The Work Group convened via teleconference at 10:30 a.m. Eastern Time, Phillip Schofield, Chairman, presiding.

PRESENT:

PHILLIP SCHOFIELD, Chairman
JOSIE BEACH, Member
JAMES M. MELIUS, Member
GENEVIEVE S. ROESSLER, Member
ALSO PRESENT:

TED KATZ, Designated Federal Official
NANCY ADAMS, NIOSH Contractor
BOB BARTON, SC&A
RON BUCHANAN, SC&A
PETE DARNELL, DCAS
MITCH FINDLEY, ORAU Team
BRIAN GLECKLER, ORAU Team
STU HINNEFELD, DCAS
JENNY LIN, HHS
JOHN MAURO, SC&A
AMY MELDRUM, SC&A
JIM NETON, DCAS
STEVE OSTROW, SC&A
JOHN STIVER, SC&A
TIM TAULBEE, DCAS
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Welcome and Roll Call

MR. KATZ: Welcome, everybody. This is the Advisory Board on Radiation and Worker Health. It's the INL/ANL-West Work Group. I think this is not a very long meeting today, but we're trying to address some priorities.

The agenda for the meeting is posted on the NIOSH website under the Board's schedule of meetings section, today's date. The agenda is there. There are not other materials to go with it because there have not been other materials distributed. But for anyone on the line who might be interested, one of the things we're talking about today is priorities with respect -- I think we're talking about today -- is priorities with respect to doing studies of reactors and feasibility of dose reconstruction for the different reactors with the current methods that we have.
And the two papers related to that were brought up and discussed, briefly at least, at the last INL Work Group meeting, which was back on, I think, August 4th, I believe -- 2nd or 4th. So if you want, you can go on that NIOSH website for that date, schedule of meetings, and those papers are posted, not that I would expect people to read them as we're having the discussion, but they are there afterwards if you're interested in those papers. There is one from NIOSH, and there is one from SC&A.

So with that all said, then, let me just get into roll call. And let's begin with Board Members now. Everyone else, please speak to conflict of interest. My Board Members don't have conflicts for this site, so I'll just say that to them. But let's see who is on the line.

(Roll call.)

MR. KATZ: Alright. So that takes care of things. We have a lot of staff and so on on the line, so please everyone remember to mute your phones, except when you're addressing the
group, and *66 to mute your phones.

And Phil, it's your meeting.

CHAIRMAN SCHOFIELD: Okay. As far as the reactors go, I would like to here start off with SC&A and their response to the White Paper that was put out by NIOSH on the prioritization of OTIB-54 evaluation.

NIOSH and SC&A Updates on Current Activities

MR. STIVER: Okay. This is John Stiver. I guess I can kind of lead off and let Steve kind of jump in.

We are basically finished with a response paper to NIOSH's concerns that Tim raised at the earlier meeting. And we've also, in conjunction with that, done a comparison, you know, checked on the claimant, the NOCTS website and so forth, to identify the numbers of personnel and, basically, the dose ranges that they would have been subjected to over periods of time for the different reactors of concern.

Steve, I guess you could kind of give
a little cameo about that. Before he does, though, I can say it is -- you should have a copy of it, you know, should have it for the Work Group, probably sometime next week.

DR. OSTROW: Okay. Hi, this is Steve. We pretty much finished our paper, as John was saying. It just has to go into final editing and, you know, clearance, et cetera, et cetera, et cetera, but it should be with the Work Group shortly.

Just a little bit of quick history, if people don't remember these things. We had put out, in June and July, an INL Reactor Prioritization Report and an ANL-West Reactor Prioritization Report, two separate reports, with our thoughts on what priority NIOSH should address some detailed issues we've had with the applicability of OTIB-54 to model reactors.

NIOSH subsequently, on July 28th, issued a proposal -- Tim Taulbee put it out -- a proposal responding to our report on what the
reactor priorities should be. And they presented it at the last Work Group meeting, which was August 2nd. And they had made the good suggestion to consolidate the INL and ANL-West reactors, since it's basically the same type of technical work they would be doing for all the reactors and no sense in keeping it separate.

And they had made I think it was eight recommendations altogether. In some cases, they accepted our list of prioritization, our high priorities. In a few cases, they didn't think that it was correct, and in a few cases, they had sort of a compromise.

At the August 2nd Work Group meeting, the Work Group asked SC&A to respond to NIOSH's report. And this would basically set the blueprint for how NIOSH would go ahead and evaluate the reactors, you know, according to OTIB-54, which would require apparently a lot of technical work using the ORIGEN code, et cetera, et cetera.

The Work Group also asked SC&A, in
addition to considering the technical aspects and neutronics, to also look at what's the potential for radiation exposure of personnel. You know, you can have an extreme case with a reactor that is way outside the bounds of OTIB-54, but the potential for exposing personnel is very low, so that shouldn't be given a high priority. On the other hand, you might have another reactor, at the other extreme, which is outside of OTIB-54, but not tremendously, but it had a big potential for exposing people, so that might be given a higher priority.

So we did our report. It's unfortunate we didn't get it to you before this meeting. In two parts. I took a look at NIOSH's proposals with respect to the neutronics. And Bob Barton went ahead and did a deep dive looking at dosimetry records, et cetera, to see what the potential was for exposure of personnel.

And in our response in this report, which you don't have in front of you, we agreed with
the NIOSH with some of the cases, and we disagreed
with some of the other ones, some of their
proposals.

So, I don't know if it's really proper
at this time -- and John, you can weigh in. I could
give results over the phone right now, but we didn't
actually finalize the report yet, and the Board
does not have it in front of them. What do you
think about that? Should I actually just read off
the results?

MR. KATZ: Can I -- this is Ted.

DR. OSTROW: Ted, yeah.

MR. KATZ: Maybe, if the Work Group
Members don't object, I can make a suggestion. I
think, right, no one has it in front of them, but
I think this would be then an opportunity still,
if you can explain things with sufficient detail,
maybe it is an opportunity for NIOSH to get
clarification on matters that may not be clear to
them, and that may save some time down the road.
I don't know. It depends on how complicated all
of this is, but that's --

DR. OSTROW: No, our summary response is -- we have one of our tables, Table 5, which I have in front of me, actually. And I could go through the eight NIOSH recommendations and our response, and our responses are fairly short. I mean, I think could cover the whole thing in about 15 minutes, probably, or 10 minutes.

MR. KATZ: Yes, we have the time, Steve, unless the Work Group Members don't want to go down this road.

MEMBER MELIUS: Well, this is Jim Melius. While I don't have any objections to hearing a summary of it, I'm not about to make any recommendations or any decisions until I've seen a report.

MR. KATZ: Right, and I wasn't --

MEMBER MELIUS: And so that should be understood, and I don't want to get into a long debate about, you know, results. And, frankly, I think NIOSH should have the opportunity to also see
this report, so that, before we can discuss
anything in terms of priorities on reactors, I
think both NIOSH and the Work Group need an
opportunity to review the report.

MR. KATZ: Right. And just to be
clear, Jim, I wasn't suggesting anything
otherwise. I was just -- sometimes, whichever
side, SC&A or NIOSH, they need clarifications about
how one got to whatever conclusion one got to, and
sometimes it's a good way to do it.

MEMBER MELIUS: No, I wasn't objecting
to doing it, I just wanted it understood up-front
that we weren't going to -- I wasn't prepared to
act on this.

MR. KATZ: Right.

DR. TAULBEE: This is Tim Taulbee. I
do have a question along the lines of what you're
talking about, Ted, because I do have some
confusion on the reports that had come out
previously. I saw John Stiver sent an email
earlier this week, and it was bringing up some of
the MTR concerns, as well as Initial Engine Test #10, and I guess you were correct, or partially correct, in your email, John, that we, NIOSH, didn't address those as part of our response. And that was because I was under the, I guess, misunderstanding that the Reactor Prioritization Rev. 1 was the final for INL, and the ANL one was the final for ANL. So we were just working off of those two reports and had not gone back to that November report.

And so my question is, this next report that you guys are coming out with with all of this rolled together, does it combine all three of those reports from SC&A, or is it just the most two recent ones?

Work Group Discussion: Priorities/Plans

Reactor Studies and/or Other Activities

DR. OSTROW: Tim, the report that we have right now that we're working on just has the two latest reports. It doesn't include the one that I had done on TRA, where we looked at a few
of the reactors, and the one that John Mauro did on TAN. It does not include all of that in it because I think the way it evolved is that, after we did the TRA and the TAN reports, we were told by the Work Group, whatever, we decided to go ahead and look at the reactors that weren't included in those two earlier reports, so there might have been a little confusion here.

And to tell you the truth, what happened is that, when I was writing this latest report, it dawned on me, you know, it sort of occurred to me, jogged my memory, that we had those two earlier reports where we addressed some TRA- and TAN-specific issues. And I had written an email to John Stiver just to, you know, sort of put it on the table that we should also figure out, since, you know, today we're figuring out where we're going to go forward, that this shouldn't fall through the cracks, it should be addressed somewhere. So that's a little bit what happened.

DR. TAULBEE: But could I ask that that
get rolled into this report so that we have a kind of complete finalization? Because they all are kind of similar here of how we are applying OTIB-54, and so I'd love to hear what the Work Group's priority is for addressing all of them, not just these last two, but also those previous two reports from November.

DR. OSTROW: That would be okay with me. It would delay our getting out the latest report by a few days to roll it into it. John Stiver, what do you think?

MR. STIVER: You know, to the extent that it kind of puts everything on the table in the one report, as opposed to having to deal with the time lag and the types of things that were going on since last year, it would probably be -- I think it'd be better to just go ahead and roll them all into one.

DR. OSTROW: Okay. So just to be clear with the Work Group, this will probably delay things like a week or two.
MEMBER ROESSLER: This is Gen. I think it would be worth the time to do it that way.

DR. OSTROW: Okay.

MR. KATZ: Okay, Steve, go ahead.

Thank you.

CHAIRMAN SCHOFIELD: I have no objection to that.

DR. OSTROW: Okay. Okay, so we'll go ahead and do that. We have the two original reports, so we should be able to roll it in. It's just a question of, you know, rewriting and formatting a little bit so it all hangs together.

Alright. So let me just go now, just for future reference, this is Table 5 of our latest report that people haven't seen. And we respond to NIOSH's eight points and their recommendations.

The first one is simple: NIOSH proposed merging INL and ANL-West high priority category reactors for the evaluation of OTIB-54 applicability. So, we concur with that. That will roll them all together.
Okay. Number two, NIOSH proposes that the Loss-of-Fluid Test Facility, LOFT, be removed from consideration for evaluation of OTIB-54 applicability at this time due to nuclear operations not commencing until December '78.

And our response is -- I have to read our response here. Okay. SC&A recognizes that the first five LOFT experiments were non-nuclear thermal hydraulic experiments, and the potential for radiation exposure did not occur until December '78, which is after the INL SEC period.

SC&A believes that, given this facility's size, long operating history, beyond-design-basis operating scenarios, and potential to have exposed a significant number of personnel, the LOFT reactor merits a more detailed examination with respect to whether it can be adequately modeled by OTIB-54, and such an examination could be conducted as a Site Profile exercise.

So, this is just to keep track of it.

Perhaps it's not an SEC issue because it's outside
the time period, but we shouldn't lose this, the LOFT reactor. We should make a note somewhere, wherever we make notes on these things, that it might be a Site Profile issue. I'm not sure how we deal with that.

DR. TAULBEE: This is Tim. Could I interject here for a second?

DR. OSTROW: Yes.

DR. TAULBEE: I fully agree, and I think the Work Group can easily move this to a TBD issue to be revisited once we get the SEC closed up. And so it can certainly be added to the TBD issue, which, to me, is where it should be.

DR. OSTROW: Yeah, I agree. I just want to make sure that we have a good mechanism that we don't lose these things somewhere.

DR. MAURO: This is John Mauro. I think I'd like to also add another dimension to this discussion. I know we're making segregations between TBD and SEC issues, and this LOFT discussion is a good example of something that I
sort of had on my mind.

I think there's general agreement that we are really immersed in a process regarding reactors now where when OTIB-54 could be used in a claimant-favorable way, and times when perhaps it can't. And we've got a long list of reactors that we're looking at and selecting for more detailed consideration.

The fact that we will refer to this, let's say, LOFT discussion now as a Site Profile issue implies that if you cannot use OTIB-54, there are other ways of dealing with this. Am I correct in presuming that the implications are that when you do have a unique circumstance where 54 doesn't give assurance you could get a claimant-favorable result, the solution is to actually run ORIGEN and not use the default set of OTIB-54 mixes, but come up with a mix that applies to that particular reactor?

I ask the question because if it's the general consensus that that is your solution and
that it will work, the implications are, yes, the
doses can be reconstructed, but they have to be
dealt with on a case-by-case basis because of the
unique nature of each reactor.

So, on that basis, if that's the general
sense that, yes, it is a manageable, tractable
problem, then I would agree that, okay, we're
dealing in Site Profile space. And I guess I would
like to get a sense from folks if I'm thinking about
this correctly. That is, it is a manageable
problem. Just because you can't use OTIB-54
doesn't mean you can't reconstruct doses.

DR. TAULBEE: This is Tim. That is
correct, John. However, I wouldn't rule out, if
we were to do this and we did run into some other
unique problem, if for some reason ORIGEN didn't
work for the reactors along this line, or something
along those lines, there is still another avenue,
and that's the 8314 process for there. So there
are other issues along that line. I guess my
current focus is trying to close out the current
SECs. And so as long as you don't lose that this evaluation needs to be done, I would like to propose that we just move it to the TBD to address after we get the SEC buttoned up.

DR. MAURO: And I appreciate the answer, and I agree. As an 8314 solution, on those rare occasions when that might emerge, that does bring us into SEC space.

DR. TAULBEE: It does, but it brings us in through a different avenue.

DR. MAURO: Okay. Okay.

MR. STIVER: This is Stiver. I'd like to interject something at this point. I think that we're --

MR. KATZ: Just before you do, someone is typing rapidly. Can you just mute your phone? Because it is pretty loud, at least on my end. Thanks.

MR. STIVER: Anyway, I was just saying there were two areas that really we thought were more related to data adequacy and completeness,
which kind of comes to bear more on the SEC side of the house. And, you know, I think Josie had sent around this one-page memo a little earlier, a couple weeks ago, to the rest of the Work Group.

One was the Chemical Processing Plant in years pre-1963, and the other was Burial Grounds. And then the other aspect in what we're talking about here with the reactor modeling really has to do with technical feasibility. And these are things like, you know, Hans's paper on general air versus breathing zone sample applicability with 54 and the reactors that we're talking about now. And then some of the follow-on investigation which Ron was doing about, you know, it wasn't the data that are out there and content and so forth actually comport well with OTIB-54 predictions.

And those can really go either way. They're an SEC, as Tim was saying, with an 8314 type of solution, or could be deemed to be Site Profile issues, depending on, you know, what the findings are from those investigations. So, I feel like
we're sort of jumping around a little bit here, but just to kind of set the table, you know, the big picture here.

(Pause.)

MR. STIVER: But anyway, go ahead. Continue.

DR. OSTROW: Okay. So we're up to NIOSH's recommendation number three. NIOSH agrees with us that the OMRE reactor -- that's the Organic Moderated Reactor Experiment, OMRE -- should be evaluated for OTIB-54 applicability due to its unique moderator and coolant.

And so we agree with NIOSH agreeing with us. And we added that after Bob Barton did his looking at dosimetry records, there appears to be a significant potential for exposure of hundreds of regular workers and visitors. We have a lot of data on that, and there was a lot of people that could potentially have been exposed to OMRE. So we are in agreement, NIOSH and SC&A.

The number four, NIOSH's
recommendation number four: NIOSH agrees with us that the Power Burst Facility, PBF, should be evaluated for OTIB-54 applicability due to the use of ceramic fuel. And we agree with NIOSH's agreement and note that also, based on the limited data available -- we only had a few years of -- we only had data for the first few years of operation of the Power Burst Facility -- there appears to be potential exposure for mostly less than 100 regular workers and visitors. I think only one year we went over 100, but the rest were, a few of them, 100. So, for Power Burst Facility, we agreed to be evaluated.

Next one is item five, NIOSH's recommendation five. This has to do with the SPERT reactor test. That's the Special Power Excursion Reactor Test, and there were several of them. NIOSH proposes that a model for the most extreme experiment from all the SPERT tests, in terms of possible departure from OTIB-54, be used to represent the bounding case to cover all four SPERT
reactors.

So NIOSH is basically proposing, look at all the experiments that were done -- use that for detailed analysis with ORIGEN. We disagreed with NIOSH's recommendation. We said that although the four SPERT reactors were all part of the same series of reactor experiments that subjected the reactor system to large reactivity excursions, we still think that the reactors differed significantly from each other and should be examined separately, and perhaps by choosing the worst case for each reactor.

So, rather than having one worst case for all the SPERT reactors, we are suggesting that it might be better to look at the worst case for each individual reactor. And we just make a little addition that whatever NIOSH decides to do, that when they write it up, they should have, you know, sufficient detail justifying how they picked what they thought the bounding case was.

Tim, do you have any comments on that?
DR. TAULBEE: No, not at this time. I would like to read your --

DR. OSTROW: Yes, of course, of course.

But yeah, you sort of agree that, whenever you make choices like this, you need sufficient -- in the report, you know, sufficient backup why you chose a particular case as the worst case.

DR. TAULBEE: No, that part I fully agree with.

DR. OSTROW: Yeah, that's just a general comment, yeah.

DR. TAULBEE: Yeah, it's more of the differences of the reactor designs as your basis that I really want to look at.

DR. OSTROW: I understand, got to look at it more carefully. And we might be wrong too, you know. If you come back with, you know, a fuller discussion why you think you can bound it with only one case, then we will look at that too.

DR. TAULBEE: Okay.

DR. OSTROW: Number six NIOSH
recommendation is related to the Boiling Water Reactor Experiment, that is, BORAX. And NIOSH notes correctly that the BORAX experiments I, II, and III all ceased operations before the end of the SEC period for ANL-West. So NIOSH proposes that BORAX I through III be removed from the consideration for evaluation of OTIB-54 applicability as their operating years are covered by the SEC period, and bioassay data is known to be incomplete and the infeasibility to reconstruct doses has already been established.

Okay. So, that was the NIOSH assessment. And NIOSH agrees that BORAX-IV, which is within the period, should be evaluated for OTIB-54 applicability due to its use of uranium/thorium oxide fuel.

But then NIOSH proposes that BORAX-V be removed from consideration for evaluation of OTIB-54 applicability. It's a very similar configuration to BORAX-IV, but it just added a steam superheating section, which we agree
shouldn't really affect the neutronics of the reactor.

So, in short, we agree with NIOSH with respect to the BORAX reactor experiments.

NIOSH's recommendation seven, this has to do with the Experimental Breeder Reactor I, EBR-I. And EBR-I had several different cores that were tested over the years, and NIOSH proposes that the most bounding of the last two EBR-I cores be used. While it was initially believed that the plutonium core would be bounding, some preliminary modeling would be needed to be performed on all four cores to confirm this.

So, we agree with NIOSH. And we just note that, when we looked at the occupancy, that several hundred workers and visitors were present during the period of operation for the Mark IV core. That's their last core that we had data for. So, we agree.

The last recommendation by NIOSH, this has to do with Experimental Breeder Reactor II,
EBR-II. And NIOSH agrees with SC&A that EBR-II should be evaluated. And we note, based on our additional study, that several hundred workers and visitors could have been exposed each year. And in some years, the average worker-penetrating doses were greater than 100 millirem. So we're just basically in agreement with NIOSH.

So I think when NIOSH looks at our report, we're in agreement with most of the recommendations. There's a few that are up for discussion. And as we just discussed a few minutes ago, we're going to also roll in now the summaries of the two earlier reports we had from TRA and the TAN reports. So, as Tim suggested, this will be convenient. All the reactors will be in one place, and NIOSH can make its plan for how they're going to address things all working off one report.

So, that's it. I am done.

(Pause.)

CHAIRMAN SCHOFIELD: Tim or anybody have any comments on these?
DR. TAULBEE: The only comment I have is thanks, Steve, for going over that. That does help, and I look forward to seeing the report.

DR. OSTROW: Okay. Very good. I just want to make a separate comment.

I just want to praise Tim a little bit here in the Work Group meeting. Tim came out a few days ago with the INL Facility Quick Reference Guide, which I think he did because the Board wanted something like this. It's really, really good. It has great illustrations, it's a great summary of all the different reactors, and it impressed me where you can jump from one section to the other just by clicking on things, you know, hyperlinks. So I just want to say, nice job, Tim.

MEMBER ROESSLER: This is Gen. Thanks. Am I off mute?

DR. OSTROW: Yeah, we can hear you, Gen.

MEMBER ROESSLER: Okay. I appreciate your saying that, Steve. I think I'm responsible
for suggesting this, and --

DR. OSTROW: Okay. Good job, Gen, then.

(Laughter.)

MEMBER ROESSLER: Well, initially, I thought maybe a simple matrix would do it, a couple pages in Excel, but I can see now that would not have worked at all, probably. This was really creative and very well done. I find it very useful. And I think, maybe from a Work Group Member point of view, this sort of thing is useful because we have other things we do most of our lives, and we come into this on occasion, and we have to get up to speed on everything, on a site. And with a large site like this, this is just extremely useful to just, bingo, you get right back into it. So, thanks, Tim.

DR. TAULBEE: You are quite welcome, and thanks for all of the good comments on that.

I do have one question, I guess, for the Work Group. Do you want this to be, I guess,
available to the public type of standpoint, that
we should go ahead and go forward with the way it
is? Or are there other comments that people have
on it? Well, I guess I'm looking for feedback from
you all.

MEMBER ROESSLER: I'll chime in again,
and I hope to hear from others, too. You asked does
this summary have enough information in it, and I
think it does. Certainly, one of the pluses of it
are the photos. I think that helps a lot. It is
also very, very useful to click back and forth, as
Steve said.

Whether it should be made available, I
would say yes, if it's not too time-consuming. It
does need a few edits, but I think we have to leave
that up to -- well, maybe others want to chime in
to evaluate whether it's worth that much time.

DR. OSTROW: This is Steve. I think
it's really going to be useful. I'd just suggest,
if you're going to make it public, that you just
mention somewhere that if people want more
information, they should consult Susan Stacy's Proving the Principle tome, which has great detail on the whole history of INL. You know, just mention that somewhere.

DR. TAULBEE: Okay.

CHAIRMAN SCHOFIELD: Has this been checked to make sure there's nothing that could present any problems from the standpoint of classification? I mean, I've looked at it, but I mean, if we were to put this out for the public.

DR. TAULBEE: Well, it has to go through that review as well as a PA review. Some of the photos that are in there do show some people's faces. I think those have to be blurred out. And so I think there are some -- well, there is some additional work.

If the Work Group wants to keep it for their own personal -- or for their own use, which is what it was intended for, that's fine. I think it is good the way it is. But if you did want it to go out further, then there is 508 compliance and
other things that have to be done to it. So I was looking for feedback as to what you all want to do with that document.

MEMBER BEACH: Tim, this is Josie. I have glanced at it but haven't had an opportunity yet this week to really read it, so I'm going to withhold any comments at this time.

DR. TAULBEE: Alright. That's fine.

CHAIRMAN SCHOFIELD: My question is, how much time and effort would it take to polish this up? And how much would be lost in order to send it out to the general public? If that's going to take a lot of time and effort and money, I would be inclined to not put it out. Maybe at a later date, but at this time, with the number of priorities we have, number of things we're looking at, I kind of hate to commit too much time to it.

DR. TAULBEE: Okay. Yeah, it will take time in order to do those things that I talked about. So, yeah, how much time? I don't have a good feel. I don't know all of the 508 compliance
type of things that have to be done to it. Sorry
I can't give you a better estimate of the level of
effort to fix that. I'd have to get with some other
folks to find that out.

CHAIRMAN SCHOFIELD: I just feel there
are higher priorities at this time.

DR. TAULBEE: Okay. I concur.

CHAIRMAN SCHOFIELD: Anybody else?

MEMBER MELIUS: This is Jim Melius. I
agree.

MEMBER ROESSLER: Go ahead, Jim.

MEMBER MELIUS: I'm just saying I agree
with Phil and Tim. We have other priorities right
now.

(Pause.)

CHAIRMAN SCHOFIELD: There's a couple
of other things that we haven't brought up here.
We've been talking about the reactors, but I know
we have some interviews coming in November and
probably December, some of the fire department
personnel. I was wondering if any of the personnel
from the guards or their union are going to be interviewed too, because we have questions about the CPP and, you know, what happened when there was a response from -- I mean, you obviously have a few people that are located nearby. But then again, depending on the issue and, you know, how many personnel are out on vacation or sick leave, et cetera, that would impact bringing people who would not have exchange badges into the area to answer alarms, whether they are fire department or security alarms.

DR. TAULBEE: Well, as you mentioned, Phil, we are focusing on the fire department. We have interviewed a couple of security individuals. One of them we want to bring back to ask more specific questions about that. But the most recent interview was with a security individual who indicated that he had badges there at each of the facilities. So, like I said, we will be interviewing at least one other security personnel, but the focus was going to be on
firefighters, so that was kind of the goal.

If you want more security guards, we can certainly add a few more to that. I didn't want to infringe too much on -- I believe Joe mentioned to me that you guys wanted to do some more interviews with some more -- I don't know if it was CPP folks or Burial Ground folks -- I think it was Burial Ground. But you're also looking at the matrix, so I was trying to limit I guess our -- we have about 15 interview slots for the week, and so I was trying to limit ours to five to six and leave the rest for Joe and John to decide on.

MR. STIVER: Yeah, this is John. I know Joe is interested in trying to run the Burial Ground. Hopefully there are some more people, you know, in that early period, pre-1970 period, that he's interested in looking at.

DR. TAULBEE: And Lynn is working on a matrix right now, correct?

MR. STIVER: Lynn is about halfway through. As of the day before yesterday, she had
done a little over 30 of I think it was like 70 total
that we had already interviewed, just to identify,
you know, if there are any stones that have not been
turned yet, if there are gaps that we really need
to take a closer look at. And as expected, that
should be done in a couple of weeks, I would think.

So, John, this is Ted. Just a
question. Does that matrix give a sort of very
brief thumbnail on what topics were covered by the
interviewee?

MR. STIVER: Right, that's the idea,
just to kind of -- there were many different
interviewees and to kind of get it altogether in
one document where you can really see what topics
were covered and what areas that may be, to the
extent that there are, additional people out there
that they can be interviewed and where we would want
to go to really amass them under the economy of the
work so that we don't spend a lot of money
unnecessarily.

DR. TAULBEE: I think we have talked to
enough reactor operators.

MR. STIVER: Yes. Yes, exactly.

That would be a perfect example.

And as I said, that matrix should be finished up here within a couple of weeks, I would imagine. Probably not much longer than that. Certainly enough time to coordinate with Tim and the rest of the NIOSH people for the November interviews.

DR. TAULBEE: Should we try to have a technical call?

MR. STIVER: Yes, I was just going to suggest that. I think it would be a good idea to have that technical call just to really make sure that we everything lined up appropriately.

CHAIRMAN SCHOFIELD: I just have one major question there that I want answered. Obviously, the fire department, depending on what the response is, will not have the time to stop and exchange badges. But I would like the question answered was for all the guards, did they all have
exchange badges there or only a select group that
were maybe stationed normally in that area? I
don't know how their security system was set up,
whether they had, in particular, different zones
or did people move from area to area, depending on
the workload that they might need more people or
what was going on.

The fire department, I think that
question can be answered there in interviews. But
it seems like that particular question has not been
answered to my satisfaction, whether all the
guards, all security personnel had exchange badges
there.

DR. TAULBEE: Again, Phil, we can
interview some more guards, if you want. The last
guard that we interviewed, he indicated that he had
a badge at each of the facilities that he went into.

But we can certainly interview more.
And I do want to interview the one individual was
responding on that the night of SL-1. So, he is
one of the people we are looking to interview again
because he was a guard at that particular event but
we didn't ask him the question the way you were
asking it just now. So, I want to ask him that as
well.

CHAIRMAN SCHOFIELD: Okay. Well, I
would be interested in hearing or finding out. And
maybe even whoever is -- if you can find some of
those people still around, who was in charge of
badging and stuff for the entire site. And maybe
it broke up between ANL and INL. I don't know.

It seems to me they should have some
documentation that says yes, everybody who went in
that area had an exchange badge, regardless of what
area of the site they worked on for like security
or did only certain people have those exchange
badges.

I think this will be addressed
adequately, I would hope, during the interview with
the fire department. It is just a thought of mine
that somebody should have that answer and it should
be documented somewhere in their security plans.
Anybody else have any comments?

MEMBER MELIUS: This is Jim Melius. Not on that but I have a couple of other issues I'm trying to understand regarding the SEC or potential SEC.

As I recall, we still haven't settled on -- there is a number of reserve years after the current SEC for the Chemical Processing Plant and some years before. I believe it is '63 or '64, something like that, before that where there was some uncertainty for that. And I'm just trying to understand where we are in terms of the evaluation of that, both NIOSH and SC&A.

DR. Taulbee: This is Tim with NIOSH. What we are working on is an ER addendum and we are working to get that to the Board -- to the Work Group in early to mid-November, is our current schedule from that standpoint. The three time periods that we are looking at are Test Area North 1961, I believe, up to 1965, where they were working with some uranium. The other two areas, one is the hot
cell ARA-1. This would be 1968, March of 1968. It was a separations of protactinium that was conducted there in a very short time period, like a week type of time period. And then the final one is the retrieval of drums from the Burial Ground in November of 1969. And so those are the three areas that will be addressed in the ER addendum. Those are the reserved areas that we have that we do plan to address.

MEMBER BEACH: Tim, this is Josie. That last one, or the second to the last one, the hot cell ARA-1, you said from '68. Is that just for --

DR. TAULBEE: It was just in March of 1968.

MEMBER BEACH: Just that one month, okay.

DR. TAULBEE: Yes. When we were doing the ER originally, we ran into these things and were basically running out time to research the details of when it happened and about what happened and so
forth. And we have been able to narrow it down -- well, identify it as March of 1968. Well, you see the ER addendum when it comes out.

Mr. Stiver: Tim, this is John Stiver. Are you going to handle the reserve years at CPP through a different mechanism then, like an 83.14, then, or how is that going to work?

Dr. Taulbee: You're talking about the time period post-1974.

Mr. Stiver: Yes.

Dr. Taulbee: Yes, that is going to be handled under an 83.14.

Mr. Stiver: Okay, I just wanted to make sure I was clear on that. Thank you.

Dr. Taulbee: Yes.

Member Beach: So, Tim, what is the priority on that 83.14?

Dr. Taulbee: Well, that is one of the reasons I am glad you are all on the call here today because I think there may be some misunderstanding there.
When we last talked the second of August, I guess my marching orders, from the way I understood it, was to work on the -- to finish up the ER addendum, the reserve areas that we have got to get done, and then my original plan was to go on to the 83.14. However, I believe the Work Group and Dr. Melius, I believe you were the one who wanted us to address the air sampling issue with ANL-West next, before that 83.14, before we pursued that. Is that still our marching orders from a priority standpoint?

MEMBER MELIUS: That was not -- I just -- as I recall and it is in a transcript someplace, but all I said is I wanted that issue at least left open, the air sampling issue. It is a question to be answered, not necessarily as a higher priority than some other issues.

DR. TAULBEE: Okay, I misunderstood you, then. I mean, we wouldn't -- obviously, we wouldn't close one of these issues without a report.
MEMBER MELIUS: Yes.

DR. TAULBEE: I mean, it's certainly going to remain open.

MEMBER MELIUS: Yes, and as I recall from that meeting, we when sort of got I want to say bogged down but then we went into a long discussion on the reactors and so forth and prioritizing them.

I just didn't want the air sampling issue to get -- shut it off completely until it had been evaluated. That was all.

So, I would think the reserved area, overall, is higher priority, simply because I think it affects more people.

DR. TAULBEE: Okay, so the ER addendum is the reserved area.

MEMBER MELIUS: Okay.

DR. TAULBEE: Now, the other issue is the 83.14.

MEMBER MELIUS: The 83.14, that's right. I'm sorry, yes.
DR. TAULBEE: Okay, the 83.14, which just so everybody is clear on this, we committed that we would look at that time period beyond what the petitioner had originally asked for. And if we found an infeasibility beyond 1975, that we would initiate an 83.14.

And what that means is we go through, we do the evaluation much like a regular SEC evaluation. And then if we find an infeasibility, then we find a petitioner and we will then go through and make the recommendation.

So, after this reserved area, that is what you want us to address next, correct?

MEMBER MELIUS: Yes, that is my preference.

MEMBER BEACH: I agree with that.

DR. TAULBEE: Okay, that's not a problem.

MEMBER BEACH: And then what about the Class Definition question that we have been struggling with? Where are we with that?
MR. BARTON: Yes, hi, Josie, this is Bob Barton. I think I can speak to that.

MEMBER BEACH: Hi, Bob.

MR. BARTON: I do remember one of the main issues remaining or the last real issue that cropped up was the issue of these visitor cards that hadn't been indexed completely by DOE and so they are undertaking that effort. And at the last meeting, the Work Group requested that SC&A go in and come up with sort of a proposal of methods that we could use for sort of a verification and validation study, when that coding and indexing effort, ideally, was completed.

And we have come up with data. It's not in your hands yet. It is in the final round of internal review on our side. I believe that might one might have to go to DOE just because it is a proposal and also a brief sort of proof of principle to show that we think that the method could actually work to do that sort of V and V activity on the coding effort, which I think will go a long way
towards answering a lot of the questions that the Work Group had, especially regarding implementation and things like that, such as slightly illegible records, or misspelling of names, or nicknames, or something that might appear on the visitor cards.

So, we have come up with a method and that should be -- it is a pretty brief memo but it should be in your hands shortly.

MEMBER MELIUS: Thanks, Bob.

Tim, any change in scheduling or update on the scheduling issue on that?

DR. TAULBEE: From DOE?

MEMBER MELIUS: Yes, the data processing.

DR. TAULBEE: I have not heard anything from them.

MEMBER MELIUS: Okay. I guess we didn't -- Greg wasn't impressed with our subtle pressure.

DR. TAULBEE: Okay. I mean, I can
MEMBER MELIUS: Yes, if you could.

I'm more concerned that -- I'm not sure we can push it up but at least we can -- I would hate to find out that it is going to take another year or something because of a change in resources, or priorities, or whatever.

DR. TAULBEE: Okay, I can certainly do that and notify the Work Group via email.

MEMBER MELIUS: Oh, okay. Thanks. I appreciate that.

MR. STIVER: Tim, this is John. I have got a question for you, since we are kind of on the subject.

At the August 2nd meeting, you indicated that the SRDB, the references that Joe and Bob had captured back in March should be up on the SRDB by the end of the month. And Bob indicated to me that he had found a couple. I'm just wondering to the extent that that has already been completed or not.
DR. TAULBEE: It has not been completed and let me apologize for saying that would be done by the end of the month. That was my misunderstanding of how long this takes. I have been in contact with ORAU and to get all of these requests uploaded is going to take into November.

What we have asked for is that ORAU move the -- well, currently, we have references that we are using in the ER addendum that we are writing. This the reserved portions. So, we have moved those references up to the front to get indexed so that we have got SRDB numbers so they can be referenced properly in the documentation.

What I asked them to do was then take all of the SC&A requests from that data capture and move that to just behind our ER addendum. And so they will go there before the remainder of them.

Just to let everybody know, these were over 1,300 documents that were released on seven flash drives in August. So, this is taking a little bit of time for them to get them indexed into
the SRDB because they do -- where there is large
documents and subdocuments, they do index each of
those titles. And so this is more of a complicated
process than what I had envisioned or thought of.
And I apologize for that.

I believe that we will probably have all
of SC&A's documents in there, I am hoping, by the
middle of next month, if not sooner. Once they
are, I will let you know, though.

MR. STIVER: Okay, so probably
mid-October, then we will say?

DR. TAULBEE: Yes.

MR. STIVER: Okay, thanks.

MR. BARTON: John, this is Bob Barton.

I have been able to kind of dive in a little bit
more since we spoke a day or two ago.

A lot of the references that we
collected in January and the subsequent data
captures are actually in the SRDB, so, at least with
regards sort of the evaluation of the Chemical
Processing Plant prior to 1963. Of course, the
issue we are really looking at there is whether there was any potential for exposure to alpha. Internally, that was not in the presence of fission products. So, there is a lot of references that are uploaded. So, I don't think we have really seen it at this point, with going forward with that analysis. There may be a few more there but a lot of them that we did capture have been uploaded recently.

CHAIRMAN SCHOFIELD: I've got a question. Josie brought this up a few minutes ago. What is happening on the Burial Grounds? Is anybody actually looking at that at this point or has that been pushed down?

MR. STIVER: Phil, a lot of those records that Joe collected back in March come to bear on the Burial Ground. As Tim indicated, they probably won't be available until mid-October. We also wanted to interview some more Burial Grounds workers in the early period, if that is, indeed, feasible, and find them. And that
would be in early October.

So, it is still very much on the table. It is just that because of the bottlenecks and getting some of this information available through INL and so forth is just taking longer than we would like.

CHAIRMAN SCHOFIELD: Okay. I do have one other question while we are all on the phone.

My understanding is that they want to use the ten percent of the MPC as a bounding value. I have real heartburn with that, how this could be used as a bounding value. I mean, basically, you are saying that that doesn't exist at a higher level than that is my take on this. It seems like at least 50 percent of what that value is because if it is not setting off any alarms or anything, you don't really know what level it is in that particular facility or room or location.

MR. STIVER: Yes, Phil, that is actually kind of another aspect of the general air versus breathing zone issue that Tim is going to
address after the ER addendum in the 83.14, I guess. I don't know if that is possible to do parallel with the resources we have got.

But that is kind of the flip side, if you will, of that other point because you are sampling, getting general air sampling, and you come up with values that are less than ten percent of the MPC, is that really representative of what the workers are encountering in their breathing zones? And that was the subject of Hans' paper that we talked about very extensively at the last meeting.

CHAIRMAN SCHOFIELD: Yes.

DR. TAULBEE: And based upon from our earlier discussions here, that is my third major deliverable back to the Board, the way I look at this. The ER addendum, the 83.14 for CPP, and then the air sample issue for ANL-West.

CHAIRMAN SCHOFIELD: Job security for you, Tim.

MR. STIVER: Tim, are those types of
things going to have to be done in parallel or are you going to have to do them sequentially?

DR. TAULBEE: I don't know yet. I just don't know the answer to that yet.

MR. STIVER: Okay.

DR. TAULBEE: I made the ER addendum, based upon our current resources, the first one to get done. The 83.14, and the air sample, that is something we are going to have to look and see whether we can or cannot.

My initial guess says probably not but I'm actually not the one who schedules resources.

MR. STIVER: Okay. This is John again. There was one other thing that we were tasked to do at the last meeting, which was for Ron Buchanan to kind of address some of Tim's concerns about the review of the fuel developer contact, kind of direct measurements of fission and activation products and actinide activity ratios.

And so while I was on the phone, I believe we talked a little bit about the issues and
process of reorganizing the data into monthly
cycles and also looking at plume dose potential,
and also some statistics of the distributions that
are involved.

So, Ron, if you are on, maybe you could
give a little bit of a background on that, if you
can.

DR. BUCHANAN: Okay, this is Ron
Buchanan with SC&A. We discussed this on the
second of August.

Just to give you a little background,
my initial look at this was to see if there was
actual benchmarks that we could compare to the
computer-generated values in OTIB-64 for fission
activation products with the cesium and strontium
ratios and the actinides in TBD-5.

And so I went through and searched for
data that gave simultaneous measurements of cesium
and strontium and also some fission activation
products and actinides, if possible, and compared
those with what was recommended in those documents.
And so, initially, I did this and came out with some data that I started working on the waste data. And I issued a report in June on that and had some data points in there that showed that about 35 to 45 percent of them actually fell in a reasonable range for strontium and cesium. And the importance of that is strontium-137 and -- cesium-137 and strontium-90 are considered to be about in equal ratios in these documents that will be used for dose reconstruction.

So, the first thing was to look at that and see if they were around unity and then also, if the data was available, to look at the ratio of cesium-137 and/or strontium-92, the fission products that were reasonably long in half-life. I did not look at the ones that were very short because you don't know when they generated. So, you don't know what the equilibrium is.

So, I looked at the ones in OTIB-54 that had about a year half-life or greater and compared those with the strontium and the cesium values and
also the actinides given in the TBD-5 in tables 522 and 523. The ratios there, the main dose concern was for about three of those radionuclides actually produced a significant dose and so I looked for those.

Now, one problem you run into is if they do actinides, they don't usually do fission products and vice-versa. So, there are very few tied together.

I did present this information at the August report and NIOSH brought up the question of well, you used mainly annual results for the waste data. What about the monthly results? Because some months there would be no say cobalt-60 listed. So, that would kind of skew the annual dose for those months that cobalt wasn't listed.

So, I went back and looked at some and Tim was gracious enough to provide me with -- I did know that he was familiar with it -- listed all the monthly and the annual, dug through thousands of documents and thousands of pages to find some
matching pairs that were done at the same time.

And so I came up with about 350 matching pairs and I looked at those on a monthly basis and compared those to the yearly basis. And at this point, I am at that stage, getting that information, getting it into Excel spreadsheets and those ratios, plotting that data. And I will be working on the statistical aspects of that to see if there is an issue or not with it. Before, I had simply done a scatter plot and it fell within plus or minus a factor two on the ratios.

Right now, I am looking at some regression analysis and, obviously, probability distribution and I have that about ready to discuss with our mathematician there who does the statistics.

And then ANL -- that was all for INL. Now, ANL has a lot less orders of magnitude less data. I did find some additional data. It looks like the ANL follows the INL. So, to some extent, and since there is a lot less information for ANL,
I will use what I have. I probably won't find any 350 pairs but it looked like it is mirrored by INL. So, we will concentrate on that but I will look at what I have for ANL on a monthly and yearly basis. So, at this point, we are ready to do statistical analysis on INL data and probably will have something out to the Work Group, hopefully, for the November Board meeting. This is fairly manually intensive. So, it takes a while to get all this data together and analyzed.

But at this point, I don't see any big differences between the monthly and yearly but I will reserve that until we can do some more detailed statistical analysis on it and then also look at what data we have for ANL.

So, I will try to have something out by the November meeting.

Any questions on that?

DR. TAULBEE: None from me.

MEMBER BEACH: None from me, either.

Thanks.
MEMBER ROESSLER: None from me. I don't know if I'm off mute.

MEMBER BEACH: Yes, you are, Gen.

MEMBER ROESSLER: Okay.

CHAIRMAN SCHOFIELD: I don't have any questions on that.

MEMBER ROESSLER: I have a new phone and I'm getting used to it.

MEMBER BEACH: Should we talk about a next meeting, maybe, Phil or are we not ready for that yet?

CHAIRMAN SCHOFIELD: I think with the interviews coming up and stuff, I don't think we -- I would hate to kind of set one at this point. Maybe look at the one in January or something after the interviews are done.

DR. TAULBEE: I would like to propose, Phil, that we do a technical call about the interviews for coordination purposes.

CHAIRMAN SCHOFIELD: I don't have a problem with that, if John doesn't have a problem
with that and Ted. I mean, obviously, that would have to go through --

MR. KATZ: Oh, yes. No, there is no trouble with having a technical call. For me to notice it, that's a piece of cake.

So, just keep me in the loop and I will arrange it whenever you guys figure out when is a sensible time to do that, your preparations. That's fine.

I did have a question, just for clarity. So, we have a November, very end of November Board meeting and I'm just not sure but the sense I am getting from what has been said so far then is it seems like we may not have any INL consideration at that November Board meeting because nothing will be ready that is going to move anything. Is that correct, with respect to, for example, the current proposed definition for the chemical plant?

DR. TAULBEE: Ted, this is Tim. We were hoping to have the ER addendum done.

MR. KATZ: And enough in advance of the
November meeting that it could actually be taken
up then at the November meeting?

DR. TAULBEE: I'm hoping.

MR. KATZ: Okay. I guess what I want
to understand is is that something that is going
to come to the Work Group first? Is it going to
be early enough for that or is that just going to
be presented at the Board meeting?

DR. TAULBEE: I guess, that I leave to
you all, Ted.

MR. KATZ: Well, I mean, it depends on
the timing.-

MEMBER MELIUS: Ted, what I have down
is that Tim was estimating early November for that.

MR. KATZ: Oh, okay. So, do we want
the Work Group to hear that first or do we want to
just have that at the Board meeting?

CHAIRMAN SCHOFIELD: I think it would
be good for the Work Group to look at it and see
if we feel that it is far enough along that we can
make a recommendation. I would just hate to get
blindsided with it just a few days later, particularly if we don't feel that we can go with the recommendation, at this point.

MR. KATZ: Right. Well, if it is an opportunity for that, then we might as well book a Work Group meeting and then I'll send it out -- we don't have to do on the phone here, unless you want to -- but for a few weeks out from the Board meeting, so that we are able to have that Work Group meeting, if the timing works out. Right?

CHAIRMAN SCHOFIELD: Yes.

MR. KATZ: Yes, if you guys have your calendars and you want to do it now we can do it or I can send something out.

MEMBER BEACH: I'm good.

MR. KATZ: Okay. I mean, I'm fine. I have my calendar right here. We can book it now, if you want. And of course, you know, depending on when the timing of when it actually gets done, the work gets done, it may affect things. But it seems like we would want it no later than -- I mean,
Thanksgiving is the week before the Board meeting.
And I would think we would want it, ideally, no
later than the week of November 7th.

DR. TAULBEE: The week of November 7th
is when we are doing the INL interviews.

MR. KATZ: Oh, okay. So that week
doesn't work. What about -- well, the report isn't
your work, Tim, is it? I mean, at the end, you are
getting approval from --

DR. TAULBEE: Yes, reviews and so
forth. I'm just looking -- I just pulled up the
latest project plan dates and this is actually
putting it at the end of November.

MR. KATZ: Oh, okay. Alright. Well,
the end of November is the Board meeting.

DR. TAULBEE: Yes. So, I don't think
this is actually going to be available for the Board
to look at, certainly not 30 days before.

MR. KATZ: Well no, not 30 days but then
it sounds like not really at all is what you are
saying, I think.
1  DR. TAULBEE: Yes.

2  MR. KATZ: So, then it sounds like it is a presentation to the Board, Tim, or not even ready for that?

3  DR. TAULBEE: It may not even be ready for that. Let me get back to you on that. I apologize.

4  MEMBER MELIUS: We can put it tentatively on the agenda for November.

5  MR. KATZ: Yes, we will put it tentatively on the agenda. But Tim, as soon as you can figure out if it is going to make it or not, then please let me know.

6  DR. TAULBEE: Okay.

7  MR. KATZ: Alright. Alright, then we don't need to book another Work Group meeting in advance of the Board meeting.

8  Okay, good. Alright, does that take care of everything, Phil? Anything else for the good of the order?

9  MEMBER BEACH: This is Josie. Who is
going to send around options for the tech call? Is that going to be SC&A or --

MR. KATZ: As soon as SC&A and NIOSH figure out when the right timing is for that tech call, one of them will send me a note and I will send it around to the Work Group.

MEMBER BEACH: Okay. And I think, John, you have Joe's schedule. So you can --

MR. STIVER: Yes. Yes, we will work together on that.

MEMBER BEACH: Okay, perfect.

MR. KATZ: Sounds good.

CHAIRMAN SCHOFIELD: Okay, sounds good.

MEMBER BEACH: Thank you.

CHAIRMAN SCHOFIELD: Thank you.

Adjourn

MR. KATZ: We're adjourned. Thank you.

(whereupon, the above-entitled matter went off the record at 11:43 a.m.)