THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

PUBLIC HEALTH SERVICE

CENTERS FOR DISEASE CONTROL AND PREVENTION

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

convenes the

MEETING BETWEEN REPRESENTATIVES OF NIOSH AND SC&A

ORIGINAL

JANUARY 12 AND 13, 2005

The verbatim transcript of the above-mentioned meeting held at SC&A, McLean, VA, on January 12, 13, 2005.

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TRANSCRIPT LEGEND

The following transcript contains quoted material. Such material is reproduced as read or spoken. In the following transcript: a dash (--) indicates an unintentional or purposeful interruption of a sentence. An ellipsis (. . .) indicates halting speech or an unfinished sentence in dialogue or omission(s) of word(s) when reading written material. -- (sic) denotes an incorrect usage or pronunciation of a word which is transcribed in its original form as reported. -- (phonetically) indicates a phonetic spelling of the word if no confirmation of the correct spelling is available. -- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response. --"*" denotes a spelling based on phonetics, without reference available. -- (unintelligible) signifies speaker failure, usually failure to use a microphone. COURT REPORTER'S NOTE: The following transcript contains many, many "unintelligible" notations. This is due to the fact that the court reporter was present at a remote site, connected telephonically, and the line connection was extremely poor. "Unintelligible" is used when the speaker could not be heard at all, could not be fully understood, or line static interfered.

PARTICIPANTS

ABRWH:

MIKE GIBSON

MARK GRIFFON

WANDA MUNN

NIOSH:

STUART HINNEFELD

TOM TOMES

SC&A:

HANS BEHLING

KATHY BEHLING

JOE FITZGERALD

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

2 (11:35 a.m.)

3 **THE COURT REPORTER:** Dr. Behling, is everybody
4 connected now?

5 **DR. H. BEHLING:** We're still waiting on Wanda
6 Munn and we had a problem with her because
7 she's calling out of Canada and she couldn't
8 (unintelligible) on the line that we had
9 reserved for conference call, so she had to
10 call and that may very well have been the
11 problem that we faced early on when you had all
12 the static. We don't know.

13 **THE OPERATOR:** Pardon me, Wanda Munn joins.

14 **DR. H. BEHLING:** Okay. Wanda, are you on?

15 **MS. MUNN:** I am.

16 **DR. H. BEHLING:** Okay, we're all here.

17 **MS. MUNN:** Are we static-free?

18 **DR. H. BEHLING:** Yes.

19 **MS. MUNN:** How wonderful.

20 **DR. H. BEHLING:** It's great.

21 **THE COURT REPORTER:** Dr. Behling --

22 **DR. H. BEHLING:** Although we're a little -- I
23 guess we're running a little late here, but
24 let's perhaps then -- then briefly identify the
25 participants. And I guess for speed, let me

1 just give you all the names for the benefit of
2 the transcriptor. For NIOSH we have Stuart
3 Hinnefeld and Tom Tomes -- is that right, how -
4 -
5 **MR. TOMES:** Tomes.
6 **DR. H. BEHLING:** Tomes?
7 **MR. TOMES:** Uh-huh.
8 **DR. H. BEHLING:** Tomes, okay. I'm sorry, Tom
9 Tomes.
10 **THE COURT REPORTER:** I'm sorry, what was that
11 last name?
12 **MR. TOMES:** Tomes, spelled T-o-m-e-s.
13 **THE COURT REPORTER:** Thank you.
14 **DR. H. BEHLING:** From the Advisory Board we
15 have Mark Griffon, Mike Gibson and Wanda Munn
16 on the telephone.
17 **THE COURT REPORTER:** And do we not have Rich
18 Espinosa?
19 **DR. H. BEHLING:** No, we do not.
20 **THE COURT REPORTER:** Okay.
21 **DR. H. BEHLING:** And from S. Cohen & Associates
22 is my -- myself, Hans Behling; Kathy Behling,
23 and Joe Fitzgerald.
24 **THE COURT REPORTER:** All right.
25 **DR. H. BEHLING:** Okay.

1 **THE COURT REPORTER:** Dr. Behling --
2 **DR. H. BEHLING:** Behling, B-e-h-l-i-n-g.
3 **THE COURT REPORTER:** Right. This is Ray, the
4 court reporter, can I just say one thing before
5 you get started, please?
6 **DR. H. BEHLING:** Sure.
7 **THE COURT REPORTER:** I just wanted to tell
8 everybody, I think I know everyone's voices
9 pretty well, but if we could just start with
10 the format that if I say "Please I.D.", that
11 means I'm not sure who's speaking.
12 **DR. H. BEHLING:** We've already discussed that
13 and we have made an agreement amongst us that
14 any person who speaks will first identify
15 himself by name to you.
16 **THE COURT REPORTER:** Okay, great. Thank you.
17 **DR. H. BEHLING:** Okay. Well, let me just
18 briefly go over a few things that I think is
19 really more for your benefit, Ray, than anybody
20 else's.
21 **THE COURT REPORTER:** All right.
22 **DR. H. BEHLING:** These will be in the opening
23 remarks that we had initially scheduled for
24 10:00 o'clock but is obviously a little late
25 now. We lost an hour and a half. So let me

1 just briefly go through a number of things that
2 perhaps are important to people who may read
3 your transcription later on, and they basically
4 go to an understanding of why we're here today.
5 And let me start out by saying that under task
6 four S. Cohen & Associates is to assist the
7 Advisory Board in the review of about 2.5
8 percent of all dose reconstructions completed
9 by NIOSH and provide the Board with a final
10 report of its findings for each of the set of
11 cases that have been given to us. Currently we
12 are reviewing case number one through 20, and -
13 - and those are the cases that we'll be
14 discussing here today.
15 The first 20 cases that we were given to review
16 fall under the category of basic review, and
17 there are guidelines that define what a basic
18 review must look at. Among the cases that we
19 have looked at for the 20 basic reviews are
20 five Atomic Worker Employer facility cases and
21 15 DOE facility cases. And let me give you
22 just a brief background.
23 SC&A completed a preliminary review of the 20
24 cases and -- on November 9 and 10. At that
25 time we had met at McLean right here in this

1 office for a preliminary review of those cases,
2 and at that point -- let me just briefly try to
3 under-- well, I won't go through the number of
4 specific people we had. All -- all I will say
5 is in attendance were the -- at the meeting
6 that was taking place on November 9 and 10, in
7 attendance were all the SC&A auditors who had
8 themselves participated in the review of those
9 individual dose reconstructions. There were
10 also SC&A members representing task one and
11 task three. And of course task one involves
12 the review of site profiles and task three
13 involves the review of NIOSH procedures and
14 ORAU procedures. Also at that meeting were
15 representatives of NIOSH that included Jim
16 Neton and Stuart Hinnefeld.
17 During that particular meeting -- again, I'm
18 referring to the November 9 and 10 meeting with
19 SC&A -- we essentially discussed every one of
20 those 20 cases amongst ourselves, but also in -
21 - in -- in discussing this, we did this with
22 the attendance of -- not attendance, but
23 awareness of the Advisory Board members. For
24 each case there were two Advisory Board members
25 who were monitoring this discussion via the

1 telephone conference line.
2 Following the November 9 and 10 meeting in
3 McLean, SC&A within a few days forwarded a
4 draft report of our evaluation by mail to each
5 of the Board members. That involved the week
6 of November 15th that we forwarded by mail a
7 hard copy of SC&A's review of the 20 cases.
8 And along with the forwarding of that report,
9 SC&A requested that each member of the Board
10 review the cases that he was to monitor and
11 provide SC&A with any comments that they may
12 have and return those comments to us.
13 Following the receipt of the draft reports, the
14 Board requested that SC&A give an oral
15 presentation to the Board via a closed session
16 during a scheduled Advisory Board meeting that
17 was held in Livermore, California on December
18 13, 14 and 15. At that time SC&A was prepared
19 to give a overview of those 20 cases, but
20 unfortunately the closed session that was
21 scheduled wouldn't really allow us to discuss
22 each individual case as we had hoped, and as a
23 result we were only able to present about three
24 or four select cases during that closed session
25 meeting.

1 The Board at that time was also informed that
2 NIOSH, who had also received a copy of the
3 original preliminary draft report, had a number
4 of issues and concerns regarding SC&A's report.
5 And in response to concerns raised by NIOSH,
6 the Board concluded that on I believe December
7 14th, the second day of the Livermore meeting,
8 that these issues and concerns that NIOSH
9 raised with respect to our draft report would
10 be best resolved in a face-to-face meeting
11 between technical persons representing SC&A and
12 NIOSH, and that that meeting should be
13 monitored by a working group representing the
14 Advisory Board. And of course we have today
15 two in attendance and Wanda Munn on the
16 telephone conference. So we have three Board
17 members monitoring and they represent this
18 working group that was appointed at the time of
19 the Livermore meeting.
20 The preliminary issues of concern raised
21 originally by NIOSH at the time of the Advisory
22 Board meeting in Livermore, California in
23 December, however, has been amended. And SC&A
24 received a final list of specific issues from
25 NIOSH at 3:50 p.m. this past Friday, January

1 7th, 2005. So we've had a couple of days to
2 look at the amended list of issues that NIOSH
3 has raised. And as I said, we received that
4 late on Friday afternoon.
5 What we plan to do today here is to -- to --
6 just to give you an overview. It's not a very
7 formal presentation, but hopefully at least we
8 will try to follow through a specific format
9 which will involve going over each and every
10 one of the cases that have been identified as
11 having issues of concern.
12 And we will give NIOSH -- and it's likely that
13 Stu or Tom will introduce the issues that they
14 feel have to be resolved at this meeting, or
15 should be addressed in this meeting. And for
16 each of the issues that will be introduced by
17 NIOSH, I will also follow it up as to perhaps
18 why we agree with that issue now or perhaps why
19 we will not agree. So the format will be that
20 NIOSH will introduce, on behalf of each of the
21 cases, the issue in sequence as they appear in
22 the handout, and then allow me a chance to
23 address what potential issues I can either
24 agree with or disagree with in behalf of each
25 issue.

1 And there'll be an attempt to perhaps resolve
2 some of these issues, if we can, on the spot.
3 We need to -- if we -- if one or the other side
4 agrees that perhaps this issue can be resolved,
5 we will at this point in time try to make that
6 resolution and (unintelligible) about it as a -
7 - an issue that has been resolved, or it may
8 not be resolved.
9 I do want to caution everybody because --
10 especially -- we already had a full plate to
11 begin with, but we've got obviously an hour and
12 a half delay here, but we do want to stick as
13 close as we can to the timetable question
14 because there are an awful lot of issues and
15 many of these issues are quite complex and, if
16 allowed, would potentially delay the completion
17 or fail to complete all the issues that we hope
18 to at least address as best as we can in the
19 next day or so.
20 With that, I'll turn it over to Stu if he has
21 any specific issues or statements to make at
22 this point. Stu?
23 **MR. HINNEFELD:** I'll just comment that NIOSH
24 appreciates the opportunity to participate in
25 meetings like this and we envision future

1 meetings like this, and we're confident that
2 we'll have a product that we can both either
3 agree to or, on occasion, we will politely
4 agree to disagree on some items for the Board's
5 further discussion.
6 **MS. K. BEHLING:** Okay. This is Kathy Behling,
7 and I'm representing at this meeting John
8 Mauro, who is unable to attend. And John Mauro
9 was the reviewer for the five AWE cases from
10 the 20 initial cases that SC&A received.
11 However, today we will talk about only two of
12 those cases because three represent the
13 Bethlehem Steel (unintelligible), and as you
14 know, SC&A is currently -- has currently
15 submitted their report on the Bethlehem Steel
16 site profile. And since all of the issues or
17 many of the issues that were discussed under
18 the three claims of Bethlehem Steel cases are
19 tied to that site profile, and we will not
20 discuss those today since SC&A and NIOSH are
21 separately discussing those issues.
22 So if Stu -- if Stuart is in agreement with
23 this, I thought -- I made a summary slide of
24 the first case, and I thought I would just
25 briefly discuss the issues -- just a brief

1 overview of what this case entails and then
2 I'll let Stuart talk about the issues and we
3 can respond.
4 **MR. HINNEFELD:** Sure.
5 **PRESENTATION/DISCUSSION OF ISSUES FOR CASE #1**
6 **MS. K. BEHLING:** Okay, case #1 is Blockson --
7 is from the Blockson facility and a claimant
8 worked from the period of to . He was
9 a : and . He had
10 prostate cancer and worked at various locations
11 throughout the plant. And so at this point
12 I'll let Stu bring up our -- our issues of
13 concern.
14 **MR. HINNEFELD:** Okay. I think following
15 through the handout on case #1, the first
16 categorized issue describes a critique of
17 airborne calculation techniques that weren't
18 actually utilized in the Technical Basis
19 Document anyway, but they were essentially
20 included for demonstration of reasonableness.
21 And whether they're convincing or unconvincing
22 I think really doesn't matter because they
23 weren't utilized in the Technical Basis
24 Document. So I would propose we move on to the
25 second -- what we've enumerated as the second

1 issue, which relates to the actual method by
2 which the internal exposure was estimated or
3 reconstructed at Blockson.
4 Our belief is that the approach that was used
5 to estimate intake at Blockson is -- is
6 appropriate, and if it errs, it errs on -- in
7 the favor of the claimant. I want to make sure
8 that everybody understands clearly the process
9 that we use to estimate intake and intake rates
10 for Blockson.
11 There were -- there were some 20-odd personnel
12 at Blockson that we have records of bioassay
13 results for. The dates of these bioassay data
14 go from 1954 to 1958. These people -- it's
15 about 25 people. Almost all of them have
16 multiple samples. There are some -- one or two
17 who only have one sample, but the bulk of them
18 have multiple samples. And it's our conclusion
19 from this that Blockson, for at least a period
20 of time, conducted a bioassay monitoring
21 program for the personnel involved in the
22 uranium separation process at Blockson. So we
23 believe this -- this population of people is
24 representative of the highly-exposed population
25 at Blockson, and they were working directly

1 with the uranium separation operation.
2 As I said, most of these people have multiple
3 bioassay points over this four-year period. In
4 order to determine an estimate or to develop a
5 model for intake at Blockson, we took each
6 individual's data and fit that, using IMBA, to
7 an intake rate, after first ignoring any
8 zeroes. Many of these bioassay results were
9 recorded as zero, which we would interpret to
10 be less than some minimum detectable level, but
11 we didn't include those in the IMBA fit at all.
12 So any sample that was below detection, we
13 didn't even worry about. We only worried about
14 the detectable samples. So from the start we
15 are estimating an intake -- our -- our
16 calculation will estimate an intake that is
17 higher than what the actual data presented to
18 us would have supported, had we included those
19 less than -- less than detectable numbers.
20 We fit this data and presumed that the employee
21 was chronically exposed from either the start
22 of the work at Blockson, the AEC work, or from
23 the person's first day of employment, whichever
24 date would have been (unintelligible). So the
25 appropriate -- whichever the appropriate date

1 is. And we plotted the datapoint on the
2 particular database -- or did a chronic intake
3 and then presumed that that chronic intake rate
4 continued onward past 1958 till the termination
5 of the uranium recovery operation, which I
6 believe was in 1962.
7 So based on those bioassay -- using the
8 bioassay data and the manner in which we used
9 it to fit those excretion patterns, we feel
10 like we have a good representation of the -- of
11 the intake rates that were experienced by the
12 exposed population of Blockson. And so that's
13 why we feel that the -- the internal exposure
14 avenue that we -- or method that we chose
15 appropriately and favorably estimates the
16 intake rate for the people involved in the
17 work.
18 We can also, if we want to, get into an
19 ingestion comment which the author has also
20 commented about potential for ingestion
21 pathway, which is issue number four on case #1.
22 The ingestion pathway would be integrated in
23 the bioassay that was used to generate the
24 intake. So if in fact -- you know, our -- our
25 model presumes that all of that daily ingestion

1 calculated from the bioassay is an inhalation
2 exposure. We do, I think, account for some
3 modest ingestion in a bit different fashion,
4 which essentially occurs independently of the
5 bioassay data. And the comment from the SC&A
6 reviewer was that our estimate of ingestion may
7 have been too small. And our response -- or
8 our view is that since we utilized bioassay
9 data to model the intake, we accounted for any
10 intake, whether it had been through ingestion
11 or through inhalation. All of those would have
12 contributed to the bioassay results. And by
13 apportioning it 100 percent to an inhalation
14 exposure we have arrived at a higher dose for
15 virtually all organs --
16 **UNIDENTIFIED:** Yeah.
17 **MR. HINNEFELD:** -- that if we had apportioned
18 it partially inhalation and partially
19 ingestion. So that's why we feel like our
20 ingestion -- the internal exposure model at
21 Blockson Chemical is appropriate for the data
22 we have.
23 I guess there's one more relevant comment or --
24 **DR. H. BEHLING:** I was hoping to take issues
25 one at a time --

1 **MR. HINNEFELD:** Okay.
2 **DR. H. BEHLING:** -- so that we can address --
3 it's going to be more confusing --
4 **MR. HINNEFELD:** Right.
5 **DR. H. BEHLING:** We have issues for each case
6 and (unintelligible) each other.
7 **MR. HINNEFELD:** Okay. Well, you're right.
8 **DR. H. BEHLING:** I don't care to get --
9 **MR. HINNEFELD:** Well, let's go back -- let's go
10 back to issue two, then --
11 **MS. K. BEHLING:** Okay, let me --
12 **MR. HINNEFELD:** Let's go back to issue two,
13 then, about the actual calculation of the
14 intake rates.
15 **MS. K. BEHLING:** Okay, fine. If I may also
16 just give one comment regarding issue one, and
17 the reviewer and SC&A feels that although the -
18 - that they did not use as -- the dust
19 (unintelligible) data is not actually used for
20 the inhalation and for the calculation for the
21 internal, it's just the approach which was used
22 which assumed that the dust loading was
23 proportional to the uranium (unintelligible),
24 SC&A still feels that's not very
25 (unintelligible) and maybe it would be best if

1 that wasn't even included in the TBD because
2 it's not (unintelligible).
3 With regard to the second issue, which is the
4 critical (unintelligible) group,
5 (unintelligible) answers the question. Now we
6 do -- we do have -- we took the definition of
7 what the critical (unintelligible) concept of
8 the ICRP publications of 26 and 43 --
9 **THE COURT REPORTER:** Excuse me, this is the
10 reporter.
11 **MS. K. BEHLING:** Yes?
12 **THE COURT REPORTER:** I'm having just a little
13 trouble hearing you, Dr. Behling.
14 **MS. K. BEHLING:** Okay, I'll speak up.
15 **THE COURT REPORTER:** That's great right there.
16 **MS. K. BEHLING:** All right.
17 **THE COURT REPORTER:** Thank you.
18 **MS. K. BEHLING:** To repeat, we looked at the
19 definition of the critical group and the
20 critical population group from ICRP, and that
21 definition looks at the size of the group and
22 it -- specifically be small in number and how
23 homogenous that group is with regard to the
24 highest and lowest doses. And I believe that
25 Stuart just said something that may have

1 clarified some of the questions that we did
2 have on the critical group population. We were
3 under the impression that zero doses were used
4 in -- in your assessment for the range of
5 people, and you're telling me that's not the
6 case.
7 **MR. HINNEFELD:** Well, none of -- none of the
8 monitored personnel were assumed to have a zero
9 intake. And the -- all of the zero --
10 individual zero bioassay results were
11 disregarded in the fitting calculation in order
12 to determine the intake that corresponds to
13 those -- to the bioassay data. So we
14 disregarded zero results in that point and so,
15 you know, from the purely scientific
16 standpoint, we overestimated the intake for
17 anyone who had a zero result, as well, so that
18 zero result would have pulled down the
19 estimated intake had we included it in the fit.
20 **DR. H. BEHLING:** Yeah, also -- this is Hans
21 Behling. I guess issue one really centers
22 around more the people who were monitored in
23 behalf of this particular group of exposed
24 people, and Stuart had mentioned they tried to
25 focus on the people that they thought might

1 have been the maximally exposed individual
2 group of workers, mainly the critical group.
3 And yet if you look at the definition of
4 critical group, you realize that it is the
5 upper end portion of an exposed population.
6 And the ICRP definition really states that this
7 group of people should represent the top ten
8 percent. And in fact, one of the definition is
9 that -- for modeling purposes, that the range
10 of values between the lowest member of the
11 critical group and the highest member of the
12 critical group should not be more -- by a
13 factor of ten. In other words, if you take the
14 critical group and divide it and say where's my
15 median value, the lower end and the upper end
16 should not be more than a factor of about three
17 different from the median. And when we looked
18 at the data and we realized that the actual --
19 medians were average values, that was the
20 finding, on behalf of this group was 24 and the
21 upper was 240, then we realized that that
22 didn't in itself fit the definition of a
23 critical group, meaning that we were perhaps
24 not dealing with bioassay data that defined a
25 critical group, but more that the whole

1 population of exposed workers, which would then
2 therefore dilute the intakes that we are
3 estimating our -- our -- our doses on. So it's
4 a question of defining who the critical group
5 is. I'm not sure we can at this point. But
6 the fact that we -- among the bioassay data
7 that was observed included a large number of
8 zero values raises the question as to whether
9 or not the bioassay data, in itself, do in fact
10 represent a maximal or upper end group of
11 individuals defined by ICRP as a critical
12 group. And I think this is where the issue is,
13 do we have bioassay data that defines the
14 critical group; and if not, are we
15 underestimating the potential exposures that
16 define the high end worker.
17 **MR. HINNEFELD:** This is Stu Hinnefeld again.
18 The difference between 24 and 240, that factor
19 of ten, that is the difference between the
20 median bioassay datapoint and the maximum
21 bioassay datapoint, not the difference between
22 the lowest intake rate and the highest intake
23 rate, which would be the analog to the
24 exposure. And in fact, the Blockson Chemical
25 model is a lognormal distribution -- it calls

1 for a lognormal distribution of intake with a
2 standard deviation somewhat less than two, I
3 think. So if you do the math, we're probably
4 well within that. But also within the factor
5 of ten in terms of the actual intake -- not the
6 individual bioassay numbers but the intake
7 numbers, which was what we used to generate the
8 model, and -- (unintelligible) and then the
9 second point I wanted to make was the use of
10 the term "critical group" and a definition
11 (unintelligible) of the critical group. I'd
12 have to go look and see the use of it in that
13 ICRP documentation to make sure I really
14 understand what -- what the point of the
15 critical group there is.
16 What we in-- what we feel like we have is the
17 monitoring data for the exposed people, people
18 in the uranium purification part of this
19 (unintelligible). If we have built a
20 distribution based on the monitored population,
21 the exposed population, we feel like use of the
22 distribution is appropriate. Not like -- we
23 didn't take a monitoring distribution for the
24 entire team of Blockson Chemical work force.
25 We don't think we have that. We think we have

1 the exposed people and their -- and their
2 exposure and the distribution of their
3 exposure.
4 And again, comparing the 24 median to the 240
5 maximum I don't think is a -- is the correct
6 comparison because that individual bioassay
7 datapoint not intake value, which is what we
8 developed based on all the bioassay points for
9 (unintelligible).
10 **MR. GRIFFON:** This is Mark Griffon. I'm just
11 cur-- I mean looking at this issue, I'm just
12 wondering (unintelligible) back to the air
13 sampling if there's any other way that you
14 attempted to validate whether these 20 people
15 were -- were the -- you know, a represent--
16 representative -- more so than using the term
17 "critical group", were they representative of
18 the --
19 **MR. HINNEFELD:** We've not found --
20 **MR. GRIFFON:** -- the highest exposures or --
21 **MR. HINNEFELD:** We've not found a roster for
22 building 55. We've not found a roster of the
23 people who worked there, so --
24 **MR. GRIFFON:** Did you make any attempt -- aside
25 from the dust loading question, did you make

1 any attempt to calculate intakes based on the
2 air monitoring data and compare them to intakes
3 you calculated from the urine data?
4 **MR. HINNEFELD:** I don't think we have any air
5 monitoring data at Blockson.
6 **MR. GRIFFON:** Oh, you don't have any. Okay. I
7 saw something about dust loading, but that's --
8 that wasn't --
9 **MR. HINNEFELD:** There was some -- there were
10 some calculation manipulations that really I'm
11 not prepared to defend. They're manipulations
12 that --
13 **MR. GRIFFON:** They don't have any --
14 **MR. HINNEFELD:** -- (unintelligible) to discuss
15 it, but we don't -- I don't believe have any
16 air sampling data.
17 **MR. GRIFFON:** But what's hanging out there is
18 the assumption that the people who were
19 monitored are the representative group of -- of
20 exposed workers.
21 **MR. HINNEFELD:** I guess that would be the --
22 that would be the key question, and then --
23 because that essentially is our -- drives the
24 (unintelligible) distribution in its entirety
25 represent the intake rate for the people.

1 **MR. GRIFFON:** If all those zero urine -- I mean
2 if all those zeroes were dropped, does that
3 approach more closely your definition of a
4 critical group? That's the other question that
5 was running through my mind.
6 **DR. H. BEHLING:** Hans Behling. Perhaps one way
7 to resolve this issue is not to -- and I concur
8 with your statement that we shouldn't compare
9 one urine sample against another, but perhaps
10 the 20 people who were monitored, so that if
11 person number one had five urinalyses done,
12 take the average of -- do the same thing that -
13 - two, three, four, five, then look at the
14 distribution and see how far or if the lowest
15 end -- apart from the median and the high end,
16 and that would perhaps agree with the context
17 of the critical group if in fact you're now
18 closing the gap between the extreme individual
19 samples.
20 **MR. HINNEFELD:** But I suspect it would because
21 the person who had the highest sample also had
22 mul-- several other samples --
23 **DR. H. BEHLING:** (Unintelligible)
24 **MR. HINNEFELD:** -- (unintelligible) his sample
25 would have to be lower.

1 **DR. H. BEHLING:** Yes.
2 **MR. HINNEFELD:** So I suspect it would, although
3 we felt like we had done essentially the analog
4 of that approach by (unintelligible) all those
5 datapoints to an intake rate. I mean it's sort
6 of an analogous approach, whether you average
7 the bioassay or whether you (unintelligible)
8 intake rates. The arithmetic's different, but
9 analogous. If you essentially determine a
10 person's experience, one person's experience,
11 how does it compare to everyone else's
12 experience.
13 **DR. H. BEHLING:** I think in order to -- this is
14 Hans Behling. In order to resolve this, maybe
15 we can come to a quick agreement if we look at
16 the original data, identify the 20 individuals
17 who were monitored, get an average of each of
18 those individual urinalyses for each person and
19 then see how that appears in terms of
20 distribution. And if the numbers come -- start
21 to get bunched a lot closer, the idea of a
22 critical group and an upper end worker group
23 that was monitored that will satisfy this
24 issue.
25 **MR. HINNEFELD:** Well, we can certainly do that.