I'm -- I haven't heard of it. Now people more informed than I may have.

DR. ZIEMER: Okay, the good, the bad and the

ugly. Which one's the good and which one's the bad?

DR. MELIUS: Who's Clint Eastwood today?

MR. HENSHAW: I just want to make one clarification on the age at exposure issue. Dr. Melius, you raised this issue. In IREP a list of cancer decreases from ages 15 to 30, but then it remains constant from age 30 on, so it's not -- you know, after age 30 this would not be (unintelligible) with the current adjustments.

DR. MELIUS: Okay.

DR. NETON: Thanks, Russ.

DR. ZIEMER: Do we have some SENES input on this or is that --

DR. NETON: I think that was the input.

DR. ZIEMER: All right.

DR. MELIUS: Can we go back to -- we're all over the place here -- can we just sort of get some closure on what we're doing with the lymphomas?

DR. ZIEMER: Actually I want to get the closure -- this topic's going to continue after lunch. We have some more to cover --

DR. MELIUS: Oh, okay.

DR. ZIEMER: -- and then we can sort of wrap up the whole thing.

DR. MELIUS: Okay, fine.

DR. ZIEMER: I think we'll go ahead -- it's -- it's 12:00, let's get our lunch break --

DR. WADE: Could I impose upon --

DR. ZIEMER: -- and continue after lunch.

DR. WADE: I'd like to impose upon my friend Jim -- Jim, would it be possible after lunch when we do the wrap-up for you to put up the list of priorities that the Board had had before? Can we get our hands on that and let's --

DR. NETON: I think I can.

DR. WADE: If we could just have that as background.

DR. ZIEMER: Okay, we'll recess till 1:30.

(Whereupon, a recess was taken from 12:00 p.m. to 1:30 p.m.)

SMOKING RISK ADJUSTMENT

DR. ZIEMER: Okay, we're ready to resume our deliberations. We're still on the topic of scientific issues, and I think we're ready to discuss the lung model aspect here, Jim, so let's proceed with that and then we'll have a

chance to discuss related things. And we also I think have the priority list that was requested prior to lunch so we'll have a chance to look at that.

DR. NETON: Thank you, Dr. Ziemer. You should have a copy of our document labeled status of research topics as of June 2005. It's a summary of the Board's priority one and two issues that were identified by the Board. There may be some confusion, there is another longer, three-page -- two or three-page list that Dr. Melius I believe put together, so -- but I think this (unintelligible) reflects --

DR. MELIUS: Yeah, that -- actually this does reflect that. I think we had a discussion and agreement of the Board that -- so from that longer list we culled it down to this shorter list.

DR. ZIEMER: The longer list was everything that we wanted to have before us, from which we selected the priority ones and twos.

DR. MELIUS: Correct, yeah.

DR. ZIEMER: So these are the important ones.

DR. NETON: These are the ones that ended up being, you know, listed --

DR. MELIUS: And I also believe you convinced us to add some priorities of yours to our list so that it worked out.

DR. NETON: Yeah, in fact target organ for lymphoma claims is there right on the bottom, isn't it?

DR. ZIEMER: And also CLL.

DR. NETON: Right, so it's a little bit of a medley, but I think this does accurately reflect the current issues. And if we're going to have a discussion about those, we could use that as a sounding board.

Okay, I want to move on with the final topic, which is the NIOSH-IREP lung cancer model. And in this case we're asking for advice from the Board, and as Dr. Melius pointed out -- input from the Board. As Dr. Melius pointed out, a fairly lengthy package was sent to the Board outlining all of the relevant documents that were reviewed and used in coming to this decision.

I'll get right to the chase on this one, and the first bullet says this, that NIOSH proposes to modify the NIOSH-IREP lung cancer risk model. There are -- right now there are two

competing models out -- not competing, two distinct models. One that's owned by the National Cancer Institute, they developed it -- was developed by the National Cancer Institute and that is NIOSH-IREP. We are proposing, and I'll get into the details why we believe this -- we're proposing to do lung cancer probability of causation calculations through a program, NIOSH-IREP, to run both our model and the National Cancer Institute's NIH-IREP model, and select the higher PC of the two runs and that we would use that to determine claim outcome. The decision is based on this NCI revision that's out there, and I'll talk a little bit about that, and solicitation from expert opinions -- and I'd like to acknowledge the fine assistance we had in reviewing this with our friends at the SENES/Oak Ridge, Owen Hoffman, John Trabalka and Iulian Apostoaei. I'm never sure if I quite pronounce that right, but I think that's a close approximation.

I left my notes on my chair, so if you'll bear with me one second...

(Pause)

Okay. If we think back to the original Board

meetings that we had, NIOSH was required to come up with risk models for all cancers, and we worked very closely with the National Cancer Institute and have adopted much of what they put together in NIH-IREP, which was created to help adjudicate claims for radiogenic cancers in the Veterans Administration program that's administered by Defense Threat Reduction Agency.

Initially when we adopted the NCI model, they were identical. We had no differences between the two. But in late 2003 the National Cancer Institute modified their risk model based on a re-analysis of the Hiroshima/Nagasaki survivor data. There was a study put out by Pierce et al in *Radiation Research* in 2003 that included four years of additional follow-up of the Japanese cohort. So there was more data and there was also -- they incorporated a new interpretation between smoking and exposure to low level radiation. This new interpretation of smoking and low level radiation puts more weight on the additive interaction between smoking and cancer than in the multiplicative interaction. That is, both models acknowledge

that the interaction could be additive or multiplicative. But the new NCI interpretation using the Pierce data gave some more weight to the additive interaction. That is, these two agents acting independently, the synergism between the two is not as great as had previous been thought.

So because of that, we end up with a different model out there that, you know, produces different PC results, given the same inputs. So you know, we're uncomfortable with that. These are both calculating the same type of parameters. So we undertook an analysis of this model to see (a), could we use it in toto. Was it just appropriate to adopt wholeheartedly into our program, or should we not adopt it because there are differences in our cohorts from the veterans; or should we do some combination of the two.

Another factor that I forgot to mention is the new NIH model does factor in dependence upon age at exposure in the risk calculation, and it's -- it's similar to the other -- the other models we talked about. The risk -- risk changes up to about 30 years of age and then

it's a constant risk. So the dependency stops -- the dependency correction stops at around age 30.

Okay, let me make sure I got all my points in here.

Okay. We began evaluating this in -- in 2004 we were looking at it. And during this evaluation the NCI actually changed their model again twice. They felt there was a need to change a couple of things. One was they recognized that the transfer factor that was used to go between the Hiroshima/Nagasaki survivors and the U.S. population was not applied in accordance with the actual document that they produced. It was a -- I wouldn't necessarily call it an error, but it was not consistent with what they thought was happening. The other factor had to do with -- I forget -- it was alpha particle-- weights given to alpha particles. So we had this issue of a -- of a changing model in the middle of when we were trying to evaluate whether the original NIOSH -- NCI change was appropriate. We did go out and to evaluate this model we had SENES do an analysis to see what -- what the

major differences were compared to the NIOSH-IREP model and the NIH model. And the differences, we found out, could be significant. For instance, the NIH -- the NIOSH-IREP model would produce a -- these are generalities, nothing is -- nothing is cast in stone because there's so many parameters that are changing. But the NIOSH-IREP model would produce a greater probability of causation in general for non-smokers, whereas the NIH-IREP model would produce a greater probability of causation for smokers. And also the NIH-IREP model would have a greater probability of causation for females exposed at younger ages. There's other effects that are more difficult to generalize, but a lot of that has to do with this age at exposure adjustment that was added. So with that knowledge we went and solicited some expert opinions in late 2004 and received these comments in 2005. The outside experts are shown on this slide. They were each asked to independently evaluate the model -- in the context, again, of an OCAS compensation decision. Our goal was to recruit nationally-recognized experts with as diverse a background

as possible, given that this is a fairly narrow -- narrow-focused field. So here we have the list of folks -- David Brenner, for those of you who have been around the risk analysis epidemiology business in radiation have, I'm sure, heard of Dr. Brenner at Columbia University; Faith Davis from the University of Illinois at Chicago; again, David Richardson, who we also used for the age at exposure -- the CLL, I'm sorry, I have been talking too much this week -- the CLL analysis; and Jonathan Samet at Johns Hopkins University.

But we posed the same question to each of them, and that was: In your expert scientific judgment, should NIOSH adopt the NIH-IREP lung cancer risk model for exposures other than radon?

That's an important point; if you recall, we have a separate lung cancer/radon model, and this is not being called into question at all at this time.

And if so, should the model be adopted intact or should we do something different? Should we modify it or should it be programmed to run both models?

So we left a wide-open issue here. We didn't -- we didn't try to prejudge anybody to one side or the other. And we asked them to provide their rationale.

Much like the chronic lymphocytic leukemia issue, we received a number of comments and I'm going to just mention these alphabetically again, and again paraphrase very succinctly here what we believe to be the main message we received from each of the reviewers.

Brenner suggested that we do a mixed model where we capture risk estimates from alternative distributions. Since he -- he didn't say run them both, he just said use a mixed model imbedded in the program, which effectively ends up being the same thing. He further went on to say that the overall weight of the evidence suggests an interaction between smoking and radiation is intermediate between these additive and multiplicative.

It's actually not really the same thing. This would be our own hybrid distribution of effects.

Okay. Davis suggested that we adopt the NIH-IREP model as the sole model, and primarily

because there was a new study that -- you know, for the reasons I mentioned; there's four more years of follow-up, there's age-specific effects; it seemed to her to be well-reasoned biologically and statistically and, you know, we're supposed to use the best available science, so -- so why not. She firmly believed that overall it was a substantial improvement over our -- our current model.

Okay. David Richardson suggested that we program both models and used the higher probability of causation. And again, it was the current science provides an inadequate basis for determining which model is more appropriate.

And Samet suggested that we, again, program both models and use the higher probability of causation. And he actually went on to say use of the NIH model alone would be a mistake, and he had some rationale for that about the possibly flawed understanding of the smoking adjustment profiles that were used, and specification may be inadequate.

So we sort of received a mixed bag on this issue of comments, but -- but at the end of the

day not a single reviewer said just stay with NIOSH-IREP. I mean they all suggested one -- one side or the other, which led us to be-- led us to this position that we've been in a number of instances, particularly in the dose reconstruction business, where if you have a couple of equally plausible scientific explanations for something, and you can't pick one or the other and the science is not informative to allow you to do that, then we would pick the one that was more claimant favorable. And in this case, neither one was clearly claimant favorable over the other in all cases. So we have made a decision that we would just run both and use them that way. This would in no way reduce any PCs for any claims that have been processed thus far. We are proposing that we would go back and re-evaluate lung cancers that have been -- been denied thus far with this new model, and then use it for future cases as they come available. The effect of this on our program we expect to be pretty small. If you recall our conversation yesterday, a large percentage of the lung cancers are already over 50 percent by

nature of our dose reconstruction efficiency process for inhalation of actinide elements. So the ones that have been denied, you know, we'll look at. And it certainly could change some, but it's nowhere near going to be the dramatic effect that we have seen with maybe the lymphoma -- the lymphoma change.

So I think -- I think that's a brief synopsis of where we are with this, and I'm ready to entertain any questions.

DR. ZIEMER: Okay, this is open for discussion.

DR. MELIUS: Yeah, I have some --

DR. ZIEMER: Jim.

DR. MELIUS: -- questions and -- and points. I would just go a little bit further than you did in sort of describing what your experts said, 'cause I thought what was especially important wasn't just, you know, counting up the votes, so to speak. There were good reason not to use the NCI model, and -- and it's the fact that smoking patterns are different in Japan and they took up heavy smoking later than we did in the United States, so it's just hard to judge since there's really a single time of exposure there to -- it just does -- isn't provide an

adequate basis, so I think it give you, you know, sound justification for not just adopting their -- their model by itself and do that, even though it has some advantages over -- so to speak, over the -- the NIOSH model. So -- so I thought that was good.

I have two questions. One is, I missed the -- what the September 2005 update was of the NCI IREP. I didn't see that referenced in there. I might have missed it 'cause I wasn't looking for it, but it just --

DR. NETON: Russ, can you help me out with that?

DR. MELIUS: I mean especially since your -- all your analysis preceded that. That's --

DR. NETON: That's a good point.

DR. MELIUS: Yeah.

MR. HENSHAW: Yes, the September 2005 --

DR. NETON: It's off, Russ; I think you --

MR. HENSHAW: -- (unintelligible) NIH-IREP was --

THE COURT REPORTER: Russ --

MR. HENSHAW: -- (unintelligible) correction --

DR. ZIEMER: Turn your mike on, Russ.

MR. HENSHAW: Thanks. The September 2005

change was a modification of the computer code to make the -- to make NIH-IREP consistent with the documentation published in fall of 2003. It affected the -- the change affected the -- the transport function from the Japanese population to the U.S.

DR. MELIUS: Okay.

DR. ZIEMER: I think that was the discrepancy that --

DR. NETON: Right.

DR. ZIEMER: -- Jim referred to where the -- the program didn't follow what their actual --

DR. NETON: Right.

DR. ZIEMER: -- process said it was supposed to be doing.

DR. MELIUS: Right, and I just didn't see a reference to the Sep-- I was trying to make understood that was what the September 2005 change was. That was the -- the content of it was referenced, not the date -- at least I missed it.

My second question was that Brenner recommended a -- sort of a hybrid model. I don't know if that's the term he used. But he had actually made a very specific recommendation on how that

should be accomplished, and I think there was a -- you have a rationale for not adopting that, though it has some (unintelligible) advantages. You know, you just have to run two models and it's sort of -- you know, gives this a unified approach and so forth. I -- you know, I'm not sure we want to be in a position of adopting multiple model runs for every type of cancer and just pick out what's best. Not that I disagree with what you're recommending, but -- but if someone could sort of explain the rationale for not adopting his approach, I think that's -- I think it was in some of the comments where the -- I think it was in actually the -- the SENES review, but I want to make sure I understood it and (unintelligible) --

DR. NETON: I'm going to ask Russ to help me out again with that. I think I could explain it, but it would be better than -- than getting corrected.

DR. ZIEMER: And also as you comment on that, does his approach always give kind of an intermediate value, or is that -- I got the idea that it -- being a mixed model, it -- it

would end up somewhere between what you would get with the other two individual ones.

MR. HENSHAW: I think that's probably a fair characterization, but we asked SENES to evaluate the effect of Dr. Brenner's proposal. It actually turns out at the 99th percentile it was not that terribly different from what -- from some mixture of the NIH model and what we're actually proposing here.

I might add that we received an e-mail from Dr. Brenner after making this decision, and he stated that he thinks we've made is extremely sensible.

But the reason I think -- the rationale for not going with Dr. Brenner's suggestion would be that we're already -- we're already two years past the adoption of the NIH lung model. If we created a brand new hybrid model or mixed model, we would then need to vet that and obtain peer review on the model. We had no real consensus on -- on this proposal. Our -- our feeling was that if we went down that road it would be another year to two years and we'd be back essentially to where we started, back to square one. We felt it wouldn't be fair to

claimants to just basically postpone this whole process another couple of years.

DR. MELIUS: Yeah, but one could equally well argue that you could adopt the approach you're suggesting as an interim approach, and then, you know, adopt his suggestion -- you know, given that it takes two years to implement. I'm not -- at least as I read some of this documentation, I wasn't convinced that -- that his suggestion was necessarily the -- was feasible and appropriate to do, and I was just trying to make sure that was also other people's understanding, I wasn't reading too much in it, 'cause he had sort of -- he had different recommendations at sort of different points in time and I --

DR. NETON: You raise a very good point, Dr. Melius. I was concerned when we first looked at this that -- and -- and I was -- actually thought that the Brenner suggestion made a lot of sense to me. And for the reasons that Russ mentioned, he convincingly portrayed that, you know, that doesn't make sense from a time perspective. But then again, as you mentioned earlier, going with two models every time we

run up against a change is -- is a precedent sort of setting thing, and I didn't want to necessarily go there. But I think -- we've at least convinced ourselves that, what you suggested, is this is maybe an interim, and when the science is more informative and we can figure it out and make a better determination, we would be prepared then to go with one -- one universal model.

DR. MELIUS: Okay.

DR. NETON: So that's -- that's sort of what -- how we ended up there.

DR. ZIEMER: Is the dual model approach -- will that cause you to have to review a number of closed cases --

DR. NETON: That's --

DR. ZIEMER: -- and give us some idea of what the impact there is going to be.

DR. NETON: Well, as I -- as I mentioned, it would -- many of the lung cancers are already compensable so we wouldn't have to look at those. So for the ones that are less than 50 percent, we'll go back and look at every single one. The number shouldn't be that large. Russ, do you have a feel again? I don't -- I

don't know that we -- we don't feel it's a major effect and we don't feel that it is necessarily going to be a wholesale reversal in lung cancer compensation cases.

MR. HENSHAW: But bear in mind that we have a large number of lung claims, and the majority have been compensated. But that still leaves somewhere around 500 lung cancer claims that were not compensated, give or take 25 to 50.

DR. ZIEMER: Okay, that order of magnitude.

DR. NETON: But the magnitude of the change is nowhere near what we were discussing with the lymphoma model. These are -- we've labeled them as significant changes, but they are -- they're percentage changes, you know. I think it's hard to predict exactly, but it's not an order of magnitude.

DR. ZIEMER: Gen -- Gen Roessler.

DR. ROESSLER: I agree with Dr. Brenner in his most recent conclusion that this is a sensible way to go. For one thing, we don't have to discuss whether it's claimant friendly or not. I think this is kind of an obvious thing to do. It's claimant friendly and it ought to be looked into.

What I think we should expect, though, is down the road -- maybe six months or a year -- is a report back on what transpired using both models, going back in time, and then for any of the cases that -- that have come up up to that point, just out of scientific interest, if nothing else.

DR. NETON: We'd be very happy to do that and maybe report if we still stand with this model, if the science is any better or not at that time.

DR. ZIEMER: Rich.

MR. ESPINOSA: When running the two models together for a smoker, about what's -- what's the difference on the percentage and in running it for a non-smoker what's the difference on the percentage?

DR. NETON: I hate to keep going to Russ here, but he's -- he's really the expert. It's -- it's percentage points. Again, I don't think it's --

MR. HENSHAW: Richard, it's really -- I don't know that I can characterize that simply. It can range from a few percentage points to 20 plus percentage points, depending upon the

exact claim scenario.

DR. NETON: There's so many variables in these models that it -- you know, it's not easy to, a priori, come up and bracket what the magnitude of the change is, which is in fact one of the reasons that we've proposed both.

DR. ZIEMER: Jim, another comment?

DR. MELIUS: Yeah, can I ask what NCI's reaction was to this...

DR. NETON: I think they -- they are supportive of what we're doing. I don't think there's any (unintelligible) --

DR. MELIUS: Yeah, it seems to me there's also implications -- that there are deficiencies in their approach. I mean I think that's --

DR. NETON: Yeah, we -- we --

DR. MELIUS: -- documented. I mean I'm sure, you know, you can argue which one's best, but it sort of depends who you are from the claimant's point of view. But also scientifically it's hard to -- to (unintelligible).

DR. NETON: We've informed NCI where we're at and what we're doing with this, and we've received no negative feedback.

DR. ZIEMER: Okay. Other comments?

(No responses)

SCIENCE ISSUES (CONTINUATION)

Okay. Then perhaps we can talk about the broader issues of both the -- well, you have the list before you --

DR. MELIUS: Yeah, and actually I'd like to --

DR. ZIEMER: -- of the priorities and related -- yes?

DR. MELIUS: Before we drop this -- I mean I'd like to actually make a motion that the Board supports NIOSH adoption of this new approach. I think -- with the proviso that Gen mentioned earlier, that this issue be reviewed again in a year. Based on whether there's new science or other events, they may want to -- NIOSH may want to consider sort of a -- (unintelligible) we call it a unitarian approach to -- to this issue.

DR. ZIEMER: Yeah, that's actually -- the approach is how do we deal with each of these, so we'll start at that end, that's fine, the Chair will recognize that motion, and if there's a second --

MR. ESPINOSA: Second.

DR. ZIEMER: -- and seconded. Now -- so the motion -- and that motion deals specifically with the lung model.

DR. MELIUS: Lung model, yeah.

DR. ZIEMER: And let me ask for discussion on that motion. If there is none, we'll -- did you have a comment, Rich, or not?

MR. ESPINOSA: No.

DR. ZIEMER: Okay. Then let's proceed to vote on that motion. Do we -- everybody understand what the motion is? Can anyone help the Chair remember what it is?

DR. MELIUS: Yeah, the Board supports NIOSH's proposal to adopt this dual -- dual model approach to evaluating lung cancer cases, with the proviso that in approximately one year's time they sort of review what any new literature and sort of reconsider whether a unitarian model approach may be more appropriate.

DR. ZIEMER: Okay.

MS. MUNN: Is that a capital U?

DR. MELIUS: That's unitarian with a small u, not a large U.

DR. ZIEMER: Yeah, we're going to have a

Presbyterian approach on...

Okay, all in favor of the motion, say aye?

(Affirmative responses)

Any opposed?

(No responses)

Any abstentions?

(No responses)

And for the record, Dr. Anderson is not here. Let's -- now I'm going to ask that we return and ask if there's any actions the Board wishes to take on the CLL portion of the report. That was the chronic lymphocytic leukemia.

(Pause)

Roy.

DR. DEHART: Yes, we have discussed in part the possibility of getting additional information, and if so, would that be available in December when we have a phone conference?

DR. NETON: Additional information on chronic lymphocytic leukemia?

DR. DEHART: On the -- on the proposal there.

DR. NETON: Yes. Yeah, we can certainly update you on the status of where we are with it at that point --

DR. ZIEMER: Yeah, and --

DR. NETON: -- and if we've made any additional progress.

DR. ZIEMER: -- keep in mind on this one NIOSH is not recommending any change at this time, so we're looking for just update or --

DR. NETON: If we've made any progress on the risk model, I think that's what you're referring to.

DR. DEHART: Yes, that's correct.

DR. ZIEMER: Are you making a specific motion or just -- is this just a general --

DR. DEHART: I was just clarifying information that we could get that information.

DR. ZIEMER: No action is otherwise required. Okay.

Then on age at -- age at exposure.

DR. NETON: Skip the lymphoma issue, possibly?

DR. ZIEMER: I'm sorry. I didn't intend to do that, but lymphoma.

DR. MELIUS: Yeah, on lymphoma can I -- I just want to understand -- I don't know what counsel or anybody's had -- change -- has the rules changed, first of all. I'm taking that meaning it hasn't. We didn't -- so my question would be sort of a logistical question, sort of how

to -- what's the best way of accomplishing this without, you know, unduly holding this up and so forth. And I think the consensus of the Board is we'd like to see a little bit more information. I think -- I think we could accomplish that with -- at the phone call meeting in November and -- and that would then fit, and then a Board action and then a *Federal Register* notice, is that the -- this question's for Larry or for Liz, is that the --

DR. ZIEMER: I believe -- and Liz, you may want to help us again on this. I believe the *Federal Register* notice was to include something relating to Board's recommendation. Was that --

DR. MELIUS: Yeah.

DR. ZIEMER: -- this, so we --

DR. MELIUS: We need --

DR. ZIEMER: -- need formal --

MR. ELLIOTT: We need Board input on a -- on any substantive change of this sort (unintelligible) --

DR. ZIEMER: Does that input appear in the notice itself or -- that was really the question I have.

DR. MELIUS: Yeah.

MS. HOMOKI-TITUS: For the Federal -- the *Federal Register* notice will include any comments that the Board makes, but you're not under a legal requirement to make comments if you don't want to.

DR. ZIEMER: Yes, okay.

DR. WADE: So the way this will happen, we'll put out an agenda for the meeting. We'll mention in that agenda we're going to discuss it. We'll come to that phone call and make a presentation to you. You'll react. We'll capture your comments, and then issue a *Federal Register* notice of the change and your comments.

DR. NETON: I might add, though, prior to that meeting we'll provide the Board with some more documentation --

DR. MELIUS: Yeah, now --

DR. NETON: -- (unintelligible) to this issue.

DR. MELIUS: -- what I think the documentation should include would be your new procedure. I think --

DR. NETON: We can do that and we'll --

DR. MELIUS: And some -- some of the background

-- to the extent that background's not covered on lymphomas and sort of the science behind this, I think to the extent you could attach some of that, either a review article or whatever background documentation you have. I don't think it needs to be, you know, an extensive report, but something that would be -- be helpful for us to understand that would be useful.

DR. NETON: That won't be a problem.

DR. ZIEMER: And let me ask, any of the other Board members have particular items you feel should be included in that report? I think to some extent we'll leave it to your judgment as to what that contains, but at least some background material so that we have a basis for making informed comments for the *Federal Register*. I -- I assume that the Board will at least want to have something on record in that -- in that *Federal Register* report.

I don't -- since the procedure in the *Federal Register* is defined and we have conveyed the information desired, I don't think a formal motion is required here unless someone believes that you'd like to formalize it in some way.

But I believe we understand how to proceed here, so without objection, we'll proceed on that basis.

Then age at exposure --

DR. MELIUS: Yeah, I...

DR. ZIEMER: Jim, do you have a comment there?

DR. MELIUS: Yeah, I think we had discussed briefly that -- again, the issue was for NIOSH to come back to us and -- particularly when the large IARC study has been analyzed and -- as to whether that sheds any further light on -- on this -- on the age at exposure issue and where there may be other -- other science at -- at the time and I think then make a decision if appropriate after that point in time on what way to go forward. But I think we generally agree that we need more science here.

DR. ZIEMER: Well, and keep in mind now that NIOSH is not recommending a change in this particular thing at this time. They have committed themselves to continue to monitor the research literature and keep us informed. So with that background and the comments you made, we --

DR. MELIUS: Yeah, yeah, and the action may be

very well as sort of more formal evaluation of this in relationship to the IARC -- and to -- excuse me, to the IREP model.

DR. NETON: It's been a long day.

DR. MELIUS: Whatever those are, one of those I-Rs.

DR. ZIEMER: Now in -- so thank you, Jim, on that. Why don't you stay put for just another moment. I'd like to make sure on the -- I have too many pieces of paper here, but on the list of priorities -- thank you, to the rescue -- on the risk -- or on the list of priorities to make sure that we have, number one, still retained the same priorities, or changed them; and are there other items that should be on this list now, as time has passed since the list was first generated.

Gen Roessler, Jim Melius.

DR. ROESSLER: I think it's referred to on this list, but under DDREF it mentions the imminent release of BEIR VII, and I'm wondering how that will impact on this particular topic and whether there are any other topics identified. I haven't read BEIR VII, maybe nobody else here has really read the whole thing, either, but --

DR. ZIEMER: Well --
DR. ROESSLER: -- I'm wondering if there's anything that --
DR. ZIEMER: -- Owen claims to have read BEIR VII, and -- and since he's here from SENES and they're one of the key players here -- but please don't summarize BEIR VII for us, Owen.
DR. HOFFMAN: Well, I think the question has to do with the low dose, low dose rate effectiveness factor --
DR. ZIEMER: Yeah, this is the dose rate effectiveness factor.
DR. HOFFMAN: -- and at the time that issue was discussed here, BEIR VII was not yet out.
DR. ZIEMER: Correct.
DR. HOFFMAN: It has since come out, and what you'll be interested to know is that what's in BEIR VII effectively is not much different than what's in IREP. The biggest difference is that they've chosen a continuous distribution to represent uncertainty, and that distribution conforms to a lognormal distribution instead of it being discrete -- a discrete distribution where weights are given at different points. The center of the distribution is at 1.5. They

did an evaluation just based on Japanese survivors' data at very low doses and came up with a geometric standard deviation at about 1.24, but in committee said this intuitively is too tight of a distribution and inflated that to the equivalent of a geometric standard deviation of 1.35. And so when you look at a 95 percent credibility interval on the DDREF itself, it's not markedly different from what's in IREP at present time.

Now just to give you some insights, we have been tasked by NIOSH to look into the whole question of DDREF, and we're not ready to report to you on our results, but just to give you some preliminary insights as we still think there are some open questions having to do not so much with low dose acute exposure, but the whole question of chronic long-term exposures and whether or not the distribution adopted by BEIR VII is wide enough to account for our -- the uncertainty in our state of knowledge.

DR. ZIEMER: You're puzzled as to whether that answered your question or not, so --

DR. ROESSLER: I think what you are saying, at this time there is nothing from BEIR VII that

suggests that there's anything inconsistent with IREP.

DR. ZIEMER: There's no (unintelligible) --

DR. HOFFMAN: No, no -- no, in terms of BEIR VII there is nothing that stands out. What stands out to us, there is some inconsistencies with the general literature.

DR. ZIEMER: Thank you. Jim.

DR. MELIUS: Just to follow up on that, maybe what's appropriate and -- is when you finish your report and there's sort of closure on it within NIOSH, maybe we could have a presentation, discussion of this issue then and sort of cover everything at that point in time. The other issue that I'd like to raise that's on there that's sort of listed as there's no action is the -- the issue of the interaction with chemical and other exposures in these facilities, which is something that, if I remember the law -- it's been a while -- it's sort of that NIOSH is tasked with evaluating in some way if -- at some point is -- you know, should worker populations be treated differently because of the worker populations and other issues. And I believe we discussed

this probably two years ago, may have been -- maybe longer, and at the time decided there just wasn't enough information to be able to adjust the IREP model to take that into account. I would think it's worth it at some point to sort of reopen that discussion, just to get updated. You know, what's new, what's -- what's changed with that. And I think particularly because the Subtitle E program really raises that question again. Department of Labor's going to be going through and evaluating sort of mixed exposures -- radiation, chemical, asbestos, and so forth. And I think as we heard in the public comment period, it's -- and it's going to bring that more to the forefront in terms of people thinking about this program. And again, I'm not sure the science is ready to change the way we approach things, but -- but I think we do need to revisit the issue and at least get updated on -- on where we are 'cause I think it's still -- it still should be open at some point as to whether we -- we couldn't have a better approach that would take into account the other exposures at these facilities, at

least to the extent it interacts with the radiation exposure.

DR. ZIEMER: Is there someone in NIOSH that's currently tracking the literature on this? I -- frankly, this is a vast, vast topic, I mean when you think of all the possible interacting agents and toxic agents that could be considered. Is anybody focusing on any particular subsets within the whole realm of toxic chemicals? And who's tracking the literature on this?

DR. NETON: Thank you, Larry.

MR. ELLIOTT: Well, I would love to say that --

DR. ZIEMER: I mean it's a --

MR. ELLIOTT: It is a vast --

DR. ZIEMER: Mind-boggling.

MR. ELLIOTT: -- vast, complex subject area, and I would like to say that somebody is tracking it with regard to radiation and effects associated with other exposures and radiation. We have a NORA committee on mixed exposures. They are probably the sole entity monitoring research and progress on determining synergistic, additive, multiplicative effects, interactions and these kind of things. But I

don't believe that they've included a specific focus on radiation and other chemicals in those interactions.

DR. ZIEMER: Are they -- are they looking at that as one of the things, though? Do they -- do they look at it at all, do you know?

MR. ELLIOTT: I don't -- I'll have to check into that, and it merits some follow-up, to see if -- if they have an interest in that and if they're following it. If not, I can express the concern that we want them to and see where that'll take us. There may be individual researchers, of course, at NIOSH who have, you know, a special interest in this and are doing what they can, but they're working at -- in their own vacuum in that regard and they need to seek those out, as well, so --

DR. MELIUS: Who did the presentation two years ago? I -- 'cause we did have a presentation on this and decided -- I thought it was somebody from HERB that updated us as part of --

DR. NETON: I think that might have been Mary Schubauer-Berrigan, if I'm not mistaken -- who's in the audience right now, actually.

DR. ZIEMER: Was it?

DR. MELIUS: (Unintelligible) that, and again, I don't want to say that we're ready to make changes or underestimate sort of the complexity of this. But at the same time, I think it is something that's going to be a recurrent issue among the claimants and I'd much rather have us take an -- affirmative steps to say -- at least stay on top of this issue. I really think Congress has charged you to -- to be at least, you know, monitoring what's going on. And again, it's not something that has to be at the next meeting, but at some point in the -- you know, next year or two, we need to be, you know, just updated on where this is. And if you -- the update is there's no new literature, nothing that's really helpful, then fine. At least we've -- we've said we've -- we've looked at it to that --

DR. ZIEMER: I think it's a good suggestion, and let's make it -- two years is a little far out, I think, on the horizon. I'd like to suggest that we try to get this on the agenda this year, if we can -- simply a status report. It may be that there's someone else in the agency, maybe the NORA group has someone who

can at least give us a status report, if only to say nobody's funding such research. I'm also wondering if -- if there is any funding in either NIH or DOE, 'cause it's really these interactive or synergistic effects that often are synergistic, actually, and would be at least useful to identify what's going on in -- in that field.

DR. MELIUS: Just I would be happy to have Mary welcomed back or -- she did a good job last time.

DR. ZIEMER: That would be fine. However, if the agency has someone who's actively working on that --

DR. MELIUS: I understand, I'm not -- that was just...

DR. ZIEMER: We'll have both. We'll have a synergistic presentation.

Yes, Roy?

DR. DEHART: As I recall, in the last several years there have been a number of publications coming out of Scandinavia and Europe regarding solvents and radiation exposure. One specific one is benzene.

DR. ZIEMER: Yes.

DR. DEHART: So I know there's some current stuff out there.

DR. ZIEMER: And actually -- and I don't want to prolong this discussion -- but to move into that realm, it's going to have to be one step at a time. It's going to have to be something like radiation and benzene. And once you -- I think. And once you get experience with that, you can say okay, now it's radiation and benzene and you name some pesticide or whatever it may be and start to develop that. But this -- this has been a longstanding issue that is very difficult to come to grips with 'cause it's not easily analyzed epidemiologically, nor in the laboratory.

Okay, further items now on the priority list. Any additions or modifications? And that interaction is on the priority list and we will make sure we get it on the agenda, as well. Thank you, Jim.

(Pause)

BOARD WORKING TIME, DR. PAUL ZIEMER, CHAIR

We have a number of items now that are sort of a Board working session. We're going to talk about future agendas and items, and maybe even

locations. We're also -- have maybe -- maybe one item can precede this pretty rapidly, but I want to point out to the Board that although we have desi-- or are recommending designating Linde Ceramics as a Special Exposure Cohort, our contractor also is, as we speak, in the process of reviewing the site profile for Linde Ceramics. And John Mauro has asked for some guidance from the Board as to how they proceed. In other words, does designating the early group as part of this Special Exposure Cohort affect how they review the site profile.

Let me add to that, it would seem to me that for the early years where there still is a possibility for reconstructing external doses because there is monitoring data, and since there is the possibility that one could have skin cancer claims made in the -- outside the exposure cohort, that reviewing the site profile for the full scan of years may still be important, that we shouldn't necessarily exclude the early years simply because there's a Special Exposure Cohort.

I'd like to get some feedback from the Board as -- so that we can give guidance to the

contractor on that issue. Jim?

DR. MELIUS: Yeah, another parameter that would be of use, 'cause I don't think we can predict whether we'll have another SEC petition relevant to other years, but this latest action may increase it -- that chances, but it -- it's hard to say. But -- but it would also be helpful to know where NIOSH is in terms of addressing -- obtaining the documentation, to what extent it's available, for later years and being able to have a comprehensive -- I don't know what the right term is -- site profile there, because -- you know, the question would be, as I looked at the site profile when we -- when I got the Linde evaluation, saw there was nothing there to review for -- for -- very little for '47 -- there wasn't much there in general. I mean it's a pretty sparse document, and I'd hate to have our contractor spend a lot of time rushing to get that done when there's really not much to review. And even if we got an SEC request there, we would end up having to spend --

DR. ZIEMER: Yeah.

DR. MELIUS: -- you know, going back to it in

some way. I mean -- and some of the inefficiencies we've had are the fact that in addressing SEC petitions we end up then expanding or updating a site profile and it turns out our review wasn't really, you know --

DR. ZIEMER: Wasn't needed.

DR. MELIUS: -- it goes -- isn't complete enough to address all the issues that have then come up, and I think it does tend to prolong the process, so it's -- I mean I think what we've been doing is appropriate in terms of action. So I guess my question be is -- you know, are there plans to fill in that more or is that -- are we -- all we have with Linde is what we've got now and that's it. So to the extent you can answer that in 30 seconds or...

DR. NETON: I think that what we have right now is our best shot. It's unlikely to change substantially.

DR. MELIUS: Okay. Thanks.

DR. ZIEMER: Okay. And which means that what SC&A would review is what's there, which is sort of a minimal amount, but nonetheless, it is on their list. It's not -- it's -- they have some other priorities, but it is in the

list. And I think you've actually gotten underway. It's -- or at least somebody's started to review it, from what I understood from John.

MR. FITZGERALD: Yeah, we -- we have started reading and going through -- again, it's just -- not too far, but just beginning to get into it. But certainly the same thought crosses our mind as far as the material to review. It might not be certainly as much on that particular one.

DR. ZIEMER: Okay.

DR. NETON: I'd just like to add, I think in a case like Linde it's not exactly -- sort of like Bethlehem Steel. But where you have a paucity of data, we have constructed models to fill in the blanks, so to speak, and those are technical issues. You know, we certainly would welcome review comment by SC&A, you know, just because of the fact that we don't have a lot of -- of volumes of data, so it would be relevant I think to get some feedback on those approaches.

DR. ZIEMER: Now no particular action is required unless this Board wishes SC&A to

somehow modify what they are doing. Is -- I just simply wanted to make you aware that they have raised the question, does the action that we took affect them in terms of their review of Linde. Wanda?

MS. MUNN: No.

DR. ZIEMER: Okay.

DR. WADE: Could you be more specific?

DR. ZIEMER: Okay. Any other comments?

DR. MELIUS: Don't equivocate.

DR. ZIEMER: Okay. Thank you very much. We are going to talk about scheduling things, and then there are a couple of Board members who have some -- a variety of motions to make on dealing with a variety of issues, one having to do with -- there's been some consideration as to what we might do to define the parameters for quality of data for dose reconstructions, and perhaps a workgroup along that line, and we'll entertain a motion dealing with that. Also, some desire to make a formal response to the New York delegation, since they have written us some letters that were put on the record, and to reply to those, as well. But -- so we have several items there in addition to

the future meetings, future activities and so on.

DR. WADE: And the last item on the agenda, we'll just have a bit of a discussion of conflict of interest and get your sense -- the Board's sense as to the things they would like us and the Office of General Counsel to consider in any future analysis or review.

FUTURE MEETINGS

But let me try and tackle the topic of scheduling, and I'm going to do it in three pieces.

DR. ZIEMER: And everybody should have a copy of Lew's proposed schedule, I think.

DR. WADE: First I'm going to ask you to try and hold some dates for Board meetings. Then I would like to look at a proposed sort of future-looking agenda for Board activities. And then I'd like to take you back to some things you've been binning as potential topics for workgroups.

So first the dates, and let me be very prescriptive, if I might, and then you can stop me, shout me silent, when it's appropriate. Right now we have a Board call scheduled for

November 28th. I would like you to mark on your calendars for a potential Board call on January 9th.

DR. ZIEMER: As well.

DR. WADE: As well. Again, I'm just trying to build some potential into the system for issues that might come up.

DR. ZIEMER: Do we have a time on the 28th Board call?

DR. WADE: Well, I think in deference to our friends on the west coast, I would say --

DR. MELIUS: 7:00 a.m.

DR. WADE: -- 7:00 a.m. west coast time, which would be --

MR. ESPINOSA: 7:00 a.m. west coast time.

DR. ZIEMER: 10:00.

DR. WADE: -- 10:00 a.m. on the 28th, 10:00 a.m. on the 9th. The 28th I think is a go. The 9th remains to be seen, but I'd like to get it on your calendar.

We have a Board meeting scheduled for the 24th, 25th and 26th. I'd like to come back and revisit that in a moment.

I would like you to hold March 14th at 10:00 a.m. for a Board call. And then I would like

you to hold April 25th, 26th and 27th for a Board face-to-face meeting.

MS. MUNN: April.

DR. ZIEMER: Give us the March date again.

DR. WADE: March 14th. And these are all open dates on all of your calendars.

MS. MUNN: The March 14th was...

DR. WADE: A call.

MS. MUNN: A call.

DR. WADE: And again, we might not need it. But I'm guessing -- the way we're doing business, I think there'd likely be a Board call between each face-to-face meeting to sort through some of these issues.

MR. GRIFFON: And the April date for...

DR. WADE: The April dates are the 25th, 26th and 27th.

DR. DEHART: And December again for the phone call?

DR. WADE: The phone call is November 28th.

DR. DEHART: Oh, I thought there was a phone call in December.

DR. WADE: December's phone call is November 28th.

DR. ZIEMER: It was -- it was changed --

DR. WADE: We changed it yesterday.
DR. ZIEMER: It was on the 1st.
DR. DEHART: Okay.
DR. ZIEMER: It was originally on the 1st.
DR. WADE: We changed it to accommodate some schedules, so now I think everyone can participate in those dates.
Okay, deep breath --
DR. MELIUS: April date's 25th --
DR. WADE: 25th, 26th and 27th, full Board meeting, likely Colorado.
DR. MELIUS: I'd better to play the lottery, it just fit my calendar perfectly.
DR. WADE: I understand. Now let me go to the knotty issue of -- we have long scheduled a face-to-face Board meeting for January 24th, 25th and 26th. It has come to my attention that that is a conflict for some people, given the Health Physics Society meeting. There is an open period with one small exception. If we were to go to January 30th, 31st and February 1st, that's open on everyone's calendar except Paul's on the 1st. I wonder, Paul, if there's any flexibility in that?
DR. ZIEMER: Yes, I can -- I can skip my other

meeting.

DR. ROESSLER: I might be the only one with the conflict with the health physics meeting, and if that's the case it's not a problem because I think I can send a representative to the health physics meeting and be here. I don't want to throw everybody off, because that date has been there and I've thought about it and thought that that would work for me.

MR. ESPINOSA: Where is your meeting at, Gen?

DR. ROESSLER: Scottsdale. You want to switch?

DR. WADE: Paul, are you -- Paul, would you prefer to keep the dates originally or to switch one week?

DR. MELIUS: Let's switch our location.

MR. ESPINOSA: (Off microphone) Let's switch our location, yeah. Let's piggyback on Gen's (unintelligible).

DR. MELIUS: We have an SEC petition from Scottsdale.

MR. ESPINOSA: Yeah.

DR. ZIEMER: Yeah, my preference would be to keep it where it is, but I can switch my date, as well.

DR. ROESSLER: No, I -- I think it'll work.

DR. WADE: So let's keep it where it is, January 24th, 25th, 26th. I think it's going to be here in Oak Ridge. Not here in Knoxville, in Oak Ridge. And I think, LaShawn, we already have the hotel in Oak Ridge? Okay. So those are the dates. One more time, Board call at 10:00 a.m. Eastern Daylight Time on November 28th; a face-to-face Board meeting in Oak Ridge on January 24th, 25th, 26th; a tentative Board call at 10:00 a.m. on January 9th; a tentative Board call at 10:00 a.m. on March 14th; and a face-to-face Board meeting on April 25th, 26th, and 27th, likely in Denver. Okay? That was okay.

Next is this piece of paper that you've got that looks at starting to cobble together agendas for the Board meetings. For the November 28th call, we are likely to be looking at a Pacific Proving Grounds SEC that will likely be a recommendation to add the class. If that is the case, rather than to wait another month and a half, I would propose, again, if it's a simple recommendation we would do it on the November 28th call. Okay?

We do want to deal with the Bethlehem Steel

Technical Basis Document, and we'll talk more about that in a moment as to what the issues are, but you asked that that be considered on the November 28th call. And we have the Y-12 TBD that I think will be very important to address on the November 28th call. And you've asked that update on science issues CLL and lymphoma be on the November 28th call.
That's starting to make a busy call, but those are the tentative agenda items for the November 28th call. Okay?
For the January meeting --
DR. ZIEMER: Don't we have January 9th in between there?
DR. WADE: Well, we don't know what we'll do at that. That's, to me, held as a potential.
DR. ZIEMER: So we --
MR. GRIFFON: Lew --
DR. ZIEMER: -- if we can't cover all these, we would carry them over? Is that what you're suggesting?
DR. WADE: Possibly, and some of these other items that we're going to discuss I think might take some agreement before the Board meeting.
MR. GRIFFON: I -- I don't know if I'm getting

ahead of things here, but do we have some workgroup dates in between these, too, and --

DR. ZIEMER: Right, yeah, we'll set those next.

MR. GRIFFON: Okay. The only reason I raise that is I'm wondering if -- on this conference all if -- if we would be ready and -- and it's probably not good to present this in a conference call format, anyway, but the procedures review of the internal dose. I'm not sure if -- that might want to wait until the face-to-face, but --

DR. WADE: Okay. Jim?

DR. MELIUS: Yeah, I would just add that I get a little worried if we have a long agenda that involves a lot of public participation in a conference call. Just the sheer numbers of people on just cause problems. We've had problems with highway noise and other problems there, and I just think that -- we may just have to think through to the extent, again, if Pacific Proving Grounds is straightforward, that -- that may be okay. But some of these other -- both Bethlehem and Y-12 -- I don't know to what extent there'll be more people. And at the same time I think we have to be

available for the public so I don't want to say curtail it, but --

DR. WADE: Yeah, I think -- I think we'll refine this as we go through the discussion.

DR. ZIEMER: Just --

DR. MELIUS: Okay.

DR. ZIEMER: -- voiced a concern. Okay.

FUTURE ACTIVITIES

DR. WADE: Now in January we have a number of things that have been asked to be put on the agenda. Right now we're imagining that the Y-12 SEC petition for '48 to '57 will be on the -- and it'll be the centerpiece of the January face-to-face meeting agenda.

We hold open the possibility, although it might not be great, that there'll be other 83.14 NIOSH-identified SEC classes, although Stu indicated not likely. But I would like to hold that potential on the agenda.

You asked very specifically yesterday that the working group would report out on Bethlehem Steel, particularly the interview with Mr. Breslin and then the other issues. I put that on there. We'll talk about that in terms of a working group item.

I think we'll need to look at the Rocky Flats Technical Basis Document, the Savannah River Technical Basis Document, Hanford Technical Basis Document. We have the Mike Wright letter that was referred to last night that I think we need to put on the agenda of the next Board meeting. I'm open to the possibility of trying to do that in a telephone call but, again, that might be difficult. But I think we owe Mr. Wright an answer.

We are looking at a re-write of the SEC rule that could well be through our department and ready for discussion with you in January.

We owe a report on adding to the list of the 22 covered cancers. We think tentatively we might be ready in January; we might not.

Depending upon what flows from the conflict of interest, we have the DR reviews that are continuing to -- to flow.

And I imagine there'll be updates on science issues.

Liz?

MS. HOMOKI-TITUS: I'm not sure if that report that you just referred to regarding the updating of the SEC cancers list is something

that NIOSH is doing on their own, but as far as we know it has not been signed by the President. It's not a requirement yet.

DR. WADE: We understand. I'm just trying to make potential space available.

MS. HOMOKI-TITUS: Okay.

MR. GRIFFON: It -- it seems to me that -- that this meeting may require a few more days. I also -- I also think procedures review belongs on there --

DR. MELIUS: Yeah.

MR. GRIFFON: -- and -- and you know, this is getting full. I don't know that we're going to get to Savannah River or Hanford TBD, realistically.

DR. MELIUS: And I -- let me just add to that so -- I mean I'd much rather have us make significant progress on one of them than a little bit of progress on all three 'cause then we're -- you know, it just sort of prolongs it, at the same time recognizing that it may not be possible to have complete closure on one within a time period. So there may need to be some judgment on that based on some of the working groups.

I'm also a little confused, and it's probably my own fault 'cause I wasn't here when you were discussing Bethlehem, but -- but if Bethlehem's on both November and January, is -- I don't understand why it's on both. The idea, I thought, was to bring closure, and do we need to discuss it -- I think one or the other. I'm not sure --

DR. WADE: Right, I'm not sure we do, either. When we talk about the working group --

DR. MELIUS: Okay.

DR. WADE: -- I think that'll sort --

DR. MELIUS: Okay.

DR. WADE: But what about this wonderful suggestion of meeting four days in Oak Ridge -- 24, 25, 26 and 27? You've made the trip.

DR. MELIUS: How about a half a day on the (unintelligible) --

DR. ZIEMER: It seems to me that that's really almost too long to be productive, both for us and for NIOSH staff, but that's my own feeling. These are -- I know we've made the trip, but there's a point of diminishing returns on these kind of activities.

DR. WADE: Okay, I understand.

DR. ZIEMER: I don't know how the rest of you feel, but I think three days pushes -- certainly for me it does, but speak for yourselves.

DR. WADE: I understand.

DR. MELIUS: How about a half-day on Friday? Will we get anything done or --

DR. ZIEMER: I don't know.

DR. WADE: Okay, let's keep the three days. I'll be shifting things -- things will -- the weight of this agenda will naturally cause it to flow down, but again, I wanted to get -- let you know the breadth of the kinds of things we're considering.

Then when you get into the April meeting, we're likely looking at the Rocky Flats SEC petition. We're likely to be looking at the Ames University of Iowa -- or is it Iowa State?

DR. ZIEMER: It's Iowa State, Ames.

MR. ESPINOSA: Would there be any possibility of having a face-to-face maybe for a day and a half to -- for the Oak Ridge SEC, late November, early December?

DR. WADE: I honestly don't think we'll be finished with the work on the --

MR. GRIFFON: No.
DR. WADE: -- the site profile.
MR. GRIFFON: Right.
DR. WADE: I think it's a good idea, Richard, but I don't think we'll be ready to have completed the site profile or...
And you can see we've got the Nevada Test Site coming up.
MS. MUNN: Oh, yeah.
DR. WADE: You've -- I have an arrow up on the NIOSH status report on Task III external dose actions. Again, we've done -- no, we've done the external; this would be internal. Right? We've done the external?
MR. GRIFFON: Yeah.
DR. WADE: The internal is yet to be done.
MR. GRIFFON: It's procedures review, I think you can call that, yeah.
DR. WADE: Yeah, the Task III procedures review on the internal. It'd be nice to do that in January, but again, January is so full.
So again, enough said on it. This gives you a sense of the kinds of things that we're juggling and we've -- we've identified some dates.

Now to the last issue, which is the working groups. I made notes and I've put it up on the screen of things that you said you wanted to deal with in working groups. And I know it's not a complete list, but on Bethlehem Steel there are the two issues. They are the discussions with Breslin relative to the GA versus BZ samples. And then there were trying to reach resolution on all the other issues that have been identified in Bethlehem Steel. Those are two separate things. I think we need to do them. Dr. Melius is correct, maybe we don't do them on the call. Maybe we do them when we sit down face to face in January. But again, there needs to be working group action taking us up to resolution on those two issues. We need the development and population of what I call the resolution matrices -- that's the start of the six-step process -- for Savannah River, Y-12 and for Rocky Flats. And I highlight Y-12 as the most important.
We have the Task III, which again is the internal dose matrix and the CATI interview matrix. That needs to be done in working group.

And then I know there are other proposals going to be made to deal with working groups, so I'll end my comments to say once you hear the other motions, then we need to start to schedule these things.

MR. GRIFFON: I think -- I think there's the ongoing six-step process for the DR reviews, too, that we need to --

DR. WADE: Okay.

MR. GRIFFON: -- need to add to that list. We've got the second set of 20 and the third set of 20 --

DR. ZIEMER: We have DR calls coming up next week on the third set.

MR. GRIFFON: But we haven't resolved the second set, either.

DR. ZIEMER: And second set comments haven't been resolved yet.

MR. GRIFFON: Right.

DR. WADE: So you're correct, Mark. Thank you. Okay. Just to set the stage for your very productive discussions.

DR. ZIEMER: Any comments on these or any items that have been overlooked in terms of at least being out there before us so we know what's

coming down the pike?

DR. MELIUS: Yeah, I actually -- I'm --

DR. ZIEMER: Yes, go ahead, Jim.

DR. MELIUS: Just also think about populating these January 9th calls and March 14th calls, 'cause I -- I think it is possible to do a call with significant public participation, but it's a lot easier when it's public participation on one issue.

DR. WADE: Right.

DR. MELIUS: And so that way people can pay attention to that issue and they're not confused by discussing multiple things.

DR. ZIEMER: Well, actually multiple calls may be a better approach.

DR. MELIUS: A better -- yes, what I was thinking, and so we have those scheduled, but utilize them in that way and -- you know, maybe --

DR. ZIEMER: In fact, it might be possible to -- even on a given day -- to break it into two calls or three calls or something like that.

DR. MELIUS: Yeah.

DR. ZIEMER: And so if you're interested in the discussion on say Pacific Proving Grounds --

DR. MELIUS: Yeah.
DR. ZIEMER: -- that's when it's going to be discussed. We may even have a different call-in number so we can --
DR. MELIUS: Yeah.
DR. ZIEMER: -- keep those groups separate. But could we look into that --
DR. WADE: Yes, we can --
DR. ZIEMER: -- as a possibility.
DR. WADE: We need a quorum to --
DR. ZIEMER: 'Cause that background noise issue and multiple people issue is very, very difficult to conduct business.
MS. MUNN: We could do from 10:00 to 12:00 and then --
DR. ZIEMER: Roy?
DR. MELIUS: Yeah.
MS. MUNN: -- 2:00 to 4:00 or something.
DR. ZIEMER: Good suggestion, Wanda.
DR. DEHART: I don't want to overplay the obvious, but I'd just remind everyone that there's an enormous amount of paperwork -- reading reports, et cetera -- as part of our homework for each and every one of these calls and attendance at meetings, so...

DR. MELIUS: Well, and the corollary to that is a plea to NIOSH to get them to us early -- fast and well and give us adequate time to review them.

DR. WADE: Certainly.

DR. ZIEMER: Well, this will serve as a kind of road map, but it may take some detours as we proceed. But certainly the idea of considering multiple calls, even -- all in one day or in successive days might be a possible way to handle some of these.

Okay, the Chair's going to recognize Roy DeHart for purposes of a motion. This -- this motion would deal with responding to the letters from the New York delegation.

DR. DEHART: I want to apologize for the group -- to the group for not having written the letter. It wasn't the intent of the motion to do that, but to indicate a need for the letter. The motion basically is it is moved that the Board prepare a letter addressed to the -- to Senator Shreimer, to Congressman Higgins and to Congressman Slaughter, with the following:

One, express our appreciation for their interest in the Board's deliberation regarding

Bethlehem Steel;
Two, provide current information on the status of Bethlehem Steel claimants, to include the number of claimants, the number not qualified or disqualified, the number for whom dose reconstruction has been completed, the number who have a POC greater than -- equal to or greater than 50 percent, the number who failed to achieve 50 percent, the number awaiting dose reconstruction;
Part three, address other information of value to the discussion; for example, payments made to the Bethlehem claimants.
DR. ZIEMER: That is your motion?
DR. DEHART: That is the motion.
DR. ZIEMER: And if it passed, the Chair would be instructed to prepare such a letter with that content.
DR. DEHART: I would hope so, (unintelligible) motion.
DR. ZIEMER: Seconded?
MR. PRESLEY: (Off microphone) (Unintelligible)
DR. ZIEMER: Okay. Discussion on this motion? I assume if it passed that NIOSH would provide the necessary statistical data and information

for the Chair.

MR. ELLIOTT: We would be happy to do so except for the one point on those cases that weren't qualified. We don't have that information and we'll try to get that from Department of Labor, but...

DR. ZIEMER: Okay. Comment, Jim?

DR. MELIUS: Yeah, again, I wasn't here for the discussion so I'm -- don't quite understand the context of -- complete context for this letter, but I think I would object to the letter as proposed, but would approve a letter than included then some description of what our follow-up actions would, you know, be -- what the process has been and where the process was going; i.e., what we plan --

DR. ZIEMER: On the site profile.

DR. MELIUS: -- on the site profile that we plan to resolve, you know, 'cause I think that's some of the -- the questions. And I -- to some extent I'm -- I think talking about that in the context of what's already happened at the site which you lay out. I just thought your letter stopped a little bit short, and I'd like to not just respond and say this is the

situation there, but this is what the Board plans to do to, you know, sort of complete our part of the -- our responsibilities at that -- at that site. And that by whatever the date is that we intend to complete the review of the site profile and -- and so forth, and that it's gone -- undergone an extensive and very complete and comprehensive review.

DR. DEHART: My letter was intended to be brief and informative. The -- all three letters implied that nothing was being done for the workers, and that is incorrect.

DR. MELIUS: Yeah.

DR. DEHART: It was a misinformation. And my letter intends to simply provide that information.

DR. ZIEMER: Jim, I don't know if you're proposing an -- a friendly or semi-friendly amendment that there be point four to the letter to sort of give them a status report of where we are on the site profile. Is that what you were suggesting?

DR. MELIUS: That was what I was suggesting. And I was trying to suggest it as a friendly amendment, so --

DR. DEHART: As a friendly amendment I would accept that, but I would not want to see a date to hold us to it. And if you put a date in there, I'll guarantee you the Congress will hold us to it.

DR. MELIUS: Well, I -- I think we have to -- I'm comfortable with fudging or estimating a date that -- where we are and that we hope in the next few months to complete that (unintelligible) --

DR. DEHART: I have an area in number three which -- for other information that's appropriate to the letter and so I can -- I would accept that.

DR. MELIUS: And I'm sure Paul can craft an appropriate...

DR. ZIEMER: I was hoping you guys would draft a (unintelligible) -- Wanda, you have a comment. Are you speaking for the motion or --

MS. MUNN: Yes, I am, and I'm speaking --

DR. ZIEMER: -- against the motion?

MS. MUNN: I am speaking for the abbreviated motion. It -- one -- of course I can count the votes now and see what the opportunity is for my passing that, but I know this won't go.

Nevertheless, that doesn't change the fact that the purpose of this letter, it seems, should be to correct the misinformation and obvious lack of knowledge that our lawmakers have with respect to where this particular claim is right now. They need to understand that there are not gross errors in what NIOSH has done, that no one is dragging their feet, that Bethlehem Steel has not been ignored and is not being unfairly treated, but that 45 percent of the claims that have been received so far from Bethlehem Steel have been paid and that most of them have actually been handled already. They don't -- they clearly do not know that.

If we incorporate into this letter everything that we have done or plan to do, then it does not have either the impact nor does it meet the real purpose of responding to the issues that were raised in the letters to this Board.

DR. ZIEMER: Thank you. Now, other comments? It appears to the Chair that you were speaking against expanding -- adding the semi-friendly amendment.

DR. MELIUS: The friendly amendment --

MS. MUNN: You are correct.

DR. MELIUS: -- Roy had accepted where we are and (unintelligible).

DR. ZIEMER: That's all right. Okay, other comments pro or con?

DR. DEHART: To try to make room for everyone, let me suggest we leave this to our Chairman to prepare. He -- he has heard the comments from those of us around the table with regard to such a letter.

DR. ZIEMER: I think Bob has a comment.

MR. PRESLEY: As -- as second to the motion, I -- I agree to both parts. I think we do need to make it short and sweet as to what we plan on doing, but I do think that we need to address very strongly the three points that were made in that letter. Letters.

DR. ZIEMER: Letters, yes. Okay. Leon?

MR. OWENS: Dr. Ziemer, I think that the Board has, over the past several months, responded in kind when we've had Congressional inquiries. We've also allowed our contractor to respond in kind to Congressional inquiries, and I would agree with Roy's motion. I'll speak in favor of it, but with the friendly amendment that Dr. Melius has suggested. I don't think the Board

in any way wants to chastise any member of the Congressional delegation. I think that what we would like to do, though, is to provide information and provide a status update when they have received information that was incorrect. I think that NIOSH, Mr. Elliott, provided us information yesterday in regard to the status of Bethlehem Steel, and I think it would be wise for the Board to include that information and also an update on the site profile, along with the points that Roy had made in his motion.

DR. ZIEMER: Okay, thank you. Other comments? Jim?

DR. MELIUS: Yeah, I was not necessarily trying to weaken what Roy was intending as much as just saying we need to add a fourth strong point and to -- to the letter. And I -- I just think it would both read better and I think it also conveys our efforts involved in that.

DR. ZIEMER: And the mover and seconder actually accepted that, so it does become part of the motion. The Chair will rule that the motion that's before us does include some brief -- brief comments about the status of -- of our

review of the site profile and is coming to closure on that.

Further, if the Board so wishes, we could certainly distribute copies of a draft in advance to make sure there aren't levels of heartache, although I'm -- we can't really take any votes by mail, so -- and we can't do business by e-mail, so what -- what could happen is that if it took me long enough to draft this, it may almost take to the November 28th conference call.

DR. WADE: Well, the other approach could be you could draft it and send it out, and if you heard from -- you pick the number, three Board members --

DR. ZIEMER: We could call a meeting.

DR. WADE: -- concerned, then we --

DR. ZIEMER: Right.

DR. WADE: -- could do it at --

DR. ZIEMER: Right.

DR. WADE: -- the meeting. If not, we can send it out.

DR. ZIEMER: Right. Are you ready to vote on this motion?

Okay. Then all in favor, say aye?

(Affirmative responses)

Those opposed, say no?

(No responses)

And any abstentions?

DR. WADE: Henry Anderson's not here.

DR. ZIEMER: And Henry is not here. Motion carries, thank you very much.

DR. WADE: Just so -- for my understanding, you will draft a letter, send it out. If you hear from three Board members with a concern, you'll wait until the Board is next formally convened.

DR. ZIEMER: Right.

DR. WADE: If not, you'll send it on.

DR. ZIEMER: Right.

DR. WADE: Okay.

DR. ZIEMER: Now the Chair recognizes Jim Melius for purposes of making a motion relating to a potential workgroup for --

DR. MELIUS: Yeah.

DR. ZIEMER: -- developing -- well, the motion will -- will --

DR. MELIUS: Yeah.

DR. ZIEMER: -- I won't give your motion as part of the --

DR. MELIUS: Yeah, let -- let me discuss the

context of this thing. It's certainly going to be popular in suggesting another workgroup and another meeting, but I -- I think this would be very helpful to the process.

I think all of us have been frustrated by the difficulties we've had in addressing some of the -- both the SEC petitions, particularly the Mallinckrodt one and to a lesser extent the Iowa SEC petitions, and also in dealing with the site profiles, particularly the Bethlehem one where we have spent a long time wrestling with these issues. And part of the reasons for this are just sort of procedurally and us sort of learning how to deal with SEC petitions and so forth. But I also think that some of the problem is that -- that we really haven't defined the criteria for determining, you know, when has a SEC petition been adequately evaluated, what's a dose reconstruction that's been completed with sufficient accuracy, how do we -- what does it mean by sort of, you know, maximal feasible dose reconstructions and things like that that, while they may be difficult to define those precisely and mathematically in a regulation or whatever, I

do think that we could -- we need to try to come to grips with those issues and try to develop some guidance that NIOSH could follow in terms of dealing with SEC petitions, in terms of dealing with the evaluation of these site profiles, that the Board could utilize in having to make some assessment of those petitions and of the NIOSH evaluation reports, that it would also better instruct our contractor in terms of how to do some of these evaluations so that we focus on what is important to the process, not get sidetracked quite as often on -- on other issues which I think is sort of a -- in some ways it's just a natural result of a -- of how complicated these issues are and -- and the nature of the available -- available science. And I think we've -- could accomplish something by trying to develop -- and I think we could actually complete a set of guidelines that would help to inform the process and inform our work and NIOSH's work. I've had some discussions with NIOSH staff, including running into them in airports and so forth as we've traveled around the country, who I also think that they believe

this would be helpful also. So I would propose that we set up a small working group, that we hold, you know, sort of a one-day meeting with some of the NIOSH staff to discuss this and -- hopefully sometime in November in Cincinnati, that we try to, to some extent, meld this with what we're doing on the Y-12, but also go back and -- with a review of the site -- of the Y-12 site profile, but also go back and sort of look at what happened with Mallinckrodt and Iowa and Bethlehem, and really see if we can come to grips with what our guidelines that would make this process work better for -- both for NIOSH, NIOSH staff, their contractor, ourselves as a Board having to make rulings on these and recommendations and also for our contractor -- do that. So that's my proposal, is another working group to look at this issue and I -- I'm optimistic that we could be successful with this, though. You know, we're never going to have all the answers. This is a complicated area and not a lot of external guidance for us to rely on.

DR. ZIEMER: For lack of a better term, the Chair will call this the workgroup on

sufficient accuracy and --

DR. MELIUS: That is the motion then.

DR. ROESSLER: I second.

DR. ZIEMER: -- it's not clear to me that that was a motion as a -- but I think, Jim, the motion is to establish a small working group to -- to evaluate possible criteria for sufficient accuracy. That's a concise way of saying it. Some of us have had some conversations about the makeup of the working group, and let me suggest -- well, first of all, the Chair would like to ask Dr. Melius to chair the working group. The Chair himself has agreed to participate in the group. I understand Mark is available to participate. We do want to keep the group small. I don't necessarily want to exclude others and -- but I think we -- we may want -- if there's say another person that would want to volunteer, that would be fine. But at least Mark and Jim and I would be willing to take a stab at this. Anyone else want to -- have an urgency -- and Roy would like to participate, so that -- that would give us a start.

DR. MELIUS: Yeah, we would hope that we could

report back by the November 28th -- we -- conference call for where things stand and then maybe --

DR. ZIEMER: Well, as a minimum we could give a status report. And of course this may indeed not be something that can be resolved, but at least we could have a status report on where we're headed, whether we're making decent progress or not. It's a thorny issue, really, to say what are -- what are the criteria for really saying something is sufficiently -- I know that we tend to do this in an intuitive manner. We all do.

DR. MELIUS: Uh-huh.

DR. ZIEMER: You look at the Mallinckrodt data and we sort of all have our own internal criteria as to does it feel right, does it look right, do I trust the data. There's a whole gamut of issues. I think each of us approaches it somewhat differently.

We may not be able to come up with criteria that are completely objective. One would like that. I don't think we'll ever completely remove some subjectivity -- and indeed, it would be the Board -- Board members' individual

rights to say, even beyond whatever criteria, I still don't like this dataset, or I do, for whatever reason it might be. We're not going to be able to cover every possible criteria, but we're hoping to have some guidelines that we can use as a -- kind of a measuring stick for sufficient accuracy and related issues, that we have some sort of guide as to how to go about evaluating.

And Arjun, maybe you have some input.

DR. MELIUS: Well, can I just -- before Arjun, just to elaborate that a little bit. I mean it disturbed me that our vote on Mallinckrodt, that we were as split as we were. Not that it wasn't a difficult situation to evaluate and given the pressures and so forth, but it seems we've operated, up until then, pretty much on consensus. We've been able to craft some agreement on how to approach things. And again, it may not always be possible, and we've had other sort of close votes, but usually on more minor issues.

And I also think that if you look back at the process and what NIOSH went through, what SC&A went through in terms of process, and the

amount of time we spent wrestling with some of these issues, and I don't think that's sort of fair to the whole process -- nor to the claimants to try to understand -- goes on, and it just reaches a point where everybody sort of -- sort of stops and then says well, let's just vote, let's just do it, and that's not a --

DR. ZIEMER: Plus -- plus many issues are time-consuming and yet have very little impact --

DR. MELIUS: Yes.

DR. ZIEMER: -- on the bottom line, so that's another related thing. Arjun?

DR. MAKHIJANI: Dr. Ziemer, just as a reminder, at the last meeting you did ask SC&A to prepare two reports under Task V, one of which is an evaluation of the NIOSH procedures on SEC petitions. And the second report has two parts. One is suggested draft procedures for the Board itself to take up SEC evaluation -- petition evaluations, and the second part of that would be the SC&A procedures when you do ask us to evaluate an SEC petition evaluation.

DR. ZIEMER: Right.

DR. MAKHIJANI: And as you know, I'm tasked with -- with -- I'm the task manager for those

reports, and we have started work on that and expect to have, in about a month, by mid-November or so, so before -- before -- the second part, the SC&A procedures, as well as the -- perhaps to a lesser extent, the Board procedures will be more of a checklist, but the SC&A procedures will correspond to some extent with the list that Dr. Melius was talking about --

DR. ZIEMER: Well --

DR. MELIUS: -- and may be helpful to you.

DR. ZIEMER: Right, and in fact to the extent that your procedures would include criteria, obviously this would be very important input to that. We certainly don't want you to have to operate in a vacuum on that, so perhaps this will -- will inform that part of it, to some extent.

DR. WADE: I'll talk to you and John. Anything that would be available I think that could inform this process would be accepted and welcome.

DR. MAKHIJANI: Yeah, I --

DR. ZIEMER: And I think the -- our procedures for evalua-- or our Board procedures that you

were going to help develop, as you say, are more along the lines of -- I think a little more mechanical than what we're talking about here, which is the -- sort of the underlying -- I don't want to call it philosophical so much, but the underlying criteria by which we make decisions. But that very well could end up -- and as you evaluate you've got to be looking -- or using such criteria, in any event.

DR. MAKHIJANI: Yeah, Dr. Ziemer, the second part of the report on procedures, which would be the SC&A procedures, for evaluation -- evaluating the NIOSH --

DR. ZIEMER: Yeah.

DR. MAKHIJANI: -- petition evaluations, that would seem at least largely to overlap with what you're talking about. And I was -- if the working group members had some input to provide SC&A as they proceed --

DR. ZIEMER: Oh, yes --

DR. MAKHIJANI: -- and vice versa, so -- for -- I think it would be useful.

DR. ZIEMER: Oh, we would certainly keep you informed and -- and I think it's a two-way street because the Board doesn't have a corner

on ideas. We often like to think we do, but we realize that you guys occasionally have a good idea, too.

DR. WADE: Thank you, Arjun.

DR. ZIEMER: Thank you, Doctor.

DR. WADE: Let's -- Larry, you should be on the record as to reacting to this. Your reaction?

MR. ELLIOTT: I'm pleased that we're going to take this step. I think that we've heard loud and clear over the course of the last three face-to-face Board meetings concern among select Board members as to their understanding of what we mean by sufficient accuracy. It goes to what Dr. Ziemer was talking about earlier, we all bring something a little bit different to that, I think, on what level of subjective interpretation and trust we apply to this -- this bounding criteria for maximum plausible dose for the SEC evaluation reports and what we provide with regard to sufficient accuracy on dose reconstructions. These are both spoken about in our rules. You can find it in the preamble. You all worked with us on that. But it's still I think a somewhat confusing if not nebulous concept, and anything

that we can do to -- to bring clarity to that I think is only -- is welcome from my perspective and is going to aid us all in lowering the frustration levels and lowering the amount of effort and work we have to all go through to try to get to the -- the end posts, the goal posts here on these things. So I'll appreciate this. I'm supportive of it, and I'm looking forward to the day in Cincinnati when we sit down with the working group.

DR. WADE: How about November 2nd?

DR. ZIEMER: Okay, let's --

MR. ELLIOTT: Did you say November 7th?

DR. WADE: 2nd.

MR. ELLIOTT: 2nd.

DR. ZIEMER: Let's -- have we voted yet on establishing this? We basically have a motion to establish the working group with membership as described. And I think it's been seconded or it's now seconded by Rich.

MR. ESPINOSA: Gen seconded it.

DR. ZIEMER: Gen seconded it.

MR. ELLIOTT: We'll have to set a date later.

DR. ZIEMER: Okay. All in favor, say aye?

(Affirmative responses)

And any opposed?

(No responses)

Any abstentions?

(No responses)

Thank you. The motion carries. Now while we're talking about working groups, we still have some carryover activities relating to dose reconstruction and Task III matrix review --

DR. WADE: Bethlehem.

DR. ZIEMER: -- and some Bethlehem things. We have a working group that has gotten underway on that, and I would hope that working group could continue that activity. We -- we know that working groups aren't supposed to go on indefinitely, but they were not able to finish that task. This was Mark and Wanda and Robert and -- and Mike, and then Rich was an alternate if someone couldn't come. And so we would ask them to continue those activities and have to make sure that they're on the schedule, too, to deal with those items.

DR. WADE: And I would ask again that Y-12 be prominent in those discussions.

DR. ZIEMER: So Mark, in that workgroup you have the internal dose par-- or the -- yes, the

internal dose part of the procedures matrix. You have the dose reconstruction matrix for the second round to work on, the Bethlehem Steel -- closure of Bethlehem Steel issues, and --

DR. WADE: Y-12.

MS. MUNN: Y-12.

DR. WADE: Y-12 site profile.

DR. ZIEMER: -- Y-12 site profile.

DR. WADE: The resolution matrix.

DR. ZIEMER: Resolution matrix, so those four issues. Okay.

MS. MUNN: That's a lot.

DR. ZIEMER: Okay. Do we have other --

DR. WADE: No. I don't know if you want to do anything with scheduling. You can work with LaShawn and I, both chairs, and we'll --

DR. ZIEMER: I think the working groups can work out their schedules individually 'cause they're small groups. We don't have to do that as a -- as a whole.

DR. WADE: Now I assume that the -- that the Board would like us to follow the procedure that we would notice -- *Federal Register* notice about the working groups. We'll post a notice on the OCAS web site. Do you want us to make

these meetings available publicly or not? They don't have to be.

DR. ZIEMER: You're talking about open them up for the public to be physically at the meetings? Well, certainly we're committed on Bethlehem --

MR. GRIFFON: (Off microphone) (Unintelligible) --

DR. ZIEMER: -- but at least keep Ed Walker in the loop.

MR. GRIFFON: -- (unintelligible) for Bethlehem, so...

DR. ZIEMER: I don't know on the others if we're really going to be productive to do that. Jim, on yours I don't see any reason there, and as long as you have --

MR. GRIFFON: I actually --

DR. ZIEMER: -- Ed in the loop on the Bethlehem --

MR. GRIFFON: On the non-Bethlehem stuff, I -- I -- I think we could actually be more productive if -- if we didn't have them open to the public, as long as they're transcribed. I --

DR. WADE: We'll transcribe them --

MR. GRIFFON: Yeah.

DR. WADE: -- we'll let people know that the meetings are going on. We'll promise then to deliver the transcripts on the web site, but we will not open the working groups to the public, except Ed Walker invited to Bethlehem.

DR. ZIEMER: Is that agreeable? It appears to be.

Okay, we're ready to move on to conflict of --

MR. PRESLEY: (Off microphone) Paul --

DR. ZIEMER: Oh, I'm sorry, Bob, I missed you there.

MR. PRESLEY: Before we -- before we get into the conflict of interest, (unintelligible) been asked to come back to Washington two or three times. I was -- I was asked not too long ago by one of our representatives in the state of Tennessee as to when the Board was going to come back to Washington, and I think it's been what, four years since we've been up there again -- or since we've been up there. We might want to think about that down the road as to when the executive branches are going to be in session and schedule a meeting. I know it takes a long time to schedule rooms and meeting

places and things like that when they're in session, so you might want to start thinking about that down the road, if -- if the Board would like to go back to Washington. And with all the stuff that we've gotten here lately, it might be a good idea if we did hold a meeting up there where we can have some input.

DR. MELIUS: Yeah, I just -- point -- I mean I think I was one of the ones that suggested it, but -- but the other -- I mean we're always torn 'cause I also think it's important that we try to hold meetings near the sites and -- and now it seems we have more than -- that's even become impossible to address all of the sites that we need to, you know, address at a given meeting. We can't accommodate everybody, and I just worry that we go up to Washington, then we're just one less -- we're going to make a decision on something that's without the opportunity for the public to participate from at least one of the sites. Now some of it's unavoidable and I'm not sure what the solution is and...

DR. ZIEMER: Well, your -- your suggestion is so noted, and we'll look for an opportunity to

do that, certainly.

CONFLICT OF INTEREST, HHS REPRESENTATIVE

Lew, conflict of interest --

DR. WADE: Yeah, let me --

DR. ZIEMER: -- lead us in that discussion.

DR. WADE: Yes, it will be just a discussion. Let me introduce the -- the concept to you. There's been an awful lot of talk about conflict of interest. There's a lot of agitation over conflict of interest when it comes up here, and we've asked the Office of General Counsel to start to give sort of some holistic thought to this issue of conflict of interest. We -- we have many people involved in the program -- NIOSH employees, contractors of various types, this Board. The Office of General Counsel has been giving thought to it. We've also asked the Office of General Counsel possibly, when a plan emerges, to -- to be the implementer of that plan because it clearly can't be NIOSH.

As that process is going on, I thought it would be worthwhile just to spend some time hearing from the Board things that it would want us to take into consideration as we imagine putting

together such a holistic plan. So I thought this was just an opportunity to talk a little bit. I know that there is some concern on the part of Board members, and I thought this might be an opportunity to get it out in the presence of the Office of General Counsel and NIOSH so we could hear these things and be sensitive to them as we move forward with putting together a plan of action.

DR. ZIEMER: Okay. So what we're looking for now is just comments relating to that that would provide input to your thinking. Jim.

DR. MELIUS: Yeah, first, I think it would be useful for the Board to have an update from someone knowledgeable and have some discussion of how our individual -- not our specific individual, but sort of the context and the criteria for how our individual conflicts of interest or potential conflicts are evaluated. You know, what is the -- the general rules for this and so forth, 'cause it's -- to me it's always been confusing, and I think -- we've had presentations before and I don't think they've really -- I've never understood. And I know when I think of what's in my letters and so

forth, it doesn't always fit with what I'm hearing and I then go out -- get individual explanation and it's helpful. But -- but I think having that sort of a background might be helpful, and also as it applies to -- in the general sense, to contracts 'cause some of the issues we've wrestled with is how to apply conflict of interest to contractors and -- I think it's a little bit different, at least operationally, and even going back to our own is -- is sort of -- it's always been confusing to me how we operation-wise -- dealing with our own, do we wait for Lew or do I -- does the Chair enforce that? Is somebody from Counsel's office informing us? Are we supposed to sort of self-identify when there is -- how -- how do we do that and particularly in these cases, 'cause nearly all of us have some dealings with some of the sites in the past and -- or ongoing and we really need to understand this and this question of appearances. And at the same time, in order to function there's a lot of very general topics that we deal with that cover multiple sites, and what's appropriate there? And maybe there's a list of questions that we -

- we want to put together to ask somebody and -- to be addressed, but it -- I would certainly like to have a better understanding of what we're doing before we sort of offer too many opinions on what's good or -- or bad 'cause I don't quite understand the rules completely myself.

DR. ZIEMER: Right. And actually it's often difficult to ascertain the logic that is used. For example, if you worked at a site, are you -- you end up being sort of banned from dealing with any of the years, even though -- for example, if -- let's take early years of Oak Ridge, maybe be-- before you were ever there, Bob, what vested interest would you have, pro or con, on what happened in the site when you weren't there? You couldn't be putting yourself into a cohort or something like that on the early years, so why would that matter? That sort of thing. And I'll take my own case where I'm excluded from Y-12 because I worked there a week as a student, not an employee, and yet actually probably had more direct dealings with sites when I worked for DOE when -- I mean when we were doing tiger teams and our group

was having more impact on what went on on sites than I ever had working at Oak Ridge or Y-12, but those aren't excluded, and if they were, it would be every site, I guess.

MR. PRESLEY: (Off microphone) (Unintelligible)

DR. ZIEMER: So it's those kind of -- there's a certain illogic to what goes on. Yeah. Who's next?

DR. MELIUS: I think Wanda was next.

DR. ZIEMER: Wanda.

MS. MUNN: Bob was going to say something.

MR. PRESLEY: Since -- since you -- since you mentioned me, that's one thing I want to -- had a problem with. You know, I've been out there at Y-12 for 40 years, and I can see where I shouldn't vote on something. But I am considered a site expert and think that I ought to be able to have some input to some of this stuff. I agree -- I agree about the voting, but it -- it really bothers me that I can't have input to some of the questions asked or -- or some of the things.

DR. ZIEMER: While sitting at the table.

MR. PRESLEY: That's correct.

DR. ZIEMER: Yeah. Okay.

MR. PRESLEY: As a -- as a site expert.
DR. ZIEMER: Wanda.
MS. MUNN: Can we get the people who actually make these determinations -- that is to say the Ethics Office -- can we get a presentation from them? A 15-minute presentation, not a two-hour workshop, making it clear to us how those decisions are made so that we can ask our questions of the people who make those decisions. It seems difficult for us to have to place these questions, time and time again, in the hands of staff, who must interpret what they've been told from the Ethics Office. And so --
DR. ZIEMER: Well, I don't know --
MS. MUNN: -- why not --
DR. ZIEMER: -- the answer to that, but --
MS. MUNN: Why not go to the source?
DR. ZIEMER: -- right now we'll put that on the list of questions. Okay. Jim?
DR. MELIUS: Yeah, I would agree with that, that -- I think what we're looking for is a better understanding of the criteria and then how they apply sort of overall, and -- and how do we sort of operationalize tho-- I mean does

-- in Bob's example, should he -- when he is an expert on that site, some knowledgeable on that site, should he identify himself at the -- at the table's that -- should there be some -- or should he be -- have to go to the back microphone or, you know, what's re-- reality of the difference I think is there's some value to -- so that the people in the audience know how he's acknowledged some of the -- that he'll be speaking, but not, you know, voting on this situation and -- and so forth, and I think we need to know how that -- that works. And there are other situations for -- you said, Paul, and I think my own situation where there've been some sites I've been involved in on particular issues that -- you know, I think that if someone knew the details of those issues, then I -- that -- that it's very -- I should be conflicted, I should -- should avoid being involved in those issues. But you know, I -- understand what I'm saying, nobody here's going to know -- have the knowledge or very few people would ever have the knowledge of what I was involved in, so you sort of try to self-identify those and maybe when, you know, you

were working for DOE there were certain things you're so vested in you really shouldn't be, you know, involved in if it comes before -- before the Board. Yet you know, I don't know everything you did at DOE or couldn't expect to and, you know -- so but does that mean every DOE issue and then, you know, to me what's ridiculous is if you spent a week as a student there at Y-12, I mean that makes -- you know, any sense at -- sense at all in that.

DR. ZIEMER: Other comment? Yes, Michael.

MR. GIBSON: There's also the issue that, you know, when NIOSH or our contractor goes out to the sites, they look for site experts to get their information, which obviously they have to. Those site experts could be just as much conflicted. They could hide their dirty laundry in one instance, or they might have a vested interest in -- in the future establishing a cohort for the site. So you know, I think that's why we were chosen, because of our vast backgrounds and in -- the expertise at different areas, so what's the difference in going to a site expert at the site as opposed to, you know, us being

conflicted?

DR. ZIEMER: Okay, good question. Others? Yeah, Jim.

DR. MELIUS: Just -- just along those -- those lines, and I think it also comes up even with the Board occasionally, is sort of the transparency of -- of that process and to the -- to the public in -- in how that's -- that's dealt with, so that -- you know, to what extent is that expert consulted or does that expert control the process, did -- is there sort of a public process to it so it's happening in the open like our Board meetings, which are, you know -- most part all open and so forth, other than our working groups. Or is it happening, you know, out in the field someplace where no one's going to know what's going on until something's completed, and I -- and I think that's different. So again, we're -- we -- we have a situation where we've been involved in a site and are offering sort of our knowledge. That's happening in front of an audience and in public. There's a public record of that -- again, as opposed to something where there's -- you know, we do an off -- you know, writing a

report or doing something sort of behind closed doors. And I just don't understand how they're applying that and those criteria -- or even what they are all the time.

DR. WADE: Could I --

DR. ZIEMER: Yeah, let me make one other comment. I think typically -- and maybe Liz can correct me if I'm wrong. Typically the test for conflict of interest sort of -- in all cases, not just the Board, but -- is whether or not you somehow would stand to gain from a decision that you make in terms of the relationship you've had or have -- an ongoing or a past relationship. For example, would you be in a position to put yourself on a -- in a Special Exposure Cohort or, you know, do you somehow enhance -- in many -- many kinds of boards it's do you gain -- will you profit personally from the action you take because of either your previous association or you have some insight or knowledge of some sort, and that often is the test of conflict of interest --

DR. WADE: Yeah, but --

DR. ZIEMER: -- where -- where your decision is

really colored by the fact that you are either going to personally gain from this or you have friends that are going to gain from this or whatever it may be.

DR. MELIUS: Yeah, but -- but it -- it's actually a little -- usually a little bit more -- would it appear --

DR. ZIEMER: Or does it appear --

DR. MELIUS: It's not just the actual conflict, it's would it appear, and it's a little more liberal --

DR. ZIEMER: Yeah, it's a little more --

DR. MELIUS: -- situation, though it doesn't always make it any easier.

DR. ZIEMER: Right. Roy.

DR. DEHART: There's also the other side, that -- the fact that you have worked at that plant and now sit on a decision process, are you protecting yourself or your decisions that you made while you were employed there, and I sense that is a very strong --

DR. ZIEMER: Yeah.

DR. DEHART: -- part of the conflict.

DR. ZIEMER: Yeah, and that's why I say if it's a set of years that you weren't there and

weren't in either a decision-making process or any -- any part of that -- for example, earlier years, let's say in Presley's case. Suppose a cohort came before us that was -- long preceded him, unless it was his dad or something that worked there, how -- how does it -- why does it matter? That's what I'm having a little trouble with here.

DR. MELIUS: Yeah, while you were a student there for that one week, you've controlled everything that's ever happened or ever will happen at Y-12, Paul. We know that.

DR. ZIEMER: Well, unfortunately, the week I worked there at Y-12 was the week they had the criticality (unintelligible) --

DR. MELIUS: See?

DR. ZIEMER: -- I don't want to take any credit for that.

MS. MUNN: Mystery solved.

DR. WADE: Not to -- not to bring this to closure or even to end the discussion, but let me sort of -- there are three issues that have emerged, and let's talk a little bit about them, each in turn.

The first is the agency's rules for dealing

with issues like individual dose reconstruction, site profiles and SEC petition. And I can articulate those again and you can react to them and -- and we can hear your reaction and then possibly modify or -- or continue with them.

There is this issue of transparency, who should know if there is a conflict; should we begin each discussion on a particular topic by identifying those people that have a conflict. I think we need to talk a little bit about that.

And then the third and most vexing, as I listen to you, is by what logic were these conflicts identified. On the third, you know, I will use Liz's good offices to see what we might be able to do to get someone from the Ethics Office here to talk to you. That is easier said than done, but we think that's a reasonable suggestion and we would attempt to honor that. Liz has twice now during this week articulated what is the operative policy of the agency right now, and that is that for a discussion of a site profile someone with a conflict can be at the table and fully participate in the

discussion, completely participate in the discussion, but would not vote on a Board action relative to that site profile.

MS. HOMOKI-TITUS: (Off microphone) Can I --

DR. WADE: Okay?

MS. HOMOKI-TITUS: And not make a motion.

DR. WADE: Not make a motion about the -- on issues of individual dose reconstruction reviews or SEC petitions, someone who's conflicted would not participate in the discussion at the table, but would be free to participate in the discussion as a site expert from the microphone -- that microphone -- but would again not make a motion and not vote. So those are the rules we're operating under. Again, we've heard some concerns about that. We'll consider those concerns. If you wish to speak to Liz or I after this meeting and articulate your concerns again, we'd be glad to hear them. But those are the positions we're operating from now. Liz?

MS. HOMOKI-TITUS: I just wanted to let you know that I have heard from a number of members that they do have concerns with that policy, especially regarding the site profiles, so

we've made arrangements to have further discussions with the Ethics Office again and look forward to letting you know what we hear about that.

DR. WADE: Yes. And we -- we have heard your discussions and we are aware of your concerns. To the issue of transparency, intellectually I don't have my mind around that. I mean I could see some logic that would say if we were to dis-- start a discussion of Y-12 via a site profile or an SEC petition that we would identify all those people who were conflicted -- for the record, for the public. On the other hand, I could see saying everyone knows of their conflicts and we ask them to self-police on those issues. Again, we have not taken the position of identifying at the start of every discussion. Again, if you have thoughts on that, you could let us know. We've heard some comment around the table now.

And then the third one is, again, making the logic clear to you by which the decisions are made, and that we'll push to have someone from the Ethics Office come and speak to you about.

DR. ZIEMER: Thank you very much. You have an

additional comment, Mark?

MR. GRIFFON: Yeah, just -- just to follow up on Liz's comment and Lew, your last item, the logic for identifying. I guess that's where -- especially -- I think -- I don't know if there's any generic sort of way in which it was determined whether there was -- there was a conflict on participation in the site profile review process. I think it's probably specific to individuals around, depending on -- on our -- our work histories or whatever. But I think that -- that's one item I think that I was kind of surprised the other day on and I would like some clarification on that, as Wanda stated.

DR. WADE: Thank you.

DR. MELIUS: Yeah --

DR. ZIEMER: Jim.

DR. MELIUS: -- I'd like to maybe -- sort of go -- a little different issue, but one that's -- that's related. I think all of us received in the mail a report or -- I believe it was a draft report from Larry concerning the issue of the possible conflict or evaluation of possible conflict for some of the people involved at the Paducah site and -- and that thing. And the

only reason I wanted to -- my understanding is that that's getting further review and some input from the person that asked for the report. I don't think we need to discuss that portion of it, but -- but it struck me when reading through it -- 'cause I thought we were going to discuss it at this meeting, I was getting prepared -- was that, at least for the second part of that report which dealt with the site profile itself and some of the scientific issues that -- that -- one way of addressing that, if we feel it needs to be addressed, is having our contractor evaluate the site profile. My -- my recollection is that Paducah site profile is not on the list to be reviewed. And if we're going to take that step or -- and maybe we don't need to take it now, but to consider it, we -- it just -- there's a time frame involved and -- and at least like to get that out as something to -- to think about and -- as to whether we discuss that again. But maybe it's something NIOSH comes back to us as saying that yeah, that's what they also think is something -- makes sense to do, but -- but I at least wanted to mention that.

DR. ZIEMER: Yeah. Larry, you have a --

MR. ELLIOTT: I would like to react to that point, and I think it does make sense to -- to have the site profile reviewed. But I would suggest it makes more common sense to me to review it after it's revised, based upon the corrective action that has been identified in that -- that assessment report that you're speaking of. It wouldn't do any good, I don't think, at this juncture to review that rev. of that site profile. You need to review what's modified after this assessment is done.

DR. MELIUS: Okay. That makes sense.

DR. WADE: Thank you.

DR. ZIEMER: Thank you.

DR. WADE: I think we're done with this point.

APPROVAL OF MINUTES

DR. ZIEMER: Okay. We have one final item I believe on our agenda. This is a carryover from earlier in the meeting. We have the minutes for our July meeting to -- to act on, so I'm going to call now for any corrections or additions to the minutes.

Wanda, I know you have some.

MS. MUNN: Just a couple. They're minor.

Would you like me to go through them one by one?

DR. ZIEMER: Yes. Give us a page number and paragraph.

MS. MUNN: Page 13.

DR. ZIEMER: Page 13, paragraph?

MS. MUNN: The next to the last paragraph.

DR. ZIEMER: Uh-huh, in bold type?

MS. MUNN: Yes, uh-huh. Seems to me that it should tell us what provisions -- what those provisions were. If one's just simply reading through this quickly, we know that provisions were adopted governing communications and program direction, but it doesn't say what those --

DR. ZIEMER: Now what we may need to do -- in the Executive Summary from which you're reading, many of these motions were abbreviated --

MS. MUNN: Very much so, and I had no problem with any of the others and I agree with the idea of abbreviating.

DR. ZIEMER: I was looking to see whether --

MS. MUNN: It just seemed to me this doesn't tell me anything.

DR. ZIEMER: -- the motion, as it's discussed in the main minutes, covers that.

MS. MUNN: Well, I have rewording for the main minutes, but --

DR. ZIEMER: For that same motion?

MS. MUNN: -- not for the motion itself. Not for the motion itself.

DR. ZIEMER: Oh. I believe this is a result of the condensation process there.

MS. MUNN: I think it is, too. The two preceding motions right on -- on that same page, on page 13, tell you what happened.

DR. ZIEMER: Uh-huh, and this one does not.

MS. MUNN: And this one really doesn't. It just says it had to do with this, but it doesn't tell us what happened. I think minor wording revision is in order and it doesn't have to be extensive.

DR. ZIEMER: Maybe we can -- Ray, did you prepare the Executive Summary or did NIOSH staff -- Ray Green?

THE COURT REPORTER: I do.

DR. ZIEMER: Ray?

DR. WADE: Ray does the minutes.

DR. ZIEMER: Perhaps we can find a condensed

version of the provisions for that motion.
MS. MUNN: That would help a little.
DR. ZIEMER: Would that be agreeable.
MS. MUNN: That would be fine with me, yeah.
DR. ZIEMER: Okay.
MS. MUNN: On page 14, paragraph five that starts "Dr. John Mauro," perhaps I --
DR. ZIEMER: What page is that?
MS. MUNN: Page 14 --
DR. ZIEMER: Fourteen?
MS. MUNN: -- the next page.
DR. ZIEMER: Uh-huh.
MS. MUNN: Perhaps I'm just not reading that paragraph correctly, but the planned procedures did not seem to fit in there.
DR. ZIEMER: John Mauro commented that their conflict of interest planned procedures --
MS. MUNN: And forms have been completed.
DR. ZIEMER: The procedures and forms, I -- I think the thrust is that the procedures and forms -- the conflict of interest procedures and forms that they plan to use, I believe is the thrust of it, so maybe the -- maybe the wording is awkward here.
MS. MUNN: Wasn't clear to me.

DR. ZIEMER: I think you could leave out the words "planned" -- the word "planned" and it will read correctly -- their conflict of interest procedures and forms have been completed. It was -- it was forms that they planned to do. They now have been completed --

MS. MUNN: Yes.

DR. ZIEMER: -- so --

MS. MUNN: Yes, that's --

DR. ZIEMER: -- take out the word "planned".

MS. MUNN: That's what I thought it meant, but I wasn't sure.

DR. ZIEMER: Okay.

MS. MUNN: There are many places in the -- in these minutes where there's a typo, which I'm assuming may just be --

DR. ZIEMER: If you'll pass those on to Ray, we'll get --

MS. MUNN: No, it's the same typo.

DR. ZIEMER: Oh, okay.

MS. MUNN: An equal mark appears instead of an apostrophe.

DR. ZIEMER: And actually I think it's probably the printout process. Many of the bullets showed up as -- in other forms, so --

DR. MELIUS: I think Ray did it.
DR. ZIEMER: -- Ray can take care of that.
MR. GRIFFON: I question that silver medal now.
MS. MUNN: I literally meant typo. I meant that the printing process itself had done something strange there.
DR. ZIEMER: Thank you.
MS. MUNN: On page 26, the last of the marked -- bulleted items there that have Ps in front of them, I was -- I think it's just language that doesn't read well. There seems to be a systematic overestimation error of the Barnes data due to the standard precipitating -- standard precipitating? -- which artificially jacked up the calibration curve.
DR. ZIEMER: Okay, I think their chemical standard precipitated out of the solution is what --
MS. MUNN: That would have been precipitation. Right? Not precipitating.
DR. ZIEMER: Well --
MS. MUNN: The standard having precipitated, which --
DR. ZIEMER: I think that's the thrust of it. Maybe we can --

MS. MUNN: Which artificially jacked up the calibration curve back up to expectation. That's -- if that's clear to everyone else here, then I'll shut up.

DR. ZIEMER: It's a little bit awkward, but the thrust of it is there was a chemical precipitation --

MS. MUNN: That's fine. That's fine with me.

DR. MELIUS: Just to shut you up.

MS. MUNN: Yeah, I know. The only other one --

DR. ZIEMER: If you -- if you could say due to the fact that the standard precipitated out of solution or something like that. How is that? Is that better?

MS. MUNN: Sounds fine to me.

DR. ZIEMER: Due to the fact that the standard precipitated out of solution, which artificially jacked up the calibration curve.

MS. MUNN: Uh-huh.

DR. WADE: Due to the fact that...

DR. ZIEMER: Well, then it still is awkward -- calibration curve back up to expectation.

MS. MUNN: Back to the expected level?

DR. ZIEMER: Yes.

MS. MUNN: Back to the expected level.

DR. WADE: Page 26.
DR. ZIEMER: And Ray, I'll give you my marked up copy. Back to the expected level I think would handle that. Thank you.
Others, Wanda?
MS. MUNN: The last one, which I have written out, is page 43, line three, where it starts talking about my rant, and I have re-written it to say (Reading) Ms. Munn strongly protested the unexpected presentation of such a process-changing motion, previously unannounced in the agenda, at a time when several Board members could not be present. She indicated that in these circumstances she would not vote on the motion unless it was a vote to table. She then put forth a vote to table the motion.
And then the last sentence would continue on as it was. Just replace the two sentences.
DR. ZIEMER: Can you provide that wording for Ray?
MS. MUNN: Yes.
DR. ZIEMER: Is that agreeable to everyone? Thank you.
DR. ROESSLER: That's okay, but that's (unintelligible), we got --

MS. MUNN: (Off microphone) (Unintelligible) left out a great deal.
DR. ROESSLER: -- we got the sense of it.
MS. MUNN: I left out a great deal.
DR. ZIEMER: Okay. Wanda, do you have additional ones?
MS. MUNN: No, that's the last --
DR. ZIEMER: Okay. I'd like to call attention of the Board to page 4 in the middle of the page, the highlighted paragraph on the motion. It says the Board passed a motion granting an SEC petition. The Board does not grant SEC petitions. It should read -- we may have thought we did -- had really done that, but it should the Board passed a motion recommending the granting of an SEC petition.
Also on page 2 under privacy issues, I'm going to suggest -- this talks about Board -- a Board member being required to recluse (sic) himself. I wasn't sure what we would do if the Board member was either Gen or Wanda since this only talks about reclusing (sic) himself.
DR. ROESSLER: We're fellows.
DR. ZIEMER: You're fellows?
MS. MUNN: Both of us.

DR. ZIEMER: My solution here would be under which Board members might be required to recluse (sic) themselves -- becomes -- just pluralize it and make it -- is that agreeable? And leave out the word "a" -- condition under which Board members might be required to recluse (sic) themselves.

MS. MUNN: Fine with me.

DR. ZIEMER: It just makes it neutral genetically -- genetically, generically. It's getting late in the day.

I don't know what the Board's preference is on the use of data. My preference is to consider it plural.

MS. MUNN: Yes.

DR. ZIEMER: So in --

MS. MUNN: It is.

DR. ZIEMER: -- on page 5 throughout the discussion of data -- and Ray, I'll mark this up -- we'll pluralize the use of the word "data" where it appears -- a number of places. If you have other minor changes -- are there any other major changes where there's incorrect information or incorrect concepts? If not, a motion to approve the minutes with these

suggested changes is in order.

MR. GIBSON: (Off microphone) (Unintelligible)

DR. ZIEMER: So moved?

MS. MUNN: Second.

MR. ESPINOSA: Second.

DR. ZIEMER: Motion by Gibson, second by Rich, and any discussion? All in favor, aye?

(Affirmative responses)

Any opposed, no?

(No responses)

Motion carries, thank you. Any other business to come before us? Yes, Mark.

MR. GRIFFON: I know that Lew indicated that we can take care of workgroup dates outside of the Board. However, with -- with -- with our workgroup for -- covering Bethlehem, et cetera, I know we impact on NIOSH and SC&A, and I thought maybe while we have the key representatives here, we might --

DR. ZIEMER: Check calendars?

MR. GRIFFON: -- check calendars. And -- and also I want to try to think out loud about if it's reasonable to expect certain things to be done by certain dates, otherwise we would push it back a little. I'm looking tentatively at

November 15th or 16th --

DR. ZIEMER: So --

MR. GRIFFON: -- November 15th or 16th, and hopefully by then having --

DR. ZIEMER: This would be in Cincinnati. Correct?

MR. GRIFFON: Yes.

DR. ZIEMER: And how is that, Arjun, for you and --

UNIDENTIFIED: (Off microphone) What workgroup (unintelligible) --

MR. GRIFFON: This will be the workgroup covering Bethlehem, procedures review, case review of Y-12, but I think we can decide which or all items -- I think it'll be -- at least Bethlehem I'd like to --

DR. NETON: This is separate apart -- separate and apart from the discussion with Breslin and (unintelligible).

MR. GRIFFON: Right, I'm assuming by then you would have the conversation with Breslin and --

DR. NETON: That's fine.

MR. GRIFFON: -- can report to our workgroup on that --

DR. NETON: Yes, that's okay with us.

MR. GRIFFON: -- and then we can resolve the other findings. Okay.

DR. MAKHIJANI: (Off microphone) (Unintelligible)

MR. GRIFFON: Let's say the 15th. Is that --

DR. MAKHIJANI: The 15th would be all right. I just have a little bit of a conflict in the first part of November, so essentially John -- John and Jim and I would have to figure out a schedule with Mr. Breslin and then Mr. Breslin has to be available, so there's a -- otherwise the --

DR. ZIEMER: If that doesn't work, then they'll have to find (unintelligible) --

DR. MAKHIJANI: Yeah, the 15th otherwise is all right.

MR. GRIFFON: But tentatively it's -- it's an okay --

DR. MAKHIJANI: Yes. Yes.

MR. GRIFFON: -- date to hold it? And I would say that at least Bethlehem -- I don't know if there's any chance that we might have the internal dose responses to the procedures review by then?

DR. NETON: I'd have to rely on my colleague,

Stu, to --

MR. GRIFFON: Yeah -- yeah, I'm asking Stu to --

DR. NETON: -- speak to that.

MR. GRIFFON: -- and/or the -- any -- any -- if it's too soon to work on Y-12 issues there, too, but --

DR. WADE: It'd be nice to have the matrix on Y-12 put together with the SC&A comment and the NIOSH response.

MR. HINNEFELD: Okay. The matrix based on procedures --

MR. GRIFFON: Procedures review.

MR. HINNEFELD: -- let's see, the internal procedures review, we can certainly be at the point on the internal and the CATI procedures on the 15th that we were on the 6th on the external.

MR. GRIFFON: That'd be great.

MR. HINNEFELD: We can have our initial responses --

DR. WADE: Right, what about Y-12?

MR. HINNEFELD: -- (unintelligible) by that time.

MR. GRIFFON: And Y-12?

DR. NETON: First let me verify, that's the 15th and 16th, Tuesday and Wednesday.
MR. GRIFFON: Or just the 15th, I'm saying.
DR. NETON: Or -- well, just the 15th --
DR. WADE: Jim has a conflict on the 15th. The 16th?
DR. NETON: No, I don't.
DR. MELIUS: Well, I was going to throw out let's further complicate this -- either the 15th or the 17th would work for me for the -- the new workgroup if you're going to be out there and --
DR. NETON: I do have a conflict on --
DR. WADE: I understand. What about the 16th for Mark's workgroup and the 17th for Dr. Melius's workgroup?
DR. NETON: That seems okay.
DR. WADE: With the wisdom of Solomon.
DR. ZIEMER: Okay.
MR. GRIFFON: Okay.
DR. ZIEMER: Okay, Mark?
MR. GRIFFON: Yeah.
DR. MELIUS: The 17th?
DR. DEHART: The 17th?
DR. MELIUS: Yeah.

DR. DEHART: Okay.
DR. WADE: The 16th for Mark's, the 17th for Jim's. I would really ask NIOSH if we can have the matrix on Y-12 put together by then. I think that would be very important, given the fact that we're likely to see a discussion of the SEC petition at the end of January.
DR. NETON: We'll -- we'll try.
DR. WADE: Thank you.
DR. MAKHIJANI: Just a question, Dr. Melius, did you want any SC&A representative to be present at the 17th --
DR. MELIUS: No.
DR. MAKHIJANI: -- just for planning purposes?
DR. MELIUS: No, not at this point.
DR. ZIEMER: I don't think we to on the initial meeting.
Okay. Any other business to come before us?
MS. MUNN: We're talking the 16th?
DR. WADE: 16th for Mark, 17th for Jim.
DR. ZIEMER: Motion to adjourn?
MR. PRESLEY: So moved.
DR. ZIEMER: Second?
MR. ESPINOSA: Second.
DR. ZIEMER: All in favor, leave.

DR. WADE: Well done.

(Whereupon, the meeting was adjourned at 3:50 p.m.)

C E R T I F I C A T E 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 October 19, 2005; 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 4th day of December, 2005.

_____

STEVEN RAY GREEN, CCR

CERTIFIED MERIT COURT REPORTER

CERTIFICATE NUMBER: A-2102