

This transcript of the Advisory Board on Radiation and Worker Health, Santa Susana Work Group, has been reviewed for concerns under the Privacy Act (5 U.S.C. § 552a) and personally identifiable information has been redacted as necessary. The transcript, however, has not been reviewed and certified by the Chair of the Santa Susana Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change.

1

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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SANTA SUSANA FIELD LABORATORY WORK GROUP

+ + + + +

THURSDAY
OCTOBER 16, 2014

+ + + + +

The Work Group convened via teleconference at 11:00 a.m. Eastern Daylight Time, Philip Schofield, Chairman, presiding.

PRESENT:

PHILIP SCHOFIELD, Chairman
HENRY ANDERSON, Member
JOSIE BEACH, Member
WANDA MUNN, Member
LORETTA VALERIO, Member

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2

ALSO PRESENT:

TED KATZ, Designated Federal Official
MATTHEW ARNO, ORAU Team
BOB BARTON, SC&A
TERRIE BARRIE
HANS BEHLING, SC&A
MILTON GORDON, SC&A
LARA HUGHES, DCAS
BONNIE KLEA
JOHN MAURO, SC&A
JENNY LIN, HHS
JIM NETON, DCAS
JOHN PACE
MATTHEW SMITH, ORAU Team
JOHN STIVER, SC&A
DENNIS STRENGE, ORAU Team
ABE ZEITOUN, SC&A

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T-A-B-L-E O-F C-O-N-T-E-N-T-S

	<u>PAGE</u>
Welcome and Roll Call	
Ted Katz, Designated Federal Official.....	4
Opening Remarks	
Chairman, Philip Schofield.....	6
Discussion:	
I. Recap of WG Activities B status as of last meeting (April 2010) John Stiver,	7
II. NIOSH status/update(s) since last meeting, Dr. Lara Hughes	16
III. SC&A status / update(s) since last meeting, Dr. John Stiver ...	26
IV. Discussion of unresolved, Open issues	60
Taskings	90
V. Plans for LA Board meeting and site tour: November 5-6, 2014	83
VI. Actions / path forward, schedule next meeting	91
VII. Comments from SSFL petitioner/stakeholders	93

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VIII. Adjourn 119

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

(11:00 a.m.)

MR. KATZ: Okay, it's 11:00 so let's get started. Let's begin, this is Ted Katz. I'm with the Advisory Board Radiation and Worker Health, this is the Santa Susana Work Group and before I do roll call, just a general announcement.

The materials related to, or being discussed in this call are posted on the NIOSH website, along with the agenda for this meeting under the meetings page for the Board, under today's date.

So folks can follow along with those documents to the extent that they are a reference during this meeting, just by going to the website and opening up those documents online.

So we're speaking about a specific work site, so please everyone speak to the

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conflict of interest when you respond to roll call.

And Dr. Poston sent me an email. He's going to be joining this meeting late, so close to noon, 11:30 or noon. So just to let you know that, or maybe even a little later than that.

But I haven't heard negative from anyone else, so let's begin with the roll down, I have Phil on the line. Just speak to conflict of interest and then we'll go down.

(Roll call)

MR. KATZ: Okay, so I think I've covered everything I need to cover. Let me just remind everyone, particularly members of the public who are not so familiar with this, please put your phones on mute except when you have an opportunity to address the group, or you need to, because that will help the audio quality for everybody.

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So keep your phones on mute. If you don't have a mute button on your phone, if you press * and then 6, that will mute your phone.

And then press * and 6 again and it'll take your phone off of mute. And also please don't put this call on hold. Hang up and dial back in if you need to leave at any point. Because the hold will also ruin everyone's audio.

So thanks, and Phil, it's your meeting.

CHAIRMAN SCHOFIELD: Okay. Welcome everybody. This meeting is about the Santa Susana Field Lab, kind of bring you and all of us up to date. I know there hasn't been much done on this as far as Work Group meetings for quite a while.

So just kind of bring everybody up to speed and get us all on the same page. There will be time for public comments after we get

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through the agenda.

The agenda is posted on DCAS's website if anybody wants to see it. So I guess John Stiver, I'll turn it over to you.

MR. STIVER: Okay. Thank you, Phil. This is John Stiver, I put up the agenda on the, Live Meeting. Hopefully those of you who have Live Meeting can see it now.

As Phil said, it's been a long, long time since we had a Work Group meeting. About four and a half years now. And so in addition to that, the composition of the Work Group has changed and as well as the composition of the SC&A team, and possibly the ORAU team as well.

As a matter-of-fact I think Abe Zeitoun is the only one here today who actually, on our team at least, who was involved in the initial worker outreach back in 2005, 2006 timeframe.

So what I'd like to do is kind of

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give you sort of all a cameo sketch of where we are and how we got here.

This particular site is kind of difficult to follow. It actually took me a while to kind of unweave the web over the last few days, going through the old transcripts and trying to determine which findings came from what, review documents, and which ones are you know, still active and relevant today.

After that, I know Lara had put together a nice little summary of what DCAS's has done over the intervening four and a half years since the April 2010 meeting. We can talk about that a bit.

SC&A who has been involved in redoing a couple documents that NIOSH has produced. And there are some of the matrix issue items that can be closed out or at least put in abeyance.

Others are going to be contingent

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upon the complete reviews of internal, external coworker models, and environmental TBD updates.

After that we can talk about the Board meeting that's coming up and then plan for the next Work Group meeting.

Let's get back to sort of the recap. As most of you know, at least the people who have involved in it for any length of time, the TBDs for Santa Susana were developed and released back in 2006 for the most part, 2006, 2007 timeframe.

We completed the review of the Site Profile in 2008, I believe in the beginning of August in 2008. The first Work Group meeting was, I believe, held on August 26th of 2008.

At the February 2009, no, excuse me; that would have been the following year. We had a Work Group meeting in, I believe April 17th of 2009, because I remember that because

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it was my very first Work Group meeting. I'd been with SC&A for about two weeks at that point.

Then during that time we were also reviewing the SEC Petition, SEC-93, the original petition. And we completed the review of that in, I believe in, oh gosh, when was it, October of 2009? So it's kind of an overlapping of SEC, and the Site Profile document reviews, and findings resolutions.

And then I believe it was the February 2010 Board meeting, there's a bit of discussion there about Santa Susana, mainly a great deal of discussion about defining the site boundaries, and the labor aspect, and how the other three sites, Canoga, Downey, and De Soto all fit into the puzzle.

Then the last meeting was in April of 2010 and the Site Profile findings that we produced back in 2008, some of them were

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resolved in the 2008 Work Group meeting. But others were elevated to SEC status based on the review of the Petition Evaluation Report.

And in addition to that, the petitioners had issues that were also included in the matrix and NIOSH themselves had indicated there were certain problems that they needed to look at.

So the matrix that you have now really reflects all those different, three different aspects, SC&A findings, petitioner concerns, and also NIOSH's concerns.

And that matrix was first used I believe in the 2009, April 2009 meeting. NIOSH then went ahead and added responses. We went ahead and discussed those in April 2010.

There had been some taskings to NIOSH in the 2009 meeting, and which were kind of not really specific to each particular finding but kind of grouped findings by topic.

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I believe there are like seven different things that NIOSH was to do and then we got back in April 2010 and talked about those.

And then finally in the intervening four and a half years, NIOSH has produced the internal dose coworker model. I believe that was back in, sometime in March of this year.

We are in process of reviewing that document; we're getting pretty close to finishing it up actually. I hope to have it to DOE next week for review. Ideally I'd like to have it completed by the Board meeting if possible. But be that as it may, we looked at that.

Also we had produced a review of OTIB-77 back in March of 2010, Hans Behling. And recall that, that document used the Boice Database and we've found a lot of problems with that.

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And then NIOSH actually had, and they were going to look at the whole issue of NTA track film and how to address neutron exposures. And then they produced, I believe it was June 2010, a paper about using neutron-to-photon ratios.

And we began a review, and actually just about finished it up. I think it's probably about 95 percent done, back in October of 2010. But you know due to other pressing concerns, mainly Fernald heating up and some other things.

It kind of got sidelined, and as things started heating up again this year, I started, I took another look at it and I considered you know, going ahead and releasing it.

But I was thinking well, you know, NIOSH is sort of in the process of revising. There's a major revision to OTIB-77 and based

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on what Jim had said, Jim Neton had said that at the past two Board meetings they're still trying to sort out this neutron exposures and how to address, how to use the ratios versus NTA film at various times.

I believe SENES is involved in that effort. So I chose not to release it, because I wouldn't want to have to go back and redo it again at some future point.

But be that as it may, that's kind of a cameo sketch of where we are and how we got here. But if Jim or Lara if you'd like to talk about the things that you've accomplished over the last few years, I can go ahead and pull that document up here.

The, where is it? Here we go, Work Group update. Let me go ahead and share this. Jim, can you see that now?

DR. NETON: Yes, I've got it.

MEMBER MUNN: Yes, I see it, John.

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Are we going to have opportunity to have a hard copy of these reports that we haven't seen yet?

MR. STIVER: Oh yes, certainly.

MEMBER MUNN: Thank you.

MR. STIVER: A lot of the reports we haven't completed, but when we will, they'll be available.

MEMBER MUNN: I haven't seen Lara's note either.

MR. STIVER: Okay.

MEMBER MUNN: Thanks.

MR. STIVER: This is Lara's summary, so Lara if you'd like to just talk about it a bit?

DR. NETON: This is Jim. I think that was distributed to the Work Group.

MR. STIVER: Yes, I'm sure it was.

DR. NETON: It was.

DR. HUGHES: This is Lara. It was, it was sent to the Work Group.

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MEMBER MUNN: I didn't have it.

DR. NETON: We'll certainly make sure you get a copy.

MR. KATZ: I think in September, is that right, Lara?

DR. HUGHES: Yes.

MR. KATZ: Yes.

MEMBER MUNN: I'll check again in my September mail.

DR. HUGHES: A lot of times when I'll send stuff to the Work Group, I get a lot of bounce back from the emails, it's basically saying the email is not valid.

MR. KATZ: Right, but Lara that doesn't apply to, Wanda's never had that problem other than within those --

DR. HUGHES: Okay.

MEMBER MUNN: No, my problem is one of memory.

MEMBER BEACH: Yes, and this is

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Josie, I got a copy of it. So it's out there
Wanda.

MEMBER MUNN: Alright. I'll check
my September mail, thanks.

DR. HUGHES: Okay, so should I go
ahead, Jim?

DR. NETON: Yes, go ahead, Lara.

DR. HUGHES: Okay. I hope you had
a chance to review it. It's been a long time,
but I think NIOSH has done a considerable amount
of work on this. As John said, the last Work
Group meeting was April 2010.

After the last Work Group meeting,
NIOSH actually published a few documents. We
published the review of the environmental, the
external, and the internal Technical Basis
Documents. However those were mostly due to
include the SEC language.

As John mentioned the internal
coworker model was published in March of 2014.

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And also NIOSH developed a White Paper documenting the development of the neutron-photon ratio to be used. And that was done in 2010.

Also NIOSH did a revision of the external coworker model. That is currently in draft status. And it's a complete rework of the previous model that used the Boice Database that we have since then decided to abandon because of all the problems associated with it.

So just to go back over the years relatively quickly. In 2010, NIOSH continued to -- the remainder of 2010 after the last Work Group meeting, there were several issues with the database that we received from Boeing. And we kept trying to resolve the issues with that, and in the end, we were not able to do that.

Also in 2010, NIOSH did the neutron-photon approach and it revised some TBDs in 2011. The negotiations with Boeing

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continued.

The somewhat frustrating part with this was that NIOSH knew Boeing had the worker dosimetry data scans which essentially was an electronic copy of all the workers' files in the form of a scanned picture of each worker's documents.

And we tried to get that, but Boeing was very hesitant to release that. So by 2012 we finally convinced Boeing to release this data. It took two years almost for them to finally be convinced that this was the appropriate thing to do, so to speak.

NIOSH received this data in March of 2012, and produced the internal and external coworker model based on the data. It was a very large data entry effort and data verification, quality assurance that was done by ORAU.

So these models are completed. The external model is awaiting approval because of

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the remaining issues regarding the neutrons, which I think we have now arrived at a path forward.

And which will be presented in addition to the neutron-photon White Paper. The refined approach will be presented in the form of the revision of the document, such as the TBD, or the internal-external coworker model. It will probably be included in that.

As for the coworker models, the internal coworker model, OTIB-80 it consists of a plutonium model, a uranium model, and a gross beta model encompassing the years from 1965 up until the modern period, the 1990s.

The external coworker model which it's an analysis of about 175,000 data points, which consists of a site wide model that is all of Santa Susana, as well as a model to be used for Area IV workers, and for the, for workers at the De Soto plant.

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As for the neutron approach, NIOSH is currently suggesting to use the neutron-photon ratio, however that there's also an approach to use NTA film with a correction factor for certain exposures at the site such as accelerator exposures.

And that concludes the end of my little note sheet that I have here for the update so --

MEMBER BEACH: Lara, this is Josie. I have just a comment and a question. On Page 1 under the SEC Evaluation Reports, I think there might be a typo on that first SEC for 0093. That was from January 1st, 1955 and I think it was 1958, not '65. Is that correct?

DR. NETON: That's correct Josie.

DR. HUGHES: Yes.

DR. NETON: That was actually, no well, that was the petition time period.

DR. HUGHES: That's correct it was

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initially, it was. Yes, that's a typo, I'm sorry.

MEMBER BEACH: No, that's fine, I just heard people looking at this, it's quite, it's quite complicated.

The other one is OTIB-77, that was a complete rewrite, correct?

DR. HUGHES: Yes.

MEMBER BEACH: So that's something that, is it --

DR. HUGHES: Yes it has, it's in draft status which means we have not released it.

MEMBER BEACH: Okay, so that's something that we'll have to look at when it comes up? When do you think that will be out?

DR. HUGHES: It should be soon. Jim, do you have any?

DR. NETON: Josie, that should be soon. I held that up. The TLD portion is fine

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for the external you know, photons and such, but there was a table in there that summarizes coworker data using the NTA track film, or track material.

And it was, I was concerned about how we're going to use that in addition to this neutron-photon ratio. That's been resolved. So that the data that are in there are actually correct. We just need to annotate it to reflect how those NTA measurements would be used.

So it should be soon. I would say, you know in a matter of weeks.

MEMBER BEACH: Yes, I guess where it says we've started in 2014, to just kind of, wasn't sure --

(Simultaneous speaking)

DR. NETON: -- the one table that has the NTA film data that we need to essentially annotate either there or in the

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external dosimetry TBD, as to how those data are actually used in conjunction with the neutron-photon ratio.

MEMBER BEACH: Oh, okay. And I have I guess, Ted one more thing on the 077. Is that something that SC&A can just go ahead and as soon as it comes out, go ahead and review?

MR. KATZ: Yes, so we don't need to wait for a Work Group meeting for that, but we'll task that when it's released, yes.

MEMBER BEACH: Yes, perfect. Okay.

MR. STIVER: Okay, thanks. Thank you, Lara.

I have a question for Jim. The neutron to photon ratio paper that you produced back in June of 2010, is that still, does it still stand as it was written?

DR. NETON: Yes, that would not, that will stand as it was written. That's our

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intent to use that for those reactor facilities.

MR. STIVER: Okay, alright. So we'll go ahead and finish up our review of it and then deliver it to the Work Group. That's one thing I was just kind of concerned about just in reading some of the history here.

DR. NETON: No, I understand what you're saying John. I agree with what, how you summarized it. We were, I wasn't quite sure how those N/P ratios were going to be used for reactors. But now we've got a path forward and it will stand as written.

MR. STIVER: One other thing that I wanted to know, it might be premature to ask this but, you said there was like 175,000 data points in the Boeing external dosimetry data for Boeing.

One of the problems we had -- because it was an epidemiology study, there

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was, it was eventually considered lifetime exposure. So we had people coming in who had doses included earlier at other sites that were added into the Santa Susana Database.

DR. HUGHES: John, this is Lara. Just to clarify, I might not have made this completely clear, but NIOSH is not using any aspect of the Boice data anymore.

MR. STIVER: Oh, right, right. My question was really, is the Boeing data just exclusive to Santa Susana --

DR. HUGHES: It's what was received from the site for each of their workers.

MR. STIVER: Okay.

DR. HUGHES: So yes, I mean it's --

MR. STIVER: It might be earlier
TIB-77.

DR. HUGHES: Yes, I realize that.

MR. STIVER: Is it inclusive of all
four sites?

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DR. HUGHES: Yes. No this is the raw data. This was actually input by ORAU from each worker's dosimetry card, bioassay card, it was all redone.

MR. STIVER: Okay, so will there be one generalized coworker model, or it is going to be like separate models for each? Like one for De Soto and one for --

DR. HUGHES: There's one for De Soto, one for Area IV for the external, yes.

MR. STIVER: And the others are covered by the SEC? Okay, alright. I don't want to get into too much detail on that until we have a chance to look at it.

I guess as far as SC&A is concerned we've really, you know we've been kind of dormant on Santa Susana aside from the review, the neutron-photon ratio paper. And the review of, at the internal CBT.

And you know we realize you guys

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haven't had a chance to look at it, because we haven't even finished it yet. But, so I know there are a few questions that, you know Bob and Milton have been leading the charge on this.

And you know they have been very close to the data and really, you know looking at it at a very fine level of granularity.

Had a few questions that maybe you guys could maybe answer, I don't know. We don't want to put you on the spot or anything with questions about you know, the quality or the veracity of the methods or anything like that but, Bob you on line still?

MR. BARTON: Yes, I'm here John.

Thanks --

MR. STIVER: Could you give a thumbnail sketch of you know what our concerns were. I know there's something about the inclusiveness of the different radionuclides and B-

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MR. BARTON: Sure, sure I mean we kind of got into it a little bit with, I guess Lara's summary there. But I guess our main questions kind of centered around, we weren't quite sure where the external database that sort of underlines the coworker models, really came from.

And I'm feeling a little confused because I found out that the data came from Boeing but then there was an effort by ORAU to I guess code additional data or was it a separate effort?

So I mean if you could get a little more information as to where this data came from, like and if, I mean the database itself contained something like 37,000 data points.

Not all are actually germane to the reconstruction of uranium, plutonium, and fission products which is laid out in TIB-80.

But you know there's a significant

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amount of data. I guess we're kind of wondering because it's not directly referenced in the database. Was that actual electronic file received by Boeing and modified by ORAU?

Was it actually compiled solely by ORAU? The log books, I guess we're just kind of looking for a little more information as to where exactly this database originated from? Because it obviously is the linchpin to doing a coworker analysis.

DR. HUGHES: Bob, could you clarify which database you're referring to? This is Lara.

MR. BARTON: Well that's whatever was received from ORAU? I can see if I can quickly dig up the specific name of it here? One moment please. Let's see, it's called SSSO_finalcompilation, and it's dated March of 2013_R2A internal, that's what it would be named.

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DR. HUGHES: Okay. That is a document that was developed by ORAU.

MR. BARTON: Okay.

DR. HUGHES: It's nothing from Boeing. This is the, unless somebody from ORAU corrects me on this, we do not use a database that was released from Boeing in any way. We are using the worker files that were released from Boeing, that the data was extracted and entered and analyzed by ORAU and NIOSH.

MR. BARTON: So the hard copy records which I guess you had discovered as sort of scans of individual worker's files. We're talking more than just claimants obviously, these are all the workers --

DR. HUGHES: Yes.

MR. BARTON: -- that we have information on. Okay, so those were entered into this database and QA'd and such.

DR. HUGHES: That's correct.

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MR. BARTON: And so the actual hard copy records, are they in the SRDB? Because we did have a little bit of trouble when we tried to track down where --

DR. HUGHES: They're not on the SRDB, they're all on an encrypted hard drive that was received from Boeing.

MR. BARTON: Okay.

DR. HUGHES: So that --

MR. BARTON: Well, Lara, it's good that you have the hard copy though because this way you can help us, like tell the --

DR. HUGHES: We have scans of the hard copies, we do not actually have the hard copies.

MR. BARTON: Okay, yes. I realize that, yes, they're scans. No, I just wanted to be aware, scans of the original record. It's good that you have those because it may help us solve a few sort of generic questions about the

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database that kind of had us scratching our heads.

And I'm sure it will help us more efficiently wrap-up our review of the coworker model.

And then there specifically was some results, I think maybe on one specifically uranium results that were earmarked to be used in the coworker model, actually had two numerical values associated with a single bioassay result.

And I don't know if this is getting too specific and I, you know it would be completely unfair because you haven't even seen a report yet to dive into the weeds, but if you do know the answer it would help us out.

Sometimes if there are two results, one would be labeled as the reported results, and then there's a calculated results. And we couldn't quite, well we just don't know what I

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guess the difference is between the two and how you have worded the reported results confirmed versus, and how was the calculated results reached?

If you really have that situation, you still have to choose one, whether you can use the reported numerical value or the calculated one to plug into the OPOS calculation which eventually becomes the coworker intake.

I don't know if that's something that can be easily answered? It'd be great, if not, I don't know -- is Matt Arno on the phone because I think he was --

DR. ARNO: Yes, I'm on.

MR. BARTON: Yes, and you're the principle author on TIB-80. I don't know if you have that information, you know at the ready, or is it something that you'd have to look into further to kind of characterize it?

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DR. ARNO: I'm sorry could you repeat the original question again?

MR. BARTON: Well, yes. Some of the results that we were looking at, that were pegged to be used in the coworker model, actually had two quantitative values. Two different numbers for the same bioassay sample.

One would believe it is reported, simply because the column header says reported. And then the column next to it says calculated. And then we would expect you would setup, it would typically select the calculated value, but we didn't really know what, what the calculated value actually entailed.

So we're kind of wondering you know what the difference is? What steps went into getting to the calculated value versus what was reported? I can give you a little more information, Matt. And that was --

DR. ARNO: Well, that has to do with

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how the data was actually recorded on the forms that we were provided. There would be a box on those forms that would have a reported value in it. And that's where on that form there would be the, basically the underlying calculations that would have a result there.

And that result would often be either the actual result for a less than MDA value or it might have more significant digits than what was reported.

It's nothing we calculated. It was on the forms that we transcribed.

CHAIRMAN SCHOFIELD: Lara, are these the same records that you spent lunch transcribing?

DR. HUGHES: Yes, that will be the records.

DR. NETON: Bob, this is Jim. It sounds to me that you, SC&A might benefit from getting some example copies of these hard

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copies, or these electronic files. Maybe not necessarily the whole thing, it's my understanding it's a fairly huge, huge database.

DR. HUGHES: Jim, as an example, I mean all you would have to do is look in NOCTS. I'm not sure if that's available to SC&A.

DR. NETON: Yes, sure.

DR. HUGHES: But it's basically you know any claimant's NOCTS file would correspond to what we received from --

DR. NETON: Okay, yes that's a good point.

DR. HUGHES: Because we actually cross correlated them to see if there were any mismatches and we have not been able to find any. So basically what the claimant receives from --

DR. NETON: You have access to NOCTS, right Bob?

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MR. BARTON: Yes, sure. I actually, I got just got knocked off the call so I missed the majority of your response but I guess the calculated value was what was contained in the DOE response files, is that what?

DR. NETON: No, no Matt Arno, he could speak better but sounds like there was, the calculated value was actually on the sheets that were received from Boeing.

MR. BARTON: Yes, that was -- really it sounded like both values were on the sheet, one was in the box and one was above the box, so I guess I -- I don't know.

Again I apologize I got, as soon as you guys started talking I got kicked off the call and had to dial back in. Sorry to make you have to repeat yourself.

DR. NETON: Those copies of those records are all, they're claimants. Those

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hard copies, electronic copies are in the claimant files so maybe it would be helpful if you would look at some of the claimant files where those records exist and you know then you can see the actual sheet that was coded.

MR. BARTON: Okay, so I mean the ones for non-claimants were essentially the same format and everything?

DR. NETON: Yes.

MR. BARTON: That was coded.
Okay.

MR. STIVER: This is John Stiver. This is something that we were hoping that we could get from you guys. At least was the, you know that knowledge that the data you have and it's from Boeing, is actually included in the claimant files.

And we can just go in there and take a sampling you know for differ people, different times for whatever radionuclides we

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want to look at, and see the actual data. So that's important.

And just to be sure now, the calculated and the recorded, or reported values had nothing to do with what ORAU did? This is just straight off the data sheet that came from Boeing, correct?

MR. BARTON: Correct.

MR. STIVER: Okay, alright.

MR. KATZ: And this is Ted. John, and Bob, you know once you get into that and you're looking at examples from NOCTS, if you need more access to you know more of the data set, what have you, just ask for that.

And if you need clarifications just get in touch with Lara and get those. You don't need to wait for another Work Group meeting for any of that.

MR. BARTON: Okay, thank you Ted.

MR. KATZ: Sure.

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MR. BARTON: Yes, I think first order we can look at the sample of claimant's and then if we still have questions like you said, we can request the additional data which I guess is on an encrypted drive somewhere, but good.

It's good that we have that, because we weren't sure if you know ORAU had just received an electronic database and you know we really didn't know, kind of what went into it, who created it, you know where the data came from?

So it's really good to hear that we have that underlying, I keep calling it hard copy, I realize it's you know essentially PDF scans but the original worker exposure records is important.

I guess the other, I guess broad observation that we had, and it would be good to get a little clarifying information on it,

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is we noticed that a large proportion of the samples at least on the surface, only appear to be given in units of total activity.

Where sometimes the sample Boeing has provided, sometimes it's not. And so in those cases where Boeing had total activity, for example, disintegrations per minute, DPM, it would have seemed that those samples actually represented, possibly 24 hour samples.

So even though we've always said that the bioassay samples was total activity, DPM was assumed, was that it was actually DPM per about 1.5 liters per day essentially. And I guess we were hoping a little more discussion as to how that was reached?

What it says in the actually TIB-80 is that it was based on I guess two things. One was the Technical Basis Document for Santa Susana. And secondly was based on trends that

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were observed in the datasets.

So I guess we're kind of looking for just a little more discussion as to how that assumption was reached. And by looking at the TBD, there was some indication in there that the standard was per day, which that sort of makes some sense.

But there also wasn't really a direct reference provided in there. I mean I know you can't reference every sentence in a TDB, but I was looking for a little more information on how that decision was reached?

That those data points where we have essentially a numerical value in the units of total activity instead of total activity per some unit volume, that those were all in fact, DPM per day.

Because obviously that's going to be very important when you actually start plugging these numbers in to get your OPOS

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value. And then to use that to calculate a chronic intake rate.

Well, I guess the question is, I mean you know, how did we get to that point, or we see in the database that the samples were given in total activity and not normalized to a volume, but assume that they are actually in fact per a daily sample of 1.5 liters?

DR. ARNO: Well, as the TIB said the TBD indicates that it was the standard practice to collect a 24 hour sample.

And when you review the data and you looked at contemporaneous samples for the same analysis type that do report the results in per some unit volume, you see that all of those are reported in basically per 1.5 liters there per day type of sample.

So we just made the assumption that the ones that did not have units were per 1.5 liters because all the ones that did have units,

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were in per 1.5 liter units.

MR. BARTON: I see. Okay.

Alright. That's going to help us out a lot in sort of wrapping this up. I think that was the major questions I had.

Milton, if you're out there, did you have anything that you wanted to say query before we wrap up our draft review or?

MR. GORDON: No, I don't think so.

MR. BARTON: Okay, Milton's been working on job title analysis. It's something we always look at with internal coworker models. And the information is somewhat limited unfortunately.

I don't know the exact percentages, but you know a few of the records actually specify a job title associated with a specific sample.

And what we did is we created notches to try to fill in some of the gaps

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because we actually had social security numbers that we could match up and pull job titles from NOCTS.

And so that'll be part of our review of just looking at, you know it's an important question of what type of jobs were actually monitored you know.

And maybe some ideas if that is representative or you know, even better sort of a bounding sample of job types. So that'll be part of our report as well. But I think that's all I had.

Oh, actually one more thing. This TIB-80 covers uranium, plutonium and fission products, and I guess we were curious if there was any plan to sort of assess exposure potential with maybe some of the more exotic or rarer isotopes that might have been at Santa Susana. You know such as maybe thorium exposure, or americium, curium that kind of

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thing?

DR. ARNO: We considered doing the other radionuclides but there was not enough data for those radionuclides to perform a coworker study for them.

MR. BARTON: Okay.

MR. STIVER: This is John. How do you plan on dealing with the other radionuclides then?

DR. ARNO: Well from the aspect of the coworker study we won't be able to do anything and I -- I think someone else needs to answer with regard to the TBD.

MR. BARTON: I just want to add, I know it's in one of responses that --

(Simultaneous speaking)

DR. NETON: This is one of those issues that we've still got to resolve. I mean it's an outstanding issue.

MR. STIVER: Okay, alright. I was

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just wondering if you were going to use like a TIB-54 type approach to try to ratio to the fission products or something like that?

DR. ARNO: Well OTIB-54 would be used for the gross beta results that are in the coworker study.

DR. NETON: I mean and if you consider those some of the exotics, but anything other than the actinides that were modeled. You have to sort of look at it on a case-by-case basis, which, you know who was exposed and were they all monitored? It's very similar to what we've done at other facilities.

MR. STIVER: Okay, yes there's something still in the works then?

DR. NETON: Yes.

MR. STIVER: Okay. Hans or John, you guys have anything you wanted to ask?

DR. MAURO: This is John, no. You just answered the question that I was -- I knew

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this issue I used to call the term exotic. Maybe they're not all exotic but, so it sounds like dealing with that issue is still something that is sort of overarching?

And Jim, do you folks plan on coming up with a strategy? Because this is --

DR. NETON: We definitely have to address it, although I'm, I would not call it overarching, that in my mind has a different connotation.

DR. MAURO: Yes.

DR. NETON: But yes, we definitely have to address it one way or the other.

DR. MAURO: Yes. Is there a way that in thinking about the problem -- sounds like there are two strategies?

The obvious thing you know, one is this ratio-ing approach somehow. And the other is maybe in combination, demonstrate that any contribution from these others are not

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significant. And somehow quantitatively demonstrate that.

Is this a line of approach that you're taking, it seems like this is something that has been lingering for a while?

DR. NETON: Unless Lara has any additional information I don't know about, that's still up in the air, John.

DR. MAURO: Okay, thank you.

MEMBER BEACH: So I have a question. This is Josie. From the last Work Group meeting in April 2010, there were three action items. And the environmental doses and explanation of how you're going to do those, has that been addressed yet, or?

DR. HUGHES: Yes, there has been a review of the environmental Technical Basis Documents and some of the issues were addressed, which as the tritium doses have been incorporated.

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And some of, the issue of the stacked data was addressed to a certain extent. This is also, the document is also in draft status awaiting the, it was really waiting for resolving issues regarding the internal and external coworker models. So now that these are resolved, this should move forward.

CHAIRMAN SCHOFIELD: Is the external environmental dose, which data are you going to be using? Just the records, because there's you know there's potential for people who weren't monitored on a bioassay program would have received an internal dose from the environment.

DR. HUGHES: I'm sorry, the internal?

CHAIRMAN SCHOFIELD: I mean like a reactor when it went south. I mean it was, I mean I don't remember the numbers off the top of my head, but that was released and I don't

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know if all the personnel were actually monitored for internal exposures?

So you'd need a coworker model for those who weren't and yet were subjected to the possibility of, I mean in some form of uptake from the environment.

DR. HUGHES: We do have the internal and external coworker model that are in place currently, that can be used to address any unmonitored exposures.

DR. NETON: Lara, this is Jim. I'm having a little trouble hearing you.

DR. HUGHES: Okay. I'll try to speak up.

DR. NETON: Okay.

DR. HUGHES: Any unmonitored exposures to a worker that potentially was exposed to higher than environmental levels would you know, we would apply the internal or the external coworker model.

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MR. STIVER: Lara, I didn't quite hear that about, when do you expect that the revisions to the TBDs, Number 4, the environment TBD would be available?

DR. HUGHES: Jim, I guess it would be, it should be a matter of maybe weeks. It shouldn't be too much longer.

DR. NETON: Okay.

DR. MAURO: Lara, this is John Mauro, I ran into an ambient dose situation on a DR review. And I made use of PROC-60 which is onsite ambient dose reconstruction for DOE Sites. It covers a lot of sites.

Is somehow that PROC applicable here, for environmental ambient exposures?

DR. HUGHES: I would have to defer to that. I do not know.

DR. MAURO: Okay.

MR. SMITH: This is Matt Smith with ORAU team. I don't believe Santa Susana is

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summarized in procedure 60. And procedure 60 would be addressing external ambient exposure.

But certainly both coworker models, and I work primarily on the external side, are there for just that purpose. For a worker who was not routinely monitored but we're looking for a data set to fill in the story on their dose history.

DR. MAURO: Yes, the reason I raised the question is I noticed that there are a limited number of specific sites where you come up with an ambient and you start to look at the tables, and the ambient doses. They're all pretty close together and they do capture a broad range of different types of activities, different types of facilities.

And I noticed that in a particular DR. And the only reason I'm bringing this up is I'm looking at a case that is a facility that is not actually explicitly addressed in PROC-60

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but you did find a way to assign ambient doses.

It sounds like you might have a similar circumstance here.

MR. SMITH: Well, and in addition you have the ambient, or the external, I'm sorry -- the environmental TBD which will address external exposure as well.

DR. MAURO: Okay, alright, thank you.

MR. BARTON: You know, John, this is Bob Barton. I think you bring up a pretty good question that we often struggle with at a multitude of sites, is when does a certain worker crossover from the internal coworker model into this, into the ambient, internal portion of the TBD?

Because you do have certain, have a situation where it's maybe up to the dose reconstructor to decide when a worker will be considered unmonitored but should have been

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monitored, which is sort of the language we use associated with assigning low B to TIB-80 coworker intakes, versus a worker who, you know you really wouldn't expect would be in these areas with the monitored rad worker population.

And then you sort of default to the ambient. And it's like I said, it's something we wrestle with at a lot of sites because it's not often specifically delineated.

I know we've had some discussions with the SEC Work Group about that, about to what level can you actually be prescriptive about which types of workers are going to be assigned which internal intakes.

Because there's really two levels. It's the coworker model at one level, which is what resulted over the monitored population. And then you have the ambient which you would think would be more, you know the office workers who really didn't enter radiological areas but

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were on the site and could have been exposed to ambient environmental intakes.

DR. NETON: Yes, Bob, this is Jim. And you're right. This is an area, this is something we wrestle with at almost every site.

And I think, you know that the idea is that if a worker had any potential at all for entering a, what we would call a radiological area, and by that I mean there was presence of reactor materials, and work processes going on, and they weren't monitored. They would always at a minimum receive the 50th percentile of the coworker model.

The ambient environmental is very much sparingly reserved for people who we would consider to be administrative personnel. Who had almost no possibility of entering the radiological areas.

There you're talking about people such as administrator support staffs,

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secretarial support, those type of folks. And I think if you go through the dose reconstructions you'll see that we fairly, we almost always err on the side of being claimant-favorable in those situations.

There is a TIB out there that gives some guidance on this. I can't remember the exact, it might be 20, but talks about climate and environmental. And it's got a sheet at the back, I might have it, but scanned at hand.

I was looking at this issue actually as part of the implementation guide for coworker models. That as you know, that we're working on. And if you bear with me one second I think I actually a table.

Yes, --

(Simultaneous speaking)

DR. NETON: And I don't have the particulars --

(Simultaneous speaking)

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DR. NETON: -- the attachment and job categories in general is for, they all indicate some potential for application in environmental, internal exposures. And it goes through three categories that was covered.

But you're right I think it's, this is truly an overarching issue and it's something that we need to deal with, perhaps more than likely in the coworker issues group.

MR. BARTON: You're right. I agree.

MR. STIVER: Yeah, this is John Stiver. I agree as well, probably this isn't the right forum for discussing this although it's an interesting issue and it does come up quite frequently.

Does anybody else have any questions about the problems that have been B

DR. BEHLING: John, this is Hans Behling. I do have a question in regard to what

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was just talked about with the internal. In the rewrite of the OTIB-77, are we also planning to provide doses at the 50th percentile and 95 percentile level?

MR. SMITH: Yes, this is Matt Smith with ORAU team. The answer is yes.

DR. BEHLING: And also construction trade worker in there?

MR. SMITH: Yes.

DR. NETON: Well, Hans --

(Simultaneous speaking)

DR. NETON: -- as you know are in somewhat of a transition period here with the SEC Issues Work Group on coworker modeling.

But at this point we're proceeding along as we have and you know we'll make modifications as necessary as you know, as we come to some conclusion on the issues that are currently on the table.

But right now we're moving forward

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with the same approach we've used as in the past until those issues become resolved.

DR. BEHLING: I was just, the question in context with what was just talked about, when to use the environmental versus the coworker as it applies to the 50th percentile application.

In just reading over the old OTIB-77, I have a question about when you would apply the 95th percentile for an unmonitored worker? Because based on the definition it's a person who would be expected to be exposed routinely.

And as such you would almost expect also for him, to have a significant amount of data if not a complete data set for him which would always make it an oxymoron to identify a person whose routinely exposed, when you have all these data points and actually --

DR. NETON: -- that's not

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necessarily true Hans, I mean in earlier days there may have not monitored all the highly exposed workers. As you've pointed out in the past, they may have been cohort badging to some extent.

You know sampling of the various exposure. Or they could have, we just could have not gotten the guys records. It's conceivable a person who was a chemical operator was monitored and his records were lost.

There are a lot of situations where I can think it would apply.

DR. BEHLING: Okay. Yes, I accept the fact that if there were gaps or missing data, or missing records, or in the case of coworker, cohort badging that you would obviously have a need apply the 95th percentile.

MR. STIVER: Yes, again I think

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this is something that's going to be very much in play in the SEC Work Group regarding development of coworker models and so forth, and you have some of these overarching issues that's coming up again and again.

DR. BEHLING: Also let me ask, on the assumption that I may be the person from SC&A to be passing reviews and rewrites of OTIB-77. Who would be the person because of the new database that's going to be used, who would be the person that would be able to answer questions?

On the assumption that Ted Katz would allow us to make contact with that person, to answer questions that we have as our review progresses?

DR. NETON: I would work through Lara Hughes, she's the NIOSH point of contact and then we could identify who in ORAU would be able to help. But I think we'd stick with the

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NIOSH contact for now.

MR. KATZ: And Hans, this is Ted.

And certainly whenever you have questions that need clarifying, contact the point person.

DR. BEHLING: Okay.

DR. NETON: Yes, you could always call me as well but I can't guarantee I'd be as helpful as Lara.

DR. BEHLING: Okay. Thank you.

MR. STIVER: Well Hans, you have any other questions or are you ready to move on?

DR. BEHLING: No, I have no questions.

MR. STIVER: Okay, great. I guess the next thing to do is kind of go back to some of the existing issues. I've got the issues matrix pulled up I believe if it hasn't disappeared, and I have updates to it.

There are basically five of the issues I think can be closed out or put in

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abeyance today. This is Number 1 through 4 and also Number 9.

MEMBER BEACH: John, can I ask --

(Simultaneous speaking)

MEMBER BEACH: John, this is Josie.

Can I make a comment on those ones you said that could be closed or put into abeyance?

MR. STIVER: Okay, could we just --

MEMBER BEACH: You want to go through first? Okay, go ahead.

MR. STIVER: -- I think just an overview and then we could update each one.

MEMBER BEACH: Okay.

MR. STIVER: There are some new gray areas here and there.

Number 5 and Number 12 are kind of waiting in abeyance, or they're still open pending a release of the environmental TBD, revisions. And so forth with external and internal, there's four of these, six, seven,

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eight, and 13 that are kind of contingent upon the revisions of OTIB-77.

And as far as internal, six, eight, and ten will have to wait for our completion of our internal review.

But we can certainly go through the first five, that I believe can possibly be closed out, or at least put in abeyance.

Now the first one here, the first one is the sodium reactor experiment. And this is a petitioner issue. This is a fairly old one. It's been in play now since 2009.

The latest update, now I had looked at this in preparation for the 2010 meeting and basically the SEC Extension 364, basically made the internal component of this issue, moot.

On the other hand we're still, there's still the external component that's at play. And you know we would need to, wait on the review of TIB-77 before we could actually

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close this out I would think.

My recommendation would be to put this in abeyance until such time as we can look at the revised TIB-77. Any comments?

DR. NETON: Well this is Jim, I'm just, you know, I haven't thought about these for some time, but I'm looking at our note here that said it was closed on 4-20-2010 on Page 47, of the transcript. I'm not sure what, I mean I'm concerned --

MR. STIVER: I believe it's, that yesterday I went over the transcripts, it's basically between Pages 47 and 49 we talked about --

DR. NETON: Was it closed by the Working Group at that time?

MR. STIVER: It wasn't officially closed. It was the kind of thing that you know, we all agreed that the internal component was no longer moot.

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And then the external component would be contingent on the external model. But you've changed your external model completely since then. And so for those things that was kind of a snapshot in time, that --

DR. NETON: I don't have any problem doing it, I just --

(Simultaneous speaking)

MR. STIVER: -- a brand new model that you know we haven't even looked at yet.

DR. NETON: Yes, I certainly would agree with that.

MR. STIVER: You ask, just keep it open, well not open but at least in abeyance until we have a chance to look at the model.

What else, Josie, someone that's on the Work Group?

MEMBER BEACH: Yes. I, this Josie. I got dropped from the call so I missed your whole dialogue, but you were still talking

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about Number 1?

MR. STIVER: Right.

MEMBER BEACH: My concern was when I went back and read the transcript I couldn't find where we had actually closed it, and I think you just addressed that, correct?

MR. STIVER: Yes. We were just talking about it. It was agreed in principle that the internal component was no longer moot because of the SEC extension, but the external component we thought was probably okay based on the coworker model.

But the coworker model is completely different now.

MEMBER BEACH: Yes --

(Simultaneous speaking)

MR. STIVER: -- because of that it would be best to wait until we take a look at the new TIB-77.

MEMBER BEACH: Yes, and for me

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John, I just think we do have two new Members and I thought that the write-up was a little bit on the first four words, just said it was closed but it really didn't go back and say why, or how, or so someone could go back and review it.

So I was just hoping that we could get a better you know, clarification in the matrix so that if you wanted to back track you could see where it was actually done, and why.

MR. STIVER: Yes, we will after today, we'll go back and update the matrix and make that all available to everybody with maybe a little bit more description as to you know what happened and why.

So actually we'll have to rebaseline the matrix all the way round I think by the time we are finished up with our reviews.

MR. KATZ: Right. John, so this is Ted, but so to keep our terminology straight, that item does not, is not in abeyance. That

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would be still open.

I mean it would be in abeyance if the same coworker model were, would be coming out that was expected but since you just said, I mean so the horse is changed then you don't really have --

(Simultaneous speaking)

MR. STIVER: Right, right. You're right.

MR. KATZ: So it's really just an open issue still.

MR. STIVER: Yes. You're right.

DR. NETON: I think it would be helpful if you annotated it to explain exactly why, which we just talked about.

MR. STIVER: Exactly.

DR. NETON: The external coworker model and such, yes.

MR. STIVER: Okay, we'll do that.

MEMBER MUNN: I certainly agree

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with that. I think it should remain open because you're absolutely right. The transcript is actually very vague in that regard. Really doesn't tell us anything.

MR. STIVER: Okay. Back to one I know, this the, another petitioner issue, it's based on this Tiger Team report, and I, this again was one I think that was closed out, or we agreed to close it out in principle back in 2009.

It's on the, the idea was Tiger Team report really was criticizing the dosimetry for not being DOELAP accredited. But the timeframe was shifted and such that it really didn't apply to the set of film badges that you know that are, the external dosimetry for the time period that we were interested in.

And so I would concur with NIOSH's response that we could probably go ahead and close this one out because it was not really

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relevant to the issue at hand.

And again I could really probably put in a little bit more explanatory note in there.

MEMBER BEACH: Yes, John. And I don't think the Work Group when I read the transcript, I didn't see where we officially said yes, we agree and this is why we agree, and we closed it, so --

MR. STIVER: Yes, I think value, part of this just has to do with the time period involved and --

MEMBER BEACH: Yes.

MR. STIVER: This particular case it was a little different than some of the sites where we have an Issues Matrix we go through it line-by-line and then have a firm closing, like we would say do in Procedures or in Dose Reconstruction.

MEMBER MUNN: Yes, that's right.

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This is Wanda, and yes it appears to me that we, this is, our matrix here is a combination of the processes we've used in various places then.

MR. STIVER: Yes.

MEMBER MUNN: It's not quite that clear cut.

MR. STIVER: It's a bit confusing and complicated.

MEMBER MUNN: Yes it is.

DR. NETON: I think we also need to remember that this is an SEC issues close out matrix, not a Site Profile close out matrix.

MR. STIVER: Right.

DR. NETON: So just like in Number 1, it certainly made it not an SEC issue. And it was closed as an SEC issue. But I would agree that as a Site Profile issue, it --

MR. STIVER: That's a good point, Jim.

DR. NETON: -- needs some further

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detail.

MR. STIVER: Yes. Okay. Move on to Number 3, the Tritium Plume. This was a topic of discussion for another petitioner issue. This is the one that's going to be contingent to revision of the TBD issues, we'll defer pending on it.

So this is something that can be addressed in the new revision of the TBD for environmental intake. And we discussed this in the previous two Work Group meetings. I believe it was more in the 2010, and there's this idea that there was one sample that was particularly high, but so we raised that as a potential issue. So that should be included.

Any others, once again you know in the meeting it was discussed and SC&A had agreed that NIOSH's approach was probably adequate for the task. And this is on Page 56 of the transcript. There was this agreement reached

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on this.

MEMBER BEACH: Actually John, I didn't find it on Page 56 when I was looking. I think it was more covered later, but unless I missed it.

MR. STIVER: I can pull this up here, let's see.

MEMBER BEACH: I think that's where I had the biggest issue, was that these weren't very clear.

MR. STIVER: Really like I said, you know if it's not, was an actual close out, a vote on it. And we're going to go ahead and do this at this particular point in time. It was kind of a general agreement.

And some of these were agreed to in the matrix and you know they're discussed but there's kind of a general consensus that this would probably be okay.

I'm trying, I'm going through here

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now. Let's see here, this is actually in my words. Yes, this is on Page 56 at the very top.

"We believe this issue is resolved. Basically we feel that using the RD 34 which is down gradient from presumed site of contamination. Their various parameters and model estimates, we feel that this is sufficiently claimant-favorable. And we believe this issue is resolved. And we have no problems with that."

MEMBER MUNN: I'm not seeing that on Page 56.

MR. STIVER: Actually a vote --

MEMBER BEACH: I'm not either.

MR. STIVER: What's this now?

MEMBER BEACH: I'm not seeing it either, John. I don't know if we have different versions --

MR. KATZ: Probably, no there are slight differences in transcript versions

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depending on whether you're using PA cleared and not PA cleared.

MEMBER BEACH: Yes.

MR. KATZ: So on. So you may just have just want to look several pages in either direction if you're going to try to get correspondence.

MEMBER MUNN: Well if we're working from the transcript that's posted on line though, which is what most of us end up doing.

MR. STIVER: Well let me go, this is the one that's posted on the website. Let me go back up there and get it right quick.

(Simultaneous speaking)

MR. KATZ: SC&A frequently gets transcripts before they are PA cleared and the page numbers won't correspond exactly.

MEMBER BEACH: Yes, John this is Josie. I guess for me if you could clear up why this was closed and have it in the matrix, I

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think it would be easier.

Because this update for 2014 you know it talks about the tritium, but there's, it seems like there's a lot more of this issue that isn't being discussed possibly.

MR. STIVER: Well, you know maybe the best thing to do would be to go back and look at all the discussions and take away from it. Some of these were discussed in more than once. I believe this issue first came up at the 2009 meeting.

MEMBER BEACH: Right.

MR. STIVER: And we discussed it again, and basically kind of a short -- period. I can certainly go ahead and put those -- you know we're not looking at the same matrix. I was trying to, but better than trying to resolve you know every line-by-line here in the meeting. It might be better just for me to go ahead and put in the update and send it around

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for review.

CHAIRMAN SCHOFIELD: I'd appreciate that.

MR. STIVER: Okay.

MEMBER BEACH: It'd be helpful.

MR. STIVER: Alright then, I'll do that. Let's see.

Number 4, Uranium Fires. This is one where we had agreed to close it because we had gone through as you can see up here under the SC&A initial review, NIOSH response. This is, I think this might have been before I was even involved in Santa Susana.

But we'd reviewed 40 Rad Safety Incident Reports specific to uranium fires. And we felt that -- we were in agreement with the conclusions with NIOSH that the bounding estimate was possible for the fire incidents based on review of these documents.

And again, I can go back and pull out

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some more detail on that for the update to the matrix.

MR. BARTON: John, I don't quite remember either from back in 2010. Was it proposed that there would be an incident based dose assignment, based on these uranium fires? Or was that going to be subsumed into the uranium coworker model essentially? I don't know which one --

MR. STIVER: I don't recall, to tell you the truth. I believe they're in enough of these reports that we really felt that there was a coverage of the different incidents, that you know were a worker to be, and during that timeframe that, that could be then worked into the coworker model.

Now maybe that's a good point that you bring up. In that --

MR. BARTON: Well I guess maybe, we'll put that over -- I mean does NIOSH have

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any thoughts on that? On whether there would have to be a separate sort of intake model, incident based intake model based on these uranium fires which took place?

Although I think if I remember, a lot of them took place pre-'65, at least we know the incidents reports that we have, I think a lot of them were pre-'65.

MR. STIVER: Yes, just looking at the --

MR. BARTON: It wouldn't be relevant anymore but I'm sure some took place after that as well.

MR. STIVER: Most of them were late 50s, early 60s.

MR. BARTON: Right.

MR. STIVER: Now that doesn't mean the fact that we didn't have problems later on.

DR. NETON: I'll take a look at that to see if they persisted into the NIOSH SEC

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periods.

MEMBER MUNN: One of the few memories I have of those earlier meetings that we had, was a relative degree of comfort with the level of information that we had with respect to the fires.

That's one of the few things that we seemed to have a large number of resources for obtaining data.

MR. STIVER: Yes, I think the issue was, was there sufficient data to use it to bound these incidents?

MEMBER MUNN: Yes, but --

MR. STIVER: How was -- we didn't really look at implementation so much as was the data there.

MEMBER MUNN: Yes, and as I said, one of the few clear memories I have is we did feel more confident with the information we had on the fires, than almost anything else.

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MR. STIVER: I guess the question that Jim brought up, and you know in my mind at least, it's clearly an SEC issue. Now it becomes a Site Profile issue -- how is that going to be implemented in the coworker model?

DR. NETON: Right. And we've wrestled -- this is Jim again. We've wrestled with this in the past. Our, do coworker models adequately bound incidents? And our position has typically been, yes, if they're few and far between, it bounds them.

And if they become fairly routine, then it becomes a chronic exposure which is modeled in the coworker's situation, so we'd have to look at that.

MR. STIVER: Yes. So yes, I think for now that the best approach would be to take it off the SEC dockets and move it over to a Site Profile issue.

At some point we're going to have to

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rebaseline the matrix anyway given the time that's elapsed here and the changes that have taken place.

MEMBER MUNN: Now as though it weren't confusing enough already.

MR. STIVER: Now the rest of these are kind of contingent upon our being able to review the coworker models and the TBD revision, with the exception of Number 9.

And this was kind of a question, there was kind of two layers to it really. One was which areas should be considered in the SEC Petition. And so this is something that was kind of a snapshot, you know back in the 2009 timeframe.

We weren't quite, hadn't quite sorted out which of the four sites are going to be included in the SEC. Was it going to be Area IV, you know, Downey, Canoga, De Soto? Were they all to be combined, and if so then what are

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the start dates for each?

So that it was kind of uncertain as to how this was all going to be handled. That's something that has been addressed and this is again, we can work our way down here.

Kind of getting a, something going on with the document it looks like. Let me pull back up my version here, thumb down to it.

MEMBER MUNN: Well, now this one truly should be in abeyance, should it not?

MR. STIVER: Well, I --

DR. NETON: I would think this is closed.

MR. STIVER: I think this should be closed and the reason being is that the other SECs have already been --

(Simultaneous speaking)

MEMBER MUNN: Well, they're actually done, aren't they?

MR. STIVER: They're done. De

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Soto has its own SEC. And Area IV has its. The question was how were they getting it? Were they all going to be combined or not? We know that they're not.

MEMBER MUNN: They're not.

MR. STIVER: The other issue, what would be the start date? Well now we that we have this Area IV, you know we agreed with NIOSH that 1954 was, or excuse me, there was nothing going on you know before '55. So that we agreed to 1955 start date was a solid date.

MEMBER MUNN: And that being the case, there actually is nothing really left.

MR. STIVER: There's really nothing else to discuss on this particular issue then. This is one that really we can close.

MEMBER MUNN: Good, let's do it.

MR. STIVER: Okay, so let's do it.

And the last I will go through in the

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update, the ones can be updated at this point, and annotate those that are waiting on NIOSH work products before we can complete them. And then send that around to the Work Group for concurrence and review.

MEMBER ANDERSON: Sounds like a plan.

MR. STIVER: Any disagreement there?

MEMBER BEACH: No. Not from here.

MR. STIVER: Okay. I guess that's pretty much the end of what we can really discuss as far as open issues. The only other items we have on here would be comments from the stakeholders, petitioners, schedule a new meeting. And then any discussion about the upcoming Board meeting, how we want to handle that?

MEMBER BEACH: Or some tasking.

MR. KATZ: This is Ted.

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MR. STIVER: Go ahead, Ted.

MR. KATZ: It would be kind of in the order of these items that up, why don't you guys discuss how you're going to handle the Board meeting in terms of presentations and what you'll cover, and who?

And then that'll sort of give the folks that are on the line from the public, up to the end to comment on everything they've heard as well as whatever they might come with, they might be bringing to the table, you know separate and aside from what you guys have covered.

MR. STIVER: Yes, I think, I was hoping to have the internal coworker model finished up by then. If we don't I can certainly give kind of a, I guess a status update. And you know where we are, what we think the main issues are. Just more of an informative type discussion.

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And well maybe that's the best way to begin with because you know NIOSH certainly is going to have time to review it and come back with any kind of comments or responses before the meeting.

Can certainly do a similar thing for our review of the neutron to photon ratio paper. Maybe a few slides related to that.

DR. NETON: Hey, Ted. This is Jim. I thought we would, it might be best to start with Lara giving sort of an overview like she did just at the start of this meeting about what progress we've made in the last years. And the status of where we are. And maybe SC&A could follow along with their review of the product?

MR. STIVER: Yes, that would make, that would be a simpler way to do it. I mean logical for you guys to go ahead and present what you've done, and we can share what --

DR. NETON: Where we are, you know,

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and then back a little bit further back, you know we've got SECs here and through a certain time period, and now we're working on remaining issues, and here's what we've done.

And there is a pretty lengthy history here that needs to be described. And there's some valid reasons for it, but not to make excuses, but we can put that forward.

MEMBER MUNN: Yes, this is Wanda. This is such a complicated site and it's been kind of hanging in the background for so long. It seems logical to me that we should have both NIOSH and SC&A present their respective histories of where we are.

Otherwise I don't see how Board Members who were not privy to this particular meeting, and these documents, can even start to grasp how complex this particular site is.

MR. KATZ: Right, this is Ted. I already have both Lara and John Stiver slated

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just as you're talking, just suggesting, to give back to back presentations to try to cover the waterfront of where we are, how we've gotten here, and where we're going.

So I think if you cover all three of those points, and given we have new Members since then and so on. And give a pretty just rich accounting, to give everybody the same baseline for the work that'll you know, be much more sort of intensive going forward on Santa Susana to finish the work up there. So I think that would be great.

DR. NETON: And I think as in the past, I think we can share Lara's presentation with SC&A so that we don't have a lot of duplication of background information maybe.

MR. STIVER: Oh sure, yes. That would good.

MEMBER MUNN: That's appreciated.

DR. NETON: It would be much

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appreciated by everyone I believe.

MR. KATZ: Super. So I think I have a, I don't -- let me see if I can actually let you have a look at what I have slated. I think I have, yes, I have a half an hour slated between the two of you John. And Lara and John to sort of give an accounting you know.

And you know if you can't that done in 30 minutes, you know the next session is the public comments session and if you run over a little bit that's okay because we can just continue on with the public session.

I mean the folks that'll be there at the public session, you know will be interested in the topic, so they'll -- but if you get into, try to keep it approximately within 30 minutes between the two of you that'd be great.

MR. BARTON: Yes, I don't think that'll be a problem. We should be able to do that.

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DR. HUGHES: This is Lara, I haven't finished my presentation yet, but it will be very similar to the information that's in the Work Group update that I'll send out. It will be a little more detailed maybe on some of the, you know, the coworker model and the neutron-photon ratio.

But in essence that will be the information that will be presented.

MR. KATZ: Yes, but the thing Lara, I think that needs to be in. I think you could take from sort of a page from John here, is I mean John covered in the outset of this Work Group meeting, just a bringing up to date of how we got here.

And Lara, you may want to do a little bit more of that since some Board Members have not, were not around for the older stuff. And others won't remember even though they were.

So a little bit more of the

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background before you get into where we are with the status of things in progress, would I think be helpful for the whole Board.

And of course John, you know John can cover matters that you don't cover, but it'd be good for you to give that initial review.

MR. STIVER: Okay. If we all work together to make sure we have all the bases covered and there's a minimal amount of duplication.

MEMBER MUNN: Great.

MR. STIVER: As far as formal tasking of the, and what I gather from this and I sense, is it was as these documents become available we're just going to have them start working on it.

MR. KATZ: Yes, absolutely.

MR. STIVER: Fine. And as far as another Work Group meeting which we will obviously need, I know we have a Fernald meeting

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the first week in December. I think we've -- and now Josie, you said that probably wouldn't work for you.

MEMBER BEACH: No, I'm not available the first week.

MR. STIVER: And you get too much further beyond that, we're getting into the holiday season so.

MR. KATZ: Oh, let me just, I think this is predicated on, John, on how quickly SC&A can get its reviews out. And then giving the DCAS staff time to then consider those reviews.

So, you know if that already would be you know, if December would be timely, you know, then don't have to do the first week in December, where not everybody disappears immediately in December. So we can go later in December before Christmas too.

MR. STIVER: I think my thinking on that was that we would probably have the, and

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NIOSH would had time, we'd have had time to produce the internal coworker model review.

NIOSH would have had time to review it, and that would probably be enough to you know to warrant a face-to-face meeting. Even if we had nothing else done at that point.

MR. KATZ: Sure. So anyway figure that out. If you think it works out that you know, in middle December before Christmas, we'd be ready for a meeting then let me know, and the Work Group know, and we'll schedule something, or try to schedule something.

CHAIRMAN SCHOFIELD: Ted, let's try not to get you know, December. Hopefully well, it depends but I'll probably be up in Denver for a little over a week.

MR. KATZ: Okay. Yes, so that's fine. Obviously all of it is predicated on the Work Group Members being available, so if that week's definitely covered, that, but if that's

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pretty bad for you in terms of timing Phil, then we might as well just go ahead and think about January instead.

CHAIRMAN SCHOFIELD: Well that would be fine, let's go with January.

MR. KATZ: Okay, let's do that then.

MR. STIVER: Okay, that'll be fine. There's lots of --

(Simultaneous speaking)

We'll have lots of topics to discuss then.

MR. KATZ: Yes, Okay. Good.

MEMBER BEACH: Well, we have our Kansas City Work Group meeting scheduled. Maybe we could back-to-back it there.

MR. KATZ: Yes, and that's all, I'm always you know, in favor of that. Where we have more than one Board Member attending if it's a face-to-face, so that's great. I can

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get John, you know the date for that. You'll have it in your records.

MEMBER BEACH: January 8th.

MR. KATZ: Yes.

MR. STIVER: Yes, that'll be fine.

That'll probably be better for everybody.

MR. KATZ: Okay. Very good. Yes, there's another meeting also in January I believe that's face-to-face but maybe not. Maybe that's a Subcommittee. Anyway.

Okay, then. So I think that takes care of planning for the LA Board meeting. So Phil you may want to open this up now for the public members.

CHAIRMAN SCHOFIELD: Okay, Ted. Unless there's anything else we need to touch on, I would actually like to hear from, I don't know who all's on line. I understand Bonnie is, I'd like to hear what she has to say.

MS. KLEA: Hi, this Bonnie. I do

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have a question. Could you go over the exotic fuels again? There were three of them, thorium, americium and what was the other one?

MR. BARTON: This is Bob Barton, I threw those out as potential examples where we, and NIOSH agrees, we all really need to sort of run that to ground, to see what exposure potential there is out there.

Just some of the radionuclides that are currently covered by the coworker model, which is uranium, plutonium, and mixed fission products. So I wasn't in any way implying that those are, those three are the only three, or it's necessarily we need to worry about them.

But we need to be able to vet that issue to see if there's a potential for intakes of those sort of more rare contaminants that might have been encountered at the site.

So I put those out as examples, and I believe NIOSH's response was that they agree

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that they need to be able like I said, vet that issue and make sure that we're covering all our bases as far as what the internal exposure potential was at the site.

MS. KLEA: Okay. I'll defer to somebody else who wants to ask a question. I don't know if, John Pace are you there?

MS. BARRIE: Yes, I'm here and unfortunately --

MS. KLEA: That's Terrie.

MS. BARRIE: Yes, this is Terrie Barrie. Unfortunately I missed like 45 minutes of the call this morning. Something else came up, and I had to get off, but I do have a statement from D'Lanie Blaze. So if I can read that into the record?

CHAIRMAN SCHOFIELD: Okay, Terrie go for it.

MR. KATZ: And Terrie, if it's at all lengthy will you please then email it to me,

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if you're going to read into the record as well.

MS. BARRIE: Sure, I'd be happy to, Ted.

MR. KATZ: Thank you very much.

MS. BARRIE: Okay. This is from D'Lanie Blaze, she's an advocate for Santa Susana Field Workers also and she says, "We eagerly anticipate the Advisory Board's visit on behalf of Santa Susana Field Laboratory personnel of Areas I, II, III and IV.

Area IV personnel have awaited the extension of the SEC into 1965 for several years. It is justified and will be a positive step in the right direction, thanks to the efforts of SEC petitioner, Bonnie Klea.

On the matter of Areas I, II and III personnel, these areas have been excluded from EEOICPA in error. We are confident that once the Advisory Board gains fresh perspective on the facility's layout, and has an opportunity

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to thoughtfully review available site history, that the correct decision to support inclusion of Areas I, II and III to EEOICPA will be made.

These areas do satisfy the legislative statute that defines a DOE Facility under EEOICPA. Thank you for the opportunity to comment, and to serve on behalf of all SSFL, Santa Susana Field Laboratory personnel." And that's the end of her statement. Thank you.

MS. KLEA: Thanks, Terrie.

CHAIRMAN SCHOFIELD: Thanks.

MS. KLEA: Now. John Pace, did you take your phone off mute?

MR. PACE: Yes. I got it off mute now.

MS. KLEA: Okay, it's your turn.

MR. PACE: Oh, my turn. Okay.

MS. KLEA: Introduce yourself and your experience so they know who they're talking to.

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MR. PACE: Okay. I'm John Pace. I worked at the SR reactor in 1959. I was there at the time of explosion, I mean the nuclear accident. And I worked there from January through November of 1959.

I've talked to some of you already on the fact you're addressing right now, but I would like to make a statement to you that there's not much you may, you cannot compare the SR reactor Santa Susana area with other sites. It was completely different in the type of work that we were doing, being experimental work is what we were doing there.

It wasn't a commercial reactor that was making electricity like all the others. Every day was an experiment. So you're going to have a very difficult time, trying to figure out all of the numbers you like to talk about, you'll not find what you're looking for at Santa Susana. So it's going to be a real hard one for

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you.

We got rid of that Atomics International, now you have Boeing that are trying to cover up on all these things that happened at in 1959. That's why I'm speaking up, I can't speak for the other years. But in 1959 I can.

And they'll be an ongoing question marks in your mind like you've been talking about and, but what I wanted to let you know also, is that when the accident occurred on July the 13th, 1959.

The very last to shut the reactor down, within minutes or seconds before it blew up, well all that radiation in the core reactor was let out into the atmosphere. It's been covered up and then said that it was all in the holding tanks, but that's untrue.

They got filled up because it actually started at 5:30 in the afternoon and

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went all through that afternoon into the evening, and our evening crew there was about ready to give up on being able to shut it down. And the only thing left to do was after the tanks were full was let it straight out into the atmosphere.

And that contamination went over the San Fernando Valley and in the valley area. I was there at the time with the men and then my crew in the control room.

I wasn't there when they pushed the bypass button that let the radiation out of the reactor out in the atmosphere, it was just a very short time after I came walking into the control room. And it had happened just before I gotten there to go to work.

So these are the things that need to be said, and I like to let all of you know about this. It'll help you on some clues on the Santa Susana site reactor, some information you just

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can't find.

There's information you just will not find because it was thrown out. A lot of it was thrown out in the back in the trash pile in the back.

We had a very bad accident on the vertical fuel elements and it contaminated the whole building.

You couldn't get around the building for two weeks basically because it was contaminated so badly and all the things, information, the filing cabinets, furniture in the offices, all that was thrown on the outside because it was contaminated too highly to have it in the office area, so this may help you too with why can't we find information.

There's a lot more involved -- oh, there's one other thing you could, is you talked about explosions just a minute or two ago, that and the 50s issues you were talking about at

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first.

In 1959 when I was there, I was part of it, they had an explosion in the high bay area, we was pulling out the pump that had caused the nuclear accident. It had, they had detected a leak and it caused the accident. We was pulling the pump out, as they got it all unbolted it came out of the containment area.

When it came out of the tainted area it allowed oxygen to go down where the pump was, and we had a huge explosion. The flames went clear up about 50, 45, 50 feet in the air to the top of the building.

And that's when I and the persons down the hall and two others, three of us, four altogether got thrown across the room from the explosion. We got contaminated very badly.

And we had to take showers of course to be able to get, had to take about four or five showers to get a large percent of that off us.

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And we also believed, all of us believed that radiation and all that came from that explosion, when we're not wearing masks.

So this will give you an idea of how terrible it was at the SRE reactor in 1959, there's much more I could go on, but other people want to talk but I wanted to get those things to you and so I'll turn the thing over to others. If you have questions, I'd be happy to answer questions.

MR. KATZ: Could we get your name again, I'm sorry.

MR. PACE: Yes, my name is John Pace, P-A-C-E is how you spell my last name.

MS. KLEA: And John, this is Bonnie, John just gave a big presentation here in California to a large group of people about his experiences and he had photos of everything he's talking about.

He had photos of the debris pile

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behind the reactor with office equipment, all the log books, the plastic they were using to cover the floor to help lower the radiation.

He was there and he can testify that the log books became debris, that they had to take their badges off and put in a red safe because they were over exposed.

They did work without badges. Every picture shows them working without any breathing devices, nothing over their face. So and John has, John Pace has a claim. He has a claim that has been denied. So because --

He has multiple skin cancers, large skin cancers. And he's been denied compensation. So you cannot do an adequate dose on John, I don't care what kind of coworker model you make. The workers when they were over exposed had to take their badges off and they worked without their badges.

Many workers can testify to that

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fact. That they did not want to lose their job and stay home, they needed to work, they needed the hours. And they worked without their badges.

So he is a good eyewitness for all of us, and I just got a story from Terrie Barrie, and maybe Terrie, are you still on the line?

MS. BARRIE: Yes, I am.

MS. KLEA: Maybe this could go out to the whole Board?

MS. BARRIE: Sure, I can do that.

MS. KLEA: I don't have everyone's contact information anymore, but this is a very interesting story about his work experience. And it mirrors other workers who say that they did work without a badge.

Now, and of course with my case, I was a secretary and I was not badged. And I had no explanation of what was happening or where I couldn't go.

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I was given a car from the Atomic Energy Commission and I delivered paychecks to every building, every week, and of course I developed bladder cancer which is second amongst all the cancers at Santa Susana.

And a very sloppy practice of -- to protect the workers. And most of the staff, the administrative staff they weren't badged. And John has, John Pace has pictures of the administrative staff coming into the reactor building in just street clothes.

And he showed that to the meeting, where you've got the monitored workers working in covers. The administrative staff just came in, in their work clothes standing there in those pictures. So you've got a whole variety of problems.

MR. PACE: Yes, our badges were taken away from us. And some badges were taken away from us at, right after the accident

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occurred. They were all pulled, taken away and never given back to me, or the others.

I worked there until November the 9th and that's why you're not going to find any dose reconstruction for all these, at the SRE reactor. So you're working in the dark all of you are. And it's never going to be solved by trying to compare it to other sites.

Other sites had no comparison to Santa Susana and you can discuss it, all of you whatever you're talking about, but a lot of questions marks on your mind.

But none of the other sites had a nuclear accident. None of the other sites tore a reactor apart. We tore our reactor apart to repair it, from Marvin J. Fox was the Director of Santa Susana that involved SRE reactor at that time.

And he's the one that took the badges from us. He's the one that had us take

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and restart the reactor up again for two weeks to find out what the problem, what caused the accident.

And at that time during two weeks we ran a damaged reactor after a nuclear accident, and all that radiation was leaking out through the top of the reactor, through the broken O-rings. And the ring, the seal that goes around outside the reactor, it had leaks in it also.

And so there's so much to know about the SRE reactor. I have a lot of the clues for you. And I can sit down with anybody and tell, and go step-by-step like I did on Tuesday with Pat, and Lara, and a couple others there.

MS. KLEA: John, did you submit pictures? All your pictures on your claim? Did you submit those to --

MR. PACE: Yes, I did.

MS. KLEA: Okay. So they have

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everything in your claim.

And also I'm wondering in this program, we have a lot of workers who were working on the SRE who submitted claims for cancer and I was wondering if you used data that's been submitted by claimants for the good of everyone?

MR. PACE: I haven't not with claimants but you --

(Simultaneous speaking)

MS. KLEA: No, I'm asking NIOSH, I'm asking NIOSH if they use --

MR. PACE: Oh, excuse me.

MS. KLEA: -- information that's been submitted by claimants to help everyone?

DR. NETON: Yes, we do. When information that may be useful for other claimants, we do take advantage of that and populate our database with that information.

MS. KLEA: Okay and when post SRE,

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we have SNAP-8ER and SNAP-8DR, they both failed. They released tons of radiation, one was in '64 and the other one is in '69.

So those are two other large reactor accidents that happened and they, those reactors produced the large tritium plume that's in the ground water.

MR. PACE: Okay, there's one other thing, if we stop just a second there, comes to my mind is, now you have other people that you're trying to work with at SRE on their claims, one thing you've got to take in mind is the SRE reactor, first off, that's why I can relate to it, others out there too, but my reactor I worked at did not have a containment building.

Now other reactors that was built after '59 had containment buildings. Now when you add that, I mean, it was experimental like I said just earlier.

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When you take and have experiments going on all the time on reactors that didn't have a containment building, you're stopping and you're starting reactors, scram the reactor.

And every time you scram the reactor, you've got to let all the cover gas out of the reactor and it's supposed to go into the tanks, all them tanks. But what you don't think about it is that building is leaking reactor out.

Especially after that, during the accident, after the accident, and we was repairing it and various things, radiation was leaking out of that building and it was going all over the whole, all over the mountain up there. All Areas I, II, III, and IV was getting radiation in all those areas.

Now you had people turning in claims and you said oh, no, you wasn't in the area IV,

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that's where all the radiation was. Now you've got to think about it, radiation doesn't know boundaries.

It's like a fire, smoke in the air, it's going to go where the wind takes it, where ever it decides it wants to go. Radiation is the exact same way. Boundaries don't mean one thing when it comes to exposure for all the people who's worked on the hill.

Firemen, guards, secretaries, anybody that was, worked on the hill all got exposed to radiation from the SRE reactor plus the SNAP and all the others that was mentioned.

That radiation went all over so I want you to keep that in mind too when you're doing all this figuring you're doing. I think sometimes you get so tied up in all these little figures sometimes, you kind of forget the picture.

It gives me that feeling because I'm

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not a scientist, but anyway that's, so just keep these things in mind. And I'd be glad to offer or work with anybody that needs information on, basically I'm, to the best of my knowledge, the last one that was there at the SRE reactor in 1959 to be able to give you some information. And I'm here and willing to help all of you on it. So, I'll turn my time back.

MS. KLEA: I've got just one kind of an interesting comment to add, this is Bonnie. On the SNAP program, our, the administrator of that whole SNAP reactor program was Herman DeCamp and when they closed down our programs on SNAP, he went on to become the President of Three Mile Island and he was running that program when it had a near fatal accident.

And he, he has a history, all the reactors at Santa Susana had a history of running until they failed. And then they wrote data on the high power they achieved to help

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compete, to get contracts for more reactor work.

So essentially that's what they did. Everyone ran until it failed and then they bragged about the high power they achieved.

MR. PACE: And Dr. Fox was over our reactor whereas if he, I'm not sure if you already know who Dr. Marvin J. Fox is, but he's the one that was there that helped develop the atomic bomb, A-bomb I guess you'd call it, that bombed over in Japan and the like.

He had a lot of knowledge in radiation and he was a top scientist there, but he was the one overseeing the SRE reactor. And when it come time to restart, to repair the reactor, he was the one that made decisions to start tearing the SRE reactor apart.

And that was a very, very, dangerous assignment. Taking, picking up to the top of

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the reactor and they tell you to dig around to get small pieces out of the reactor. Fuel slugs, there's 81 fuel slugs that broke off the fuel elements it was all laying down in the bottom of the reactor.

And Dr. Fox took and had a piece of equipment made, it delayed the stages, except around October at this time of year, we pulled those broken pieces out of the reactor. Before that we had to do a lot of work on the reactor by, the seat of our pants, you might say it.

We were making tiers up to get the broken pieces down in the bottom of the reactor, into piles in the bottom of the reactor, using TV cameras and a drop light down the reactor to do that, so we could get that equipment in there.

Some of these things that go on, I know went on a long time, I try to give you a picture. It was very, very dangerous and

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higher radiation in through the building for 24/7 for a lot of months there, from July clear to November when I was there.

You can't go by film badges. You guys, all you've got lots of basic, me to tell you and then what little information you can find from Atomics International, so I'll let somebody talk. I don't want to take up all the time.

MS. KLEA: This is Bonnie, I just want to add one more note, in talking about getting Areas I, II, III sick workers paid for. We had, I've written up accounts from all the workers parked in Area I, which is the furthest area from Area IV. And they all had their cars taken and all their cars got repainted after this incident.

MR. PACE: And I've heard the same type story.

MS. KLEA: If anyone's turned in a

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claim from the other areas, then they included that information, but it's very important to know how far and wide the radiation went when they did their releases.

And also our drinking water reservoir was just off-site and I'll talk about that when you come here for your tour. I have pictures and it was drained.

It was drained and they, when they found high levels of radiation and chemicals because it was connected to Area IV by the Burro Flats fault.

And so it was built in 1919 to collect water runoff from two canyons, you know into that reservoir. And they did monitoring.

And once they started monitoring, they immediately built a concrete diversion that took it right to the river. And in 1969 it was closed forever. But the whole community drank out of those reservoirs.

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Anyway just something that I will point out when you're here. I hope you can stop, anyone who's doing the tour in November will stop here first. I have a couple maps, one you can borrow which shows the whole site as one.

And it shows you that across the road from Area IV, was Area III. It was only divided by a road. And that was the same on the other side. At the reactor on the other side of the reactor across the field was the big cafeteria for all the workers on the hill to go to.

And those people they all died of lung cancer, most of them. And they can't get paid because the company they worked for, the subcontractor they worked for in the cafeteria is no longer. So it, the damage spread wide and far. I know I'll look forward to seeing you all in November. Anyone else? Anyone on the line?

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MR. KATZ: Yes, thank you.

MR. PACE: Again I'm thinking a little bit so that we get there, Bonnie.

MS. KLEA: Well, I hope so.

MR. KATZ: Thank you, Bonnie. And thank you, Mr. Pace.

MR. PACE: You're welcome.

MS. KLEA: Terrie Barrie just sent out the story on John Pace's presentation here in Los Angeles so please read that. And if there's any data from his claim, that he submitted, all the pictures. Then use that also please.

MR. KATZ: Right. Thank you, Bonnie.

MR. PACE: I'd be happy to send pictures. Other pictures because some of those are pretty grainy you get from DOE and anyways I'll not say anymore. But I just, please help me on my dose reconstruction.

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Get me where I can go back to DOL and be able to get past on my deal. I've been working since 2001 to get people to listen to it, my information. And I'm telling the truth what I say.

I was there, I was hands down on my ears, my eyes, my everything on me was there at the time these things happened. So please, believe the things I have to say, and thank you everybody.

MR. KATZ: Thank you, Mr. Pace. So I think with that are you ready to adjourn?

MEMBER MUNN: Yes. We certainly are.

MR. KATZ: Okay. So we much appreciate all the public comments, and we will see you out there in just a couple weeks.

MEMBER BEACH: Good bye.

CHAIRMAN SCHOFIELD: Thanks everybody, take care.

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128

MEMBER BEACH: Bye.

MEMBER MUNN: Bye-bye.

(Whereupon, the above-entitled
matter went off the record at 12:53 p.m.)