

1 next one -- can you go to the next slide? The
2 next slide is another procedure, ORAUT-OTIB-
3 0010, and here you have -- in -- in table 4.1
4 you have also as a standard assumption for
5 overestimating doses an exposure to organ dose
6 of at least equal to or greater than one, and
7 then it also has in addition to that, a missed
8 dose cycle of 0.4, which is basically LOD. Now
9 this -- this is not a measured dose, but it is
10 also a maximal dose. In other words, LOD is --
11 as a default value for missed dose
12 (unintelligible) 95th percentile. So again
13 here in this case we are assigning a -- a -- an
14 exposure organ factor at least greater than one
15 -- equal to or greater than one in conjunction
16 with a missed dose that is also 95th percentile
17 value. So again a high DCF does not preclude
18 the use of a second maximizing parameter such
19 as either using -- using an uncertainty or in
20 this case using LOD as opposed to LOD over two.
21 The next slide is a similar one and that
22 involves -- these two -- these two particular
23 procedures, one is applicable to TLD and the
24 other one is applicable for film dosimeters.
25 And again, if you look at 5.2 you have again a

1 -- a -- you can -- you can use a standard
2 overestimating factor of two, which basically
3 says multiply the recorded dose by two, and
4 then you are still in a position to use a DCF
5 that is greater than -- than one.

6 So we have basically three procedures here that
7 allow you to assign a DCF value of one or
8 greater as a generic value, in conjunction with
9 either a -- the inclusion of an uncertainty if
10 you use measured dose, or in these two cases,
11 you can overestimate the dose by a factor of
12 two. And so I will take exception to the
13 statement that the use of a higher than
14 recommended DCF value, as noted in Appendix
15 (unintelligible) does not preclude the use of
16 an uncertainty.

17 Your comments?

18 **MR. HINNEFELD:** Well, Stu Hinnefeld here. The
19 --

20 **THE COURT REPORTER:** This is Hinnefeld?

21 **MR. HINNEFELD:** Hinnefeld, yeah. The
22 statements that -- that I -- as I -- as I
23 follow the procedures here, were sort of
24 allowing. As even Hans said, these procedures
25 allow the use of these mul-- these

1 (unintelligible) uncertainty. And it's not
2 clear to me that they necessarily dictate the
3 use of the uncertainty factor (unintelligible)
4 and they don't preclude it. So they leave the
5 question open as to whether it should be done
6 or not, but they don't specifically say one way
7 or the other. Okay, so they don't give
8 specific guidance or not.

9 From a philosophical approach to saying that --
10 well, in one case they do say apply appropriate
11 distribution, the one -- the one you cited,
12 which was procedure six. The other two TIBs --
13 TIB 8 and TIB 10 are both definitively pro--
14 for providing maximum potential estimates, and
15 they are silent. They don't say anything about
16 applying the appropriate distribution in their
17 description, so they kind of leave it open as
18 whether to apply it or not. So
19 philosophically, the way we have
20 (unintelligible) -- okay? I don't know if we
21 wrote this in the procedure anyway, but the way
22 we have (unintelligible) is that if you have
23 overestimated the dose components,
24 (unintelligible) dose components, then you may
25 enter that as a constant on an -- on the IREP

1 calculation because you have confidence that --
2 that the value is no higher than that. So
3 you've -- you've overestimated and you have
4 confidence that the value is no higher than
5 what you are entering for that dose. And as
6 the IREP samples (unintelligible) at random for
7 its iterative sampling and selects that value
8 every time, rather than selecting a value from
9 a distribution which is all lower, you are
10 providing an overestimate to the element of
11 probability of causation for the claimant. So
12 philosophically, that's the way we
13 (unintelligible). And procedurally it's not --
14 may not be specifically described that way, but
15 that's the way we (unintelligible) for
16 overestimated approach.

17 **DR. H. BEHLING:** Just another comment. On the
18 other hand, as I'd mentioned to you, if you
19 look at the DCF that might have been chosen for
20 the colon, and I'm only going to give you a
21 single value 'cause I don't have the lower and
22 upper bound, but the DCF for that value that
23 they might have selected would have been 0.747,
24 or about 25 percent less than the DCF. Now on
25 the other hand, if you look at some of the

1 early times of film dosimeters, the uncertainty
2 was far in excess of 25 percent, so had the
3 individual used the real DCF, which would not
4 have been considered claimant favorable, but
5 then was forced to assign an uncertainty, the
6 chances are he would have come up with a higher
7 number than the default value of a DCF of one
8 and not include the uncertainty for the
9 dosimeter value, so quite honestly, as claimant
10 favorable as it may sound, it's probably not
11 claimant favorable if you would have looked at
12 the alternative which would have been we'll
13 follow Implementation Guide 001
14 (unintelligible) say let's take the dosimeter
15 dose and assign an uncertain (sic) to them and
16 then use (unintelligible) DCF value which in
17 this case would have been 0.747, because we're
18 only talking about a 25 percent difference.
19 And the truth is, the uncertainty for some of
20 those early dosimeters is probably well in
21 excess of 25. So this would have been
22 considered to be a neutral position as opposed
23 to a claimant favorable position.

24 **MR. HINNEFELD:** I think we'd like to -- the
25 opportunity to do some evaluation of what the

1 actual outcome of such -- of the various
2 treatments is, so I -- I understand your point
3 and I think it's a well-argued point. I think
4 it's a -- I'm sorry, my voice naturally drops
5 when I give a compliment. I think it's a --

6 **DR. H. BEHLING:** (Unintelligible) can't see
7 that.

8 **MR. HINNEFELD:** I think it's a well-argued
9 point, but I would like -- it's not going to --
10 you know, I think Hans said it's not real clear
11 which way it -- what happens when you do that,
12 when you apply a distribution and the DCF
13 versus a DCF of one and a constant, it's not
14 real clear what happens on the POC calculation.
15 So we'd like to maybe take the -- a few
16 (unintelligible) evaluating that as -- as part
17 of our discussion.

18 **DR. H. BEHLING:** Okay, issues two and three I
19 think we can kind of sum those two up, Stu.

20 **MR. HINNEFELD:** Okay. Issue number two is a
21 statement about missing dosimetry data in the
22 record that was available for this claimant.
23 And issue number three is that the
24 misinterpretation of the DOE dosimetry record
25 led to errors in the missed dose

1 reconstruction, and those comments are correct.
2 So we feel like we did have an additional
3 record that gave us the total exposure of this
4 person --

5 **DR. H. BEHLING:** Annual dose.

6 **MR. HINNEFELD:** The annual dose, so we did not
7 have the read by read results, and as a result
8 of that and as a result of some other factors,
9 the missed dose calculations for this dose
10 reconstruction were done incorrectly. We've
11 subsequently redone it and the probability of
12 causation is about 45 percent from about 40
13 percent, so we -- so this one we really needed
14 to chase down right away because there was a
15 fair amount of missed dose that had been
16 omitted from the dose -- I know why that
17 happened. I don't know if anybody cares, but
18 we know why that happened.

19 **DR. H. BEHLING:** No comment from me, unless
20 somebody else has --

21 **MR. GRIFFON:** Yeah, Mark Griffon. I just have
22 a comment or maybe a clarification. I didn't
23 really review this case as one of my cases.
24 The missed dose versus unmonitored dose, these
25 were all missed doses?

1 **MR. HINNEFELD:** This person was clearly
2 monitored for the duration.

3 **MR. GRIFFON:** You said you had a annual -- you
4 had annual information but didn't have the
5 individual readings?

6 **MR. HINNEFELD:** (Unintelligible) a couple of
7 years.

8 **DR. H. BEHLING:** Hans Behling. Just for
9 clarification, when you have an annual -- for
10 instance, if there were 12 cycles -- in other
11 words, there were 12 monthly TLDs or films that
12 were read on behalf of this individual, only
13 one may have been a positive one to give you a
14 yearly positive, with the remaining 11 being
15 zero. Or they could have all been spread over
16 the 12-months which (unintelligible) you had no
17 missed dose. So when you look at a summary
18 sheet that says for the year -- let's say 1973
19 this individual had 240 millirem, you could
20 have had 12 reads each of 20 or thereabouts, or
21 you could have had one of 240 with 11 zeroes,
22 in which case if you ignored the missed dose,
23 you would ignore or short-change this
24 individual for 11 zero doses by which you would
25 have to assign missed dose.

1 **MR. GRIFFON:** Right, Mark -- Mark Griffon. You
2 just -- for a clarification on my point, I'm
3 not saying zeroes. I'm asking about blank --
4 if there were any blank (unintelligible) missed
5 cycles and -- 'cause that's a different issue
6 if they went -- for some reason
7 (unintelligible) and he was supposed to be
8 monitored, that's missing data as opposed to
9 (unintelligible) zero where you would apply
10 (unintelligible).

11 **UNIDENTIFIED:** This seems to be a case where we
12 got two pages of a report that said --

13 **THE COURT REPORTER:** Who is this?

14 **UNIDENTIFIED:** Okay. We had page one --

15 **THE COURT REPORTER:** Who is this?

16 **UNIDENTIFIED:** -- page two of four and then
17 nothing --

18 **THE COURT REPORTER:** Excuse me, who is that?

19 **MR. HINNEFELD:** This is Stu Hinnefeld.

20 **THE COURT REPORTER:** Is that Hinnefeld? Okay.

21 **MR. HINNEFELD:** I'm sorry, Ray. Oh, Ray, how
22 are we doing? Are we behaving better and can
23 you get us okay?

24 **THE COURT REPORTER:** There's a new problem.
25 It's back to that sounding like there's a fog

1 reading that was less than half of the badge's
2 limit of detection. And we should have counted
3 that as a non-detect, as a zero, and included
4 it in the missed dose calculation. In this
5 case we did not. It was counted as an actual
6 dose, so that reading was not counted as a zero
7 when in fact it should have been. And that is
8 a true comment and that is correct.

9 **DR. H. BEHLING:** And just for clarification for
10 -- for Wanda, normally when we have missed dose
11 it's usually assumed that the dose came back as
12 a zero dose. Now if you have, for instance, a
13 badge -- and for this individual I had -- I
14 have identified for the year a total of I
15 think all but one dose came back as less than
16 LOD over two, meaning that doses as little as
17 two millirem that month was a recorded dose.

18 **MS. MUNN:** Uh-huh.

19 **DR. H. BEHLING:** We realized that -- let's
20 assume just for -- for conservative reasons
21 that at the time the LOD value was 40 millirem.
22 If he had had a zero dose instead of two
23 millirem, he would have been given 40 divided
24 by two, which is 20 millirem assigned as a
25 missed dose, which is 18 more than the real

1 dose that he was recorded of -- of two.

2 **MS. MUNN:** Right.

3 **DR. H. BEHLING:** So in essence, he was punished
4 for having a positive dosimeter dose that was
5 unfortunately less than LOD over two.

6 **MS. MUNN:** Right.

7 **DR. H. BEHLING:** Just for your clarification.

8 **MS. MUNN:** Yeah, thank you. I appreciate that.

9 **DR. H. BEHLING:** Okay. Issue five, Stu?

10 **MR. HINNEFELD:** Issue five was that the
11 assigned neutron missed dose couldn't be
12 duplicated, and from the explanation in the
13 dose reconstruction, I could understand why it
14 couldn't be duplicated. But we did evaluate
15 and look into what the dose reconstructor had
16 done, and the key difference appears to have
17 been that the Hanford neutron badge provided a
18 result for both a slow neutron and a fast
19 neutron value. So on any -- on a particular
20 badge cycle on the neutron badge, there'll be a
21 column for slow neutrons and a column for fast
22 neutrons. And the -- so the dose reconstructor
23 then essentially counted that as two zeroes if
24 there were a zero in both columns. They're
25 considered independently un-- you know, less

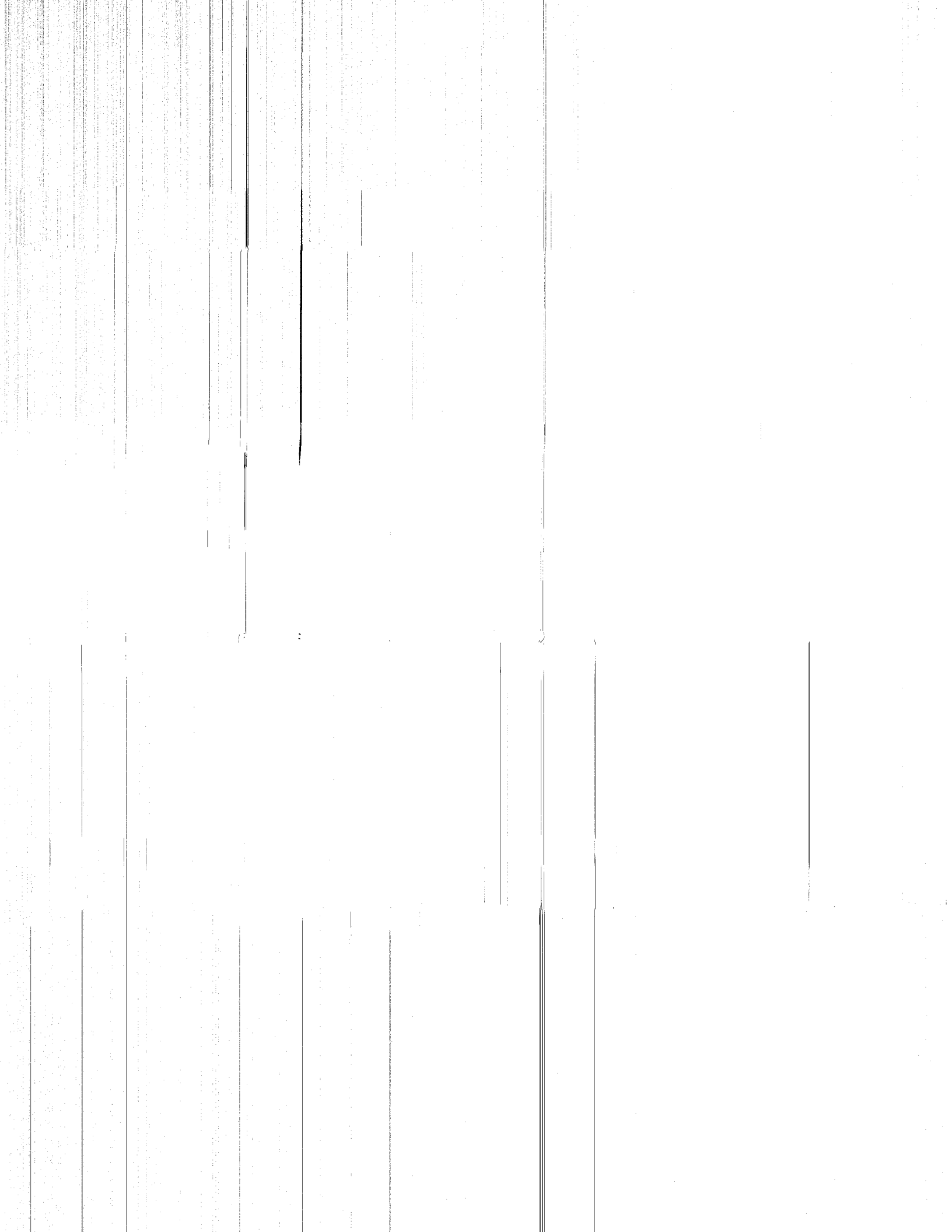
1 than detectable results. And the -- so he
2 recorded that as two, and so that would provide
3 a factor of two multiplication, which I believe
4 was what was identified, as (unintelligible) by
5 a factor of two.

6 Complicating the interpretation of this was the
7 dose reconstructor's approach of assigning all
8 neutron doses, missed or measured, into a
9 particular energy range, the most
10 radiologically effective energy range, as an
11 overestimating assumption. And so there was no
12 separation on the IREP input sheet of the slow
13 and fast neutron missed dose. It was
14 consolidated into one energy. That complicated
15 the interpretation of -- of the dose
16 reconstruction, but I believe that explains --

17 **DR. H. BEHLING:** Yeah.

18 **MR. HINNEFELD:** -- why -- why we arrived at
19 what we arrived at.

20 **DR. H. BEHLING;** Okay. I'm not sure if Stu is



1 6, and it gives you basically instructions for
2 calculating neutron doses before and after
3 1971. That's a pivotal point. Before 1972
4 NTA* film was used, which everyone sort of
5 believes was not reliable enough. And post-
6 1972 a TLD was introduced that was reviewed as
7 reliable in recording neutron doses. And in
8 that particular before-1972 time frame the
9 neutron dose was to be calculated using the
10 photon dose and using the neutron/photon dose
11 ratio as a surrogate for actual empirical
12 neutron measurements. And somehow or other
13 that formula does not jive with the need to
14 segregate neutron doses below 100 keV and above
15 100 keV. So I'm not sure that the
16 (unintelligible) entry of zeroes is the
17 justification for entering the neutron dose
18 twice, because it's really supposed to be based
19 on photon/neutron ratio and using of -- the use
20 of the empirical photon dose. Post-1971 the
21 HMPD dosimeter was to be used, and for that
22 you'd essentially take the minimum detectable
23 level and divide it by two, as defined in table
24 6-31. So in short, for either missed neutron
25 dose or a dose that was actually potentially

1 recorded by means of the HMPD TLD badge, the
2 method of doubling that dose is not
3 appropriate, at least from the procedures that
4 I'm looking at here.

5 **MR. HINNEFELD:** Well, there's a -- there's a
6 mistake in the Technical Basis Document
7 (unintelligible) this table because the numbers
8 -- and there is an additional table, 6-30, that
9 is the photon limits of detection
10 (unintelligible). This table 6-31 which
11 purports to tell the photon limits of detection
12 for use in the photon to neutron ratio method
13 contained a factor of two error for several
14 years. So the actual photon limits of
15 detection are half that, and so the -- that was
16 an error that in -- in response to your
17 comment, when we were investigating this, we
18 evaluated that. These values in table 6-30 --
19 6-30 are the actual photon limits of detection,
20 and so they are in fact lower than what appears
21 in 6-31, which is the neutron table, but it
22 relies on photon limit of detection in its
23 technique, as you've correctly described.

24 **DR. H. BEHLING:** What do we do with this thing?

25 **MR. HINNEFELD:** Correct that table, and we --

1 we have a revision in -- underway.

2 **DR. H. BEHLING:** Okay.

3 **MR. GRIFFON:** Is that the only resolution? Is
4 that table correct (unintelligible)?

5 **DR. H. BEHLING:** Well, as I said, I'm not in
6 agreement with counting -- you say the
7 dosimetry data that was -- this is Hans Behling
8 for you, Ray. The dosimeter data that was
9 received from the DOE records a whole bunch of
10 things.. For film or TLD it records the shallow
11 dose or deep dose and for neutron it gives you
12 values for -- for low energy neutrons and high
13 energy neutrons, and in each case, even though
14 it was a dosimeter that was assigned to that
15 person for that time period, the -- the
16 counting of two zeroes and then making a --
17 making those two zeroes count as if they were
18 two independent is, in my estimate,
19 overestimating the actual dose -- of missed
20 neutron dose. I mean (unintelligible) on using
21 the photon/neutron ratio method or, in the case
22 of MDL over two when you know what the neutron
23 -- you know, for the post-1972 era, using it
24 twice is basically giving him a gift that he
25 doesn't deserve, based on these procedures.

1 MS. MUNN: I agree.

2 DR. H. BEHLING: Don't you agree? I mean --

3 MR. HINNEFELD: I think so. Yeah, I think I
4 agree. I think I agree.

5 DR. H. BEHLING: So the table in itself is --
6 is a need-to-do for the purpose of correcting
7 the procedure --

8 MR. HINNEFELD: Right.

9 DR. H. BEHLING: -- but I think in this dose
10 reconstruction, the guy has double-counted the
11 zeroes that should not have been. And for
12 missed dose he should have said what is the MDL
13 after for neutron badge and then divide
14 that by two and whatever and then assign that,
15 rather than counting the zeroes twice.

16 MR. HINNEFELD: With what I know today, I
17 agree.

18 DR. H. BEHLING: Okay.

19 MR. HINNEFELD: Although I may learn -- I may
20 learn something later that causes me to
21 question everything again. I do that every
22 day.

23 DR. H. BEHLING: Okay.

24 MR. GRIFFON: This is Mark Griffon. I -- I
25 think -- I think I agree with that, too. I

1 think it sounds like there was double-counting
2 but -- so you'd have to do it once --

3 **THE COURT REPORTER:** Mark, I'm having a real
4 hard time hearing you.

5 **MR. GRIFFON:** Sorry. As I -- I think I agree
6 with that. I think -- it sounds like there was
7 possi-- or probably double-counting in this
8 case, but I think you have -- is it -- in these
9 procedures do you -- are you able to resolve
10 then how to split the energy? Is that -- is
11 that sort of dependent on -- on the time frame
12 or how -- how do you resolve that? You --

13 **MR. HINNEFELD:** What energy neutron we assign
14 to --

15 **MR. GRIFFON:** Right.

16 **MR. HINNEFELD:** Well, for the dose
17 reconstruction, the entire neutron dose, missed
18 or measured, was assigned to the most
19 radiologically effective energy period --
20 energy range.

21 **MR. GRIFFON:** I thought (unintelligible).

22 **DR. H. BEHLING:** Okay.

23 **MS. MUNN:** This is Wanda. Even though I have
24 not reviewed this case -- and will not, because
25 it's a Hanford case -- the point that's being

1 discussed here is one that is cross-cutting, I
2 think. And I certainly, from what I understand
3 of what I believe I heard, I agree that there's
4 a double benefit there that should not
5 continue. The process probably needs to be
6 reviewed.

7 **MR. HINNEFELD:** Thank you.

8 **DR. H. BEHLING:** Issue six and seven, we can
9 add these two together.

10 **MR. HINNEFELD:** Issue number six of first an
11 improperly cited reference and incorrect organ
12 dose assignment for occupational medical
13 exposures, and issue number seven is the same
14 comment about on-site ambient doses versus
15 occupational medical. Our view is that the
16 reference cited is the -- is in fact the
17 reference where these values were taken from.
18 It's not a particularly well-constructed
19 reference. Attachment E doesn't have something
20 at the top of the page that says Attachment E,
21 so -- but it was there and it's listed as
22 Attachment E in the table of contents.

23 **DR. H. BEHLING:** Hans Behling. Stu is 100
24 percent correct. In our write-up we said that
25 there is no such thing as Attachment E that was

1 discussed here is one that is cross-cutting, I
2 think. And I certainly, from what I understand
3 of what I believe I heard, I agree that there's
4 a double benefit there that should not
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19 reference. Attachment E doesn't have something
20 at the top of the page that says Attachment E,
21 so -- but it was there and it's listed as
22 Attachment E in the table of contents.

23 **DR. H. BEHLING:** Hans Behling. Stu is 100
24 percent correct. In our write-up we said that
25 there is no such thing as Attachment E that was

1 written into the dose reconstruction report,
2 and we are wrong and we are right, and we are
3 wrong because it does exist. We're right
4 because the document that was forwarded to us
5 didn't have the Attachment E, which was added
6 later. As you may recall, under task three we
7 had asked for a disk that contained all of the
8 procedures. Now the procedure that was minus
9 the Attachment E was issued in June of 2003,
10 was amended in November 7th of 2003. We asked
11 for that disk of the -- in June of 2004, and we
12 were sent the June 2003 version, which had no
13 Appendix E, so I kept looking at Stu's
14 statement and I'm showing them currently our
15 version of this document, which has no
16 Attachment E. So we're both right and we're
17 both wrong. Okay? It is now -- there is an
18 Attachment E, which I only recently got through
19 the internet when I downloaded and said well,
20 that's a new attachment here and said --

21 **MS. K. BEHLING:** (Unintelligible)

22 **DR. H. BEHLING:** Yeah, so that issue goes away,
23 but as I said, at the time when we reviewed it
24 the reference to Attachment E didn't make sense
25 to me because our version of ORAUT-PROC-0006

1 did not have an Appendix E at the time.

2 **MR. HINNEFELD:** That explains a lot. I
3 couldn't believe you had overlooked it. Given
4 the way you looked at everything else, I
5 couldn't believe you had overlooked that.
6 Okay. Then we are ready for issue number --

7 **DR. H. BEHLING:** Eight.

8 **MR. HINNEFELD:** -- eight. Okay. Issue number
9 eight relates to a contamination event that
10 there is a record -- there are records in the
11 DOE response of a contamination event. There
12 are two sheets that seem to relate to the same
13 event -- does that sound correct?

14 **DR. H. BEHLING:** Yes.

15 **MR. HINNEFELD:** And the -- the subject and the
16 discussion on the -- on the sheet led us to the
17 conclusion that they are related sheets. They
18 are the same event. One describes the
19 decontamination of the person and the resulting
20 results, that he was successfully
21 decontaminated. That was our interpretation of
22 these records that we -- that we got.
23 We also felt like a contamination event that's
24 identified and decontaminated provides a modest
25 intake potential at most, and that this

1 particular dose reconstruction was performed
2 with the intentionally overestimating TIB-2/to*
3 intake, the internal dose assessment, so we
4 felt like the internal dose for this person was
5 sufficiently addressed in the dose
6 reconstruction.

7 **DR. H. BEHLING:** Okay. Again, you know,
8 sometimes it's an issue of interpretation and
9 how you want to view things. But we agree that
10 there was a contamination event involving a
11 worker who had torn his glove. It shows a
12 certain -- a number of -- I can't even be sure
13 what I'm looking at because the document is
14 old. It's difficult to determine whether the
15 actual numbers on that page as we get it from
16 probably third, fourth, fifth generation of
17 photocopy is defined -- the contamination is
18 defined in terms of dpm, cps or whatever it is.
19 It's difficult to -- to really determine what
20 it is. But nevertheless, there was a
21 contamination event. And what is really not
22 really contested here is whether the hand was
23 decontaminated, because we know from experience
24 as an operational health physicist, a skin
25 contamination in itself is usually an

1 insignificant event from a dosimetric and risk
2 point of view. But what it usually does inform
3 you is that the potential was there for a
4 contaminating event that involves the hand,
5 that some of that contamination might have been
6 transferred to the mouth and therefore
7 ingested. And so my concern here was not so
8 much -- and I don't even question the fact that
9 the hand was decontaminated -- but there was no
10 follow-up in the urinalysis that might have
11 said well, you know, you -- you -- you tore
12 your glove, you got your hand badly
13 contaminated and in the process of undressing
14 or doing whatever following this event, you may
15 have transferred some of that to your mouth and
16 ingested. And coming from utilities and having
17 been involved in the sensitivity of internal
18 contamination, whether it's a break in a facial
19 seal of a respirator, whether it's a positive
20 nasal swipe or a hand contamination, the thing
21 to do normally is to simply say let's go and
22 send you over to a whole body counter if you're
23 talking fission pods, or if you're not talking
24 fission pods, do a urinalysis, just to be sure,
25 on the safe side, that there wasn't an

1 ingestion or inhalation of -- of contaminants.
2 And so when I looked at that particular
3 person's dosimetry records for internal
4 exposures, all I saw was an annual chest count,
5 an annual urine count, an annual whole body
6 count, which did not coincide -- these were at
7 one-year interval, which meant that clearly,
8 even though this person did have urinalysis
9 done, it did not coincide in time and space
10 with this contamination event. And that's the
11 only issue that I raise is that there was a
12 failure on the part of health physics to follow
13 up on a hand contamination by saying let's also
14 take a urine sample, just to be sure nothing
15 was taken in. And that's really what the
16 purpose of that statement is.

17 **MR. HINNEFELD:** Oh, okay.

18 **DR. H. BEHLING:** Not so much whether the hand
19 was successfully decontaminated., I'm not
20 really concerned about that, especially from an
21 alpha emitter. But what was the consequence to
22 a potential internal, and the real thing should
23 have -- the -- the -- the proper thing would
24 have been to do a urinalysis as a follow-up to
25 this hand contamination.

1 **MR. HINNEFELD:** Right. Correct. We can't, at
2 NIOSH, do anything about that.

3 **DR. H. BEHLING:** No, no, we can't, but it was
4 strictly something that says here is a CATI
5 report that identified this. I looked at the
6 old records. I also looked at the record that
7 says -- yeah, they were very successful in
8 decontaminating the hand, but then I said did
9 they follow up and do a urinalysis, just to be
10 on the side of caution, and they did not.

11 **MR. HINNEFELD:** But now when we read that
12 comment, to us it implies that there is a dose
13 here -- a significant internal dose issue that
14 is not accounted for in the dose
15 reconstruction. That's the way we would
16 interpret the comment.

17 Our view is that the internal dose that was
18 assigned to this dose reconstruction, which
19 relied on what we call the TIB-2 intake -- the
20 hypothetical 28 nuclide intake that there's no
21 evidence anyone ever got -- is sufficiently
22 large that it would encompass exposures like
23 this. Not just the one we have documents of,
24 but any others that we don't have to have a
25 document on in this person's record.

1 So our view is from the dose reconstruction --
2 you know, granted, we'll agree with your
3 comment that they did not do a very good job in
4 operational health physics on this case. But
5 from a dose reconstruction standpoint, we feel
6 like we have bracketed this person's exposure.

7 **DR. H. BEHLING:** Agreed.

8 **MR. GRIFFON:** This is Mark Griffon. I'll give
9 you a little different twist on that comment.
10 I think, Stu, you're -- you're -- you're right
11 in the -- that -- your 28 radionuclide
12 (unintelligible) is going to overestimate
13 anyway. On the other hand, you have to
14 remember your -- your, quote/unquote, customer
15 in this situation. And these people that got
16 interviewed over the phone who made these
17 comments -- I think it might behoove NIOSH to
18 specifically address that.

19 **MR. HINNEFELD:** Okay.

20 **MR. GRIFFON:** In their -- in their review, even
21 if it's to say that -- that, you know, we've
22 considered this, there was no follow-up.
23 However, you know, we've taken this approach to
24 -- to your dose reconstruction using the 28
25 radionuclides, which is overestimating your

1 (unintelligible) -- you would never have
2 received that in this situation anyway. At
3 least that says to that individual that they
4 heard me on my interview and they looked into
5 it and they -- and they -- they -- you know,
6 assessed it and included it, 'cause I think
7 down the road we're going to run into this. If
8 they think that they made these, you know,
9 (unintelligible) comments and they're not even
10 spoken to in their report, they're going to say
11 why did I even bother, you know.

12 **MR. HINNEFELD:** Right.

13 **MR. GRIFFON:** So there is that part, and -- and
14 I'm not saying this to give them lip service.

15 **MR. HINNEFELD:** No.

16 **MR. GRIFFON:** I'm saying that -- that they
17 should be -- you know, those comments should be
18 addressed (unintelligible) spoken in the
19 report.

20 **MR. HINNEFELD:** And I think you'll see as you
21 continue to review dose reconstructions that
22 are prepared later, you will see better
23 addressing of that 'cause that is a point we
24 have made with the contractor is that if they
25 tell us these things happened, we need to

1 describe to them in the dose reconstruction
2 report how we considered the information they
3 gave us. So I think -- I don't have this one
4 in front of me, I don't think -- I might have
5 it, I've got a couple -- but certainly I think
6 the more recent dose reconstructions you will
7 be able to see better. They said the -- the
8 claimant made this statement and the dose
9 reconstruction addressed that statement in this
10 fashion. I think you'll be able to see that
11 better in later dose reconstructions.

12 **DR. H. BEHLING:** Okay. And then just again for
13 your -- your benefit, Wanda, SC&A did these
14 reviews -- we did not really address whether or
15 not a -- a deviancy from the procedure was
16 necessary (sic) going to result in a monumental
17 or even significant or even a marginal
18 increment in dose. It was just looking at the
19 procedures and saying did they follow. Whether
20 or not it was significant to the dose or the
21 probability of causation was not an issue we
22 really were willing to address. We basically
23 looked at the procedures to say were they
24 followed. And if not, even if it was a minor
25 or negligible thing, as you say, the 28