1 radionuclides brackets just about anything that
2 could have happened here and clearly was more
3 than generous in compensating for internal
4 exposure that he might have received as a
5 result of his hand contamination. No one
6 contests that.
7 **MS. MUNN:** No, my perspective is that you're --
8 you're following your charge in your approach,
9 yeah.
10 **DR. H. BEHLING:** Okay. I think we're done with
11 case #6, so we're --
12 **MR. GRIFFON:** Let me -- let me --
13 **DR. H. BEHLING:** Oh --
14 **MR. GRIFFON:** This is Mark Griffon, I'm sorry.
15 I have one more thing I (unintelligible) which
16 is to -- it sort of overlaps with the first
17 issue that you brought up on the dose
18 conversion factor and the uncertainty, yeah --
19 that -- and -- and this -- this is a question
20 of -- I believe this -- this individual --
21 obviously I don't -- I believe this individual
22 at one point was a , and my
23 -- I guess my question was, in there were a
24 couple of events where he had high ring badge
25 data --

1 **THE COURT REPORTER:** I'm sorry, he had what?
2 **DR. H. BEHLING:** High --
3 **MR. GRIFFON:** High ring badge.
4 **THE COURT REPORTER:** Thank you.
5 **MR. GRIFFON:** Sorry.
6 **DR. H. BEHLING:** Up to 5,000 millirem.
7 **MR. GRIFFON:** Right. And my -- my question
8 was, I wasn't sure what exactly they were
9 working with in the and whether film
10 badge -- or -- his regular badge most likely
11 was worn on the chest. And if you're working
12 at your waist level, you're dealing with a
13 (unintelligible) enhancer I think in this
14 situation, are -- are we missing the mark with
15 these dose conversion factors or could this
16 dose to his lower region actually be higher
17 than what -- what you're projecting?
18 **DR. H. BEHLING:** This is Hans Behling trying to
19 respond to Mark's comments. I believe part of
20 the resolution regarding the high ring badge
21 data was resolved by comparing ring badges on
22 the left hand and the right hand, and
23 concluding that the higher -- the much, much
24 higher ring dose that represented the 5,000
25 millirem value was a -- an aberration that is a

1 defective dosimeter reading. I think that's
2 one of the conclusions they came up with. And
3 it was strictly comparing the left hand/right
4 hand ring data and coming to the conclusion
5 that perhaps the high exposures that were
6 observed were in fact due to a deficiency. I
7 mean the rings are sometimes the -- and
8 especially early on, they're a single chip,
9 often -- I assume they used calcium fluoride in
10 those days and they may very well have had an
11 aberrant read. It's difficult to judge.
12 **MR. GRIFFON:** And in this case -- this is Mark
13 Griffon again. In this case did -- did anyone
14 explore what -- what kind of work might have
15 been going on in that ? Was it
16 plutonium work, was it uranium work, was -- was
17 it -- do you have knowledge of that or were
18 there surveys of the -- of that particular --
19 **MR. HINNEFELD:** Sitting here today, I don't
20 have knowledge of that.
21 **DR. H. BEHLING:** Let me clarify this -- Hans
22 Behling. He was a , whose job was
23 defined in the dose reconstruction report as a
24 person who did of
25 in the

1 , which is the
2 plutonium (unintelligible) Pilot Plant.
3 **MR. GIBSON:** This is Mark Gibson, if I could
4 make a comment. Then isn't it also plausible
5 that the reading on each ring was appropriate
6 if he was --
7 **DR. H. BEHLING:** It's possible.
8 **MR. GIBSON:** -- holding in his left hand a
9 canister and he was unloading with his right
10 hand?
11 **DR. H. BEHLING:** Yes.
12 **MR. GIBSON:** Then depending on the way the
13 canister was shaped, it could have -- back to
14 Mark's point about the lower extremity
15 exposure.
16 **DR. H. BEHLING:** I'm not -- I'm giving you the
17 explanation as (unintelligible) --
18 **MR. GIBSON:** (Unintelligible)
19 **DR. H. BEHLING:** -- in the resolution of
20 dosimeter data. Whether or not I agree is
21 something I can't...
22 **MR. GRIFFON:** I guess my -- Mark Griffon again.
23 My -- my point was, you know, for the
24 appropriate missed -- or -- or to determine
25 whether the film badge values are appropriate

1 or what kind of dose conversion you should use,
2 especially for colon cancer, I wondered if
3 anybody explored radiation surveys of that area
4 and it would be interesting to see if they had
5 surveyed points on the or,
6 you know, where his waist might have been
7 during -- during the work. That was my -- that
8 was my point, and that -- and especially when
9 you see the high ring data -- whether they --
10 they -- whether the contractor sort of made
11 them go away or not, it raised a flag with me,
12 maybe it needed further investigation and it
13 could have been a significant -- not -- not a
14 (unintelligible) 20 or 30 millirems
15 (unintelligible) point here, maybe a more
16 significant amount of dose, so that's why I --
17 it piqued my interest.
18 **MR. HINNEFELD:** This is Stu Hinnefeld. As a
19 general rule we considered and
20 a special case, and
21 I'm not real sure about this one, so let me, if
22 I may, do some more investigation back at the
23 office and provide a better (unintelligible) of
24 that as part of this -- of our position on this
25 case. All right? Because it is a fact that we

1 do consider a , meaning someone
2 whose job is to work in a , not someone
3 who was in the room with the or --
4 or did once in a while on the
5 , but someone who was a
6 worker, we did consider that a special geometry
7 case.
8 **MR. GRIFFON:** And -- and just a final point --
9 Mark Griffon again -- on that, at some point I
10 have heard that -- that -- it might have been
11 at Hanford -- that (unintelligible) ,
12 the -- the way they were shielded varied over
13 time, too, so that -- you know, depending on
14 the -- the year or the -- the situation, they
15 might have had shielding in the front -- more
16 or less shielding in the front, you know, in
17 between the worker and the source
18 (unintelligible) that might, you know --
19 **MR. HINNEFELD:** This is Stu Hinnefeld and we
20 have in fact seen photographs of several
21 different designs of as it relates to
22 the shielding in front of the -- or lack
23 thereof in front of the worker.
24 **MS. MUNN:** There were a limited number of
25 activities that occurred in the .

1 You should be able to bracket them pretty well.
2 Most of the really complex separation
3 activities and things of that sort that went on
4 in were not in that building.
5 **MR. HINNEFELD:** Okay. Thank you, Wanda.
6 **MS. MUNN:** You bet.
7 **DR. H. BEHLING:** Are you ready to go on to --
8 **MR. HINNEFELD:** Well, there is an issue number
9 nine that I threw in here --
10 **DR. H. BEHLING:** Oh, okay.
11 **MR. HINNEFELD:** -- but it's a general comment
12 that the dose reconstructions are hard to
13 understand, and it was made on several dose
14 reconstructions and we certainly aren't --
15 aren't arguing that.
16 **MR. FITZGERALD:** Let me clarify -- this is Joe.
17 Let me clarify -- in terms of improving
18 understanding, they also may be auditable --
19 more auditable or -- how do you approach that?
20 **MR. HINNEFELD:** Well, I hate to commit to what
21 it's going to look like because I'm going to
22 work with our contractor.
23 **MR. FITZGERALD:** I heard two is-- I heard two
24 issues we went through last time. One was --
25 really wasn't much basis provided so you

1 couldn't understand the issue, and the other
2 one was you almost had to reproduce the entire
3 calculation, which is a slightly different
4 issue, which is (unintelligible) the -- the --
5 lends itself to audit -- audit (unintelligible)
6 your future review down the road in case
7 there's any adjudications or anything like
8 that, which is a pretty critical finding.
9 **MR. HINNEFELD:** I will say that both of the
10 things you mentioned -- readability or
11 understandability and ease of auditability --
12 are part of -- are part of the scope of what we
13 intend to work on.
14 **MR. FITZGERALD:** Okay.
15 **MR. HINNEFELD:** I can say that. I can't make
16 (unintelligible) like I said.
17 **MR. FITZGERALD:** Oh, sure.
18 **MR. HINNEFELD:** I can't -- I can't define what
19 it is.
20 **MR. FITZGERALD:** Right.
21 **MR. HINNEFELD:** Now I think we're ready for
22 case #7.
23 **MR. GRIFFON:** We're moving along.
24 **DR. H. BEHLING:** We're trying to play catch-up
25 here.

1 **PRESENTATION/DISCUSSION OF ISSUES FOR CASE #7**
2 **MR. HINNEFELD:** Okay, the first issue, issue
3 number one, on case #7 I understand now relates
4 to our failure to provide the correct copy of
5 the reference for the reviewer. So there were
6 some sub-comments that had to do with whether
7 this procedure six provides the right guidance
8 or not, and once you have the correct version,
9 the up-to-date version, I believe it does
10 provide the guidance for -- for doing that, for
11 the factors involved, the dose reconstruction
12 factors involved.
13 There's an additional complication in this --
14 this dose reconstruction (unintelligible) the
15 text of the dose reconstruction says an assumed
16 annual X-ray was assigned for the dose
17 reconstruction for this person. The person
18 worked for years. So when you look at the
19 dose reconstruction input sheet -- the IREP
20 IMBA sheet, there are only four years of annual
21 X-rays, so this was a mistake, an oversight.
22 So balancing against that is we have the
23 medical record for this Energy employee, and it
24 indicated the person had two X-rays during
25 their employment, so by assigning

1 four, you still have assigned more than what
2 they apparently -- more medical dose than what
3 the person apparently received.
4 I think I might take the opportunity here to
5 say something that I -- I don't know if it's
6 important to say here or not, but I want to
7 make sure everybody understands that when we
8 review a dose reconstruction, we quite likely
9 would send this one on -- see this, say okay,
10 well, that will go anyway. And we're -- we're
11 not -- you know, as a part of our review, we're
12 not trying right now to make the dose
13 reconstructions perfect. If we see this
14 mistake of a Han-- you know, probably the --
15 the dose is still -- the dose is still higher
16 than the person received anyway, even though we
17 see -- we might -- I suspect we didn't notice
18 it because we probably would have gone back up
19 and changed the wording of the dose
20 reconstruction so it didn't say an annual
21 (unintelligible). But we might have just said
22 what the heck, it's a good dose reconstruction,
23 it's complete, we're going to sign it and send
24 it on.
25 Similarly, if we see a mistake -- there are one

1 or two badges -- not a whole bunch, but one or
2 two badges where a result of four was counted
3 as a real result instead of as a non-detect the
4 way it should have been, we might approve that
5 and send it on, as well.
6 So I want to make sure as we go through this,
7 we're -- we're being pretty pure on the science
8 a lot of these -- a lot of the things we're
9 noticing, I think, which is admiral -- and
10 admirable review to do that. But understand we
11 are not behaving at NIOSH in the same fashion.
12 We are knowingly approving dose reconstructions
13 that we can see these small (unintelligible) in
14 and sending them on to the Department of Labor.
15 So that -- we are behaving in that fashion.
16 Now I guess we can be told don't behave that
17 way anymore, but we're behaving that way and
18 we're doing it in order to get them out
19 (unintelligible), because if we don't, if we go
20 (unintelligible), it adds at least a week to
21 that one dose reconstruction, which is back in
22 -- in the line, in the crowd, waiting for
23 everybody else's, as well. There's a big bunch
24 of dose reconstructions to be done yet.
25 **DR. H. BEHLING:** And -- and -- this is Hans

1 Behling. And we agree, but on the other hand
2 there is a certain amount of liability
3 associated with even allowing marginal errors
4 into the dose reconstruction report that will
5 be received by the claimant himself, subject to
6 his review, and even some instances there'll be
7 clear errors here that he will identify and say
8 well, they screwed this one up, how do I know
9 that my internal exposure was properly
10 calculated -- and it leads to skepticism and
11 cynicism and distrust. And so the fewer
12 errors, even if they're minor, that we have to
13 introduce, the better off we'll be in terms of
14 public relations and gaining the trust of the
15 people.
16 And in behalf of this case, let me just
17 summarize this. This issue number one, there
18 were multiple comments. The person in -- the
19 dose reconstructor, in his write-up, says we
20 (unintelligible) annual doses to medical X-
21 rays. As it turned out that there were only
22 four, and the four in question were given 5.25
23 rem, that's 21 millirem in total for four
24 individual. And then he says well, the use --
25 the ORAUT-PROC-0006 value on page 98, which is

1 a table. And I'm looking at the table, and in
2 fact -- Kathy, can we turn that up -- you will
3 see the numbers including years. You will see
4 over there in column number two and you see
5 column -- actually it's column number three,
6 which is group two, and you see 14.2 millirem
7 as the default organ dose value that should
8 have been used. Which means that even for the
9 four years to which he assigned the dose of
10 5.25 millirem, he should have had 14.2
11 millirem, and then it drops in year 1997 to
12 11.5 and subsequently to 7.41. Marginal
13 numbers of course there. You're talking a few
14 millirem. But nevertheless, if you say you
15 used that table as a default value, group two,
16 organ default value for assigning X-ray doses,
17 you are still wrong, as marginal as it was.
18 Just to clarify, Stu, can you (unintelligible)?
19 **MR. HINNEFELD:** I'm trying to figure out where
20 we are.
21 **DR. H. BEHLING:** Yeah, we're up here and -- and
22 (unintelligible) you have to look at the -- the
23 period of -- of exposure. But when you see
24 group two here, they're 14.2, 14.2, 14.2
25 default values for the -- for the -- and then -

1 -
2 **MR. HINNEFELD:** Oh, wait a minute. I
3 understand what -- I think I know what's going
4 on. The dose reconstructor apparently used
5 column three. He used column three and the
6 paragraph -- and the paragraph at the bottom
7 where it says maximizing approach for dose
8 reconstruction, 1.3, because that will give you
9 five.
10 **DR. H. BEHLING:** That will give me five, yeah.
11 But I think he should have used group two for
12 this case.
13 **MS. MUNN:** You're really getting far off there,
14 Hans.
15 **UNIDENTIFIED:** She can't hear you.
16 **DR. H. BEHLING:** Oh, okay, I'm sorry. We were
17 just talking about the actual numbers that this
18 particular document, which unfortunately we
19 didn't even have, has as default values for
20 medical X-rays.
21 **MS. MUNN:** I got what you were talking about
22 but I didn't get accurate wording.
23 **DR. H. BEHLING:** Yeah, what I said that it --
24 even for the -- for the four entries that he
25 gave, and he apparently may have used -- and as

1 Stu pointed out, he may have used group three,
2 which -- and then applied a 1.3 uncertainty
3 factor and entered those as 5.25 millirem each
4 for four years. It's my estimation that he may
5 have chosen the wrong group in that table.
6 Again, trivial -- we're talking 14.2 millirem
7 versus the 5.2 that he used. These are
8 trivial, it's just an error that -- you know,
9 if a person is aware of this, if this is his
10 dose reconstruction, he goes over it with a
11 fine-toothed comb, he may come to the
12 conclusion that an error was made that didn't
13 favor him.
14 **MS. MUNN:** I understand the concern.
15 **MR. HINNEFELD:** Well, I know in looking at the
16 review -- after we received your review
17 comments and looking at this case, our person
18 who looked at it felt like column three was the
19 right column to choose from.
20 **DR. H. BEHLING:** Was it?
21 **MR. HINNEFELD:** Right now I can't find it in
22 front of me, the information I need to look it
23 up. So it would depend upon the -- the cancer
24 organ and the appropriate surrogate and what
25 table to (unintelligible) the surrogate from.

1 Now -- I can't remember any of it now, but I
2 know the guy who looked at it --
3 **DR. H. BEHLING:** Well --
4 **MR. HINNEFELD:** -- thought it was done
5 correctly.
6 **DR. H. BEHLING:** -- it's Hodgkin's disease, and
7 the tissue in question would have been actually
8 in the primary field. I assume, based on the
9 medical report, the lymph tissues that were
10 subject to the disease were probably in the
11 primary field, in which case even these organ
12 tissues probably were incorrect. He probably
13 should have used as a substitute a lung dose
14 for the chest X-rays because that would have
15 given him a much more accurate
16 (unintelligible). In that instance the dose
17 would have been probably 40-some-odd millirem,
18 given the time frame in question. So the
19 lymphatics that are subject to the cancerous
20 lesion are probably in the primary beam of the
21 X-ray.
22 **MR. HINNEFELD:** Well --
23 **DR. H. BEHLING:** So they would (unintelligible)
24 multiple reasons for questioning --
25 **MR. HINNEFELD:** (Unintelligible) what the

1 problem is if that was -- okay. The
2 instructions for lymphomas now for external
3 target organ is the remainder category, so I am
4 guessing the remainder -- there is a remainder
5 category as an external -- essentially as a
6 dose conversion factor, a remainder category
7 which relates to (unintelligible) lymphoma, and
8 there's some other potential doses go in there,
9 and so the guy who read this apparently felt
10 that the remainder -- correct column for
11 remainder was the third column.
12 Now I can say that the correct target organ for
13 lymphoma is under discussion right now.
14 **DR. H. BEHLING:** Yeah, and it should be where
15 (unintelligible). If you have a lymph node
16 that's a neck, it's quite different from the
17 inguinal (unintelligible) in the thigh area,
18 which would be outside the primary beam. So
19 one shouldn't even look at the generic value,
20 but say where did this lymphoma -- where is the
21 primary lesion. If it's -- in the case of
22 medical X-rays, if it's in the primary beam the
23 surrogate tissue would be the lung.
24 **MR. HINNEFELD:** I think for the purposes of
25 this report, the point is relatively moot

1 because it's being addressed elsewhere.
2 **DR. H. BEHLING:** Okay.
3 **MR. HINNEFELD:** But -- but this -- the dose
4 reconstruction was done in accordance with the
5 instructions available at the time.
6 Okay, issue number two on this also is to the
7 whole lymphoma target organ question, and it
8 questions whether (unintelligible) metabolic
9 organ was -- was the correct target organ for -
10 - for lymphatic cancer for internal dose.
11 Highest non-- I'm sorry, highest non-metabolic
12 organ.
13 There is in fact a medical review done of
14 lymphomas in the determination of our position
15 of what target organ to select. The particular
16 physician who's on the staff of MJW who's a
17 health -- well, I would say he was a health
18 physicist before going to medical school
19 because after you've been to medical school,
20 why would you want to be a health physicist
21 anymore, but he's -- he's called -- you know,
22 he's referred to as a health physicist and
23 physician, and he provides the medical review
24 of the target organ and he suggests the high
25 non-metabolic and so it was done in accordance

1 with that. And our instructions are, on these
2 cases, get medical review, then the medical
3 review determines what the target organ
4 (unintelligible).
5 **DR. H. BEHLING:** Okay.
6 **MR. HINNEFELD:** But to a certain extent the
7 point is moot because of some of the reasons
8 you were discussing earlier.
9 **DR. H. BEHLING:** Again, two points -- this is
10 Hans Behling -- on this issue is that when I
11 raised it, I did not necessary (sic) say it
12 applied to this case.
13 **MR. HINNEFELD:** Right.
14 **DR. H. BEHLING:** But I raised it as an issue
15 and the meaning is -- behind this is that if
16 you use lymphatics and say that you use the
17 highest non-metabolic organ, you may be in
18 error if the lymphatics in question are those
19 that are affiliated with the lung tissue,
20 knowing that a phagocytosis and removal, a lung
21 clearance -- frequently a large component of
22 lung clearance, involves the lymphatics. And
23 if the lymphatics (unintelligible) case were
24 those involving the lung, you may have a very
25 high concentration of radionuclides, and

1 therefore a non-metabolic organ as a surrogate
2 would not do in this case.
3 In this case I do have to question, based on --
4 I'm not a physician, I have to tell you. I
5 looked at this very carefully and I'm not
6 convinced that these lymphatics in this case
7 were not affiliated with the lung, because they
8 were very -- they were right next to the lung
9 tissue, and it's hard for me to -- to determine
10 for sure, but we're going to talk about that
11 off the record because this is something -- I
12 don't want to talk on the record regarding this
13 issue here that you mentioned. I won't go any
14 beyond that, but --
15 **MR. HINNEFELD:** Well --
16 **DR. H. BEHLING:** -- I'm pretty sure I -- I have
17 some comments that will be off the record for -
18 - to talk about with Stu.
19 **MR. HINNEFELD:** Okay. There are -- I will say
20 that there are discussions underway about
21 target organs for lymphoma, and that I don't
22 know where that will go, but it is an open
23 question in general.
24 **DR. H. BEHLING:** Okay. But remind me, I do
25 want to talk to you about --

1 **MR. HINNEFELD:** Okay.
2 **DR. H. BEHLING:** -- this point because I have
3 some comments to make about this that I want
4 off the record.
5 **MR. HINNEFELD:** Okay with me.
6 **DR. H. BEHLING:** Okay, issue three.
7 **MR. HINNEFELD:** All right, issue three relates
8 to the fact that there were zeroes on the
9 neutron report -- neutron monitoring report
10 received from the Department of Energy. There
11 was a neutron badge and it reported zero, and
12 the dose reconstructor did not include a missed
13 neutron dose component. And as we've looked at
14 this, there were -- for the period of time in
15 question, Hanford routinely put a neutron badge
16 on people, whether they had a potential for
17 neutron exposure or not. So the missed dose
18 component is really only appropriate for people
19 who have a realistic potential to be exposed to
20 the radiation in question. And so there's a
21 determination made on cases on whether this is
22 a -- is there some potential exposure here for
23 neutrons or is it just one of the people they
24 hung a neutron badge on, and in this case there
25 were a number of reasons that the dose

1 reconstructor felt would indicate that this
2 person wasn't really -- wasn't exposed to
3 neutron sources and therefore there was -- it
4 was not necessary to include the missed neutron
5 component. So I've provided my written --
6 (unintelligible) are the written reasons.
7 **DR. H. BEHLING:** Hans Behling, and in response
8 to that, I did look at the dose reconstruction
9 report. I looked at the CATI in the report and
10 I looked at ORAUT-TKBS-6-6. Let me summarize
11 what they indicate that would suggest perhaps
12 the benefit of the doubt would be -- should be
13 given to the claimant in behalf of missed
14 neutron doses.
15 In the NIOSH dose reconstruction report it says
16 (reading) was assigned to --
17 n the
18 Those are the areas, but includes
19 as a starter.
20 In the CATI report the individual in one of the
21 pages -- for those who are familiar with the
22 CATI report, there's a checklist of
23 radionuclides that you can check off -- he
24 indicated plutonium and californium among them.
25 Again, I'm sure that some people say check them

1 all off, we don't know. But he did check them
2 off, so that was issue number two.
3 Issue number three is ORAUT-TKBS-0006-6 section
4 6.3.4.5, and that's in a slide and -- and you
5 will see -- oh, the other thing in the CATI
6 report, he identified as ., all
7 buildings -- or most buildings, I believe,
8 which he has written. And so there are two
9 things in the CATI report. He identifies the
10 radionuclides that could have been neutron
11 exposure and the , without identifying
12 building, cited most buildings. And when I
13 look at the ORAUT-TKBS-0006-6, you will find
14 under the 300 area use of the areas where
15 suspected neutron exposures could have
16 occurred, and the dose reconstructor should
17 consider neutron exposure.
18 So given those three elements -- that he
19 identified a in a dose reconstruction
20 report, he identified californium and
21 plutonium, and he identified in the CATI report
22 as having worked in the and, in
23 parentheses in the CATI report, it says most
24 buildings or most areas -- I felt that the
25 benefit of doubt should have gone to the

1 claimant and that his neutron dose would have
2 been appropriate under these circumstances.
3 And that in his DOE dosimetry records they are
4 zero numbers in -- in -- in the area of
5 neutrons.
6 As Stu said, you know, maybe in those days they
7 assigned a badge that was capable of measuring
8 neutron and photons, and so people who had
9 limited potential for exposures were always
10 basically given the benefit of an exposure
11 readout that said zero, when the truth is they
12 were not exposed. But having the -- the data
13 that I looked at -- and again, the claimant
14 favorable when in doubt, follow the path of
15 claimant favorability in assigning the dose,
16 even if the probability is marginal, I felt he
17 could have been given a neutron -- missed
18 neutron dose and not violated the procedures as
19 I see them.
20 **MR. HINNEFELD:** I'd like to take that under
21 advisement and go back to the office with the
22 (unintelligible).
23 **DR. H. BEHLING:** Okay, I think we're -- for a
24 break, maybe (unintelligible).
25 I think it may be worthwhile to take a 15-

1 minute break, Wanda and Ray, and then we'll
2 regroup in about 15 minutes and go on with case
3 #7 in ten minutes -- okay, we'll go on with
4 case #8, if that's all right with everybody.
5 **MS. MUNN:** Very good, we'll see you in half an
6 hour -- 15 minutes. Thank you.
7 **DR. H. BEHLING:** (Unintelligible) I said ten
8 minutes.
9 **MS. MUNN:** Ten minutes? All right, ten minutes
10 we can do.
11 **DR. H. BEHLING:** Okay.
12 **MS. MUNN:** Thank you.
13 (Whereupon, a recess was taken.)
14 **PRESENTATION/DISCUSSION OF ISSUES FOR CASE #8**
15 **DR. H. BEHLING:** Everybody has come back to the
16 table and we're ready to start with case #8,
17 which is also from the Savannah River Site, and
18 the person there had cancer of the esophagus.
19 He was employed there for a very brief period
20 of time of only months, worked at various
21 areas at the Savannah River Site --
22 , et cetera -- but his
23 job description was a . And the
24 assigned doses are relatively modest, 2.2 rem,
25 most of which is really a hypothetical

1 assignment of exposure from tritium and other
2 radionuclides. So with that, I will turn the
3 comments over to Stu, who will introduce issues
4 one, and perhaps several of them because they
5 all have a tendency to be easily taken off the
6 table, I believe.
7 **MR. HINNEFELD:** Well, I hope so. Issue number
8 one is a comment about missed photon dose, and
9 it seemed to be determined in error. And that
10 is a true comment. There was a -- a relatively
11 small error and it actually overestimated the
12 missed dose. There were -- apparently more
13 zeroes were counted than were actually in the
14 person's record, so there was a slight over--
15 the difference between nine zeroes and five
16 zeroes, so it was a -- it was a real but minor
17 and favorable error.
18 There are -- issue number two is I guess a
19 similar category. The doses that are utilized
20 for ambient exposure or environmental
21 occupational exposure are higher than those in
22 the Technical Basis Document. This also
23 appears to be a real error, and again it's
24 relatively minor and it's in favor of the
25 claimant. In other words, the numbers in the

1 dose reconstruction were higher than the
2 numbers in the Technical Basis Document.
3 The third issue and the fourth issue are
4 generic issues, and we're (unintelligible)
5 about how best to deal with these today because
6 the commenter, Joyce Lipstein*, is not with us
7 and so we think the discussion would be
8 probably more fruitful if she were here. We
9 provide some discussion of our view when we get
10 to these in case #11. I kind of will leave it
11 to the Board members and -- I would -- I would
12 at the very least suggest we wait till case
13 #11, and then maybe at that time we can decide
14 if we want to engage in some discussion now. I
15 think we'll have to have the expectation that
16 there will be a -- if we discuss it now or not,
17 there will be additional following discussions,
18 whether we discuss it today or not to -- in
19 order to -- for the people who -- Joyce
20 Lipstein, who actually prepared the comment,
21 and Tom or someone on our staff to engage in
22 discussion about the various views of it.
23 **MR. GRIFFON:** I -- Mark Griffon, and I think we
24 should discuss it, at least (unintelligible) or
25 tomorrow morning, whenever we get to that.

1 **MR. HINNEFELD:** Okay. I would like to suggest
2 that we do that in case #11 because we've
3 written some discussion in case #11.
4 So that takes us to issue number five, which is
5 a comment about the extent to which information
6 presented in the claimant's interview is
7 addressed in the dose reconstruction. And some
8 of these -- two of these items are disconnects
9 between what the claimant said in the interview
10 and the DOE record -- or actually one's a
11 disconnect and then one's just a -- DOE didn't
12 provide something.
13 In the first case, the claimant says that he
14 participated in in vitro monitoring program.
15 In other words, left urine samples or something
16 like that, but the Department of Energy didn't
17 provide any records of bioassay results when
18 they responded -- in the person's exposure
19 record.
20 The second comment was that the claimant says
21 that he was required to have medical X-rays and
22 the claim-- the comment here is the DOE record
23 did not indicate any X-rays. And in point of
24 fact, the DOE sites in general do not give us
25 the medical X-ray records with the response.

1 Hanford tends to. Not all the sites tend to do
2 that, though. So it's not unusual for us to
3 have a DOE response that doesn't include a
4 medical record or medical file. And in those
5 circumstances we reconstruct with a presumed
6 annual X-ray, and that was done in this case,
7 as well. So the absence of a medical record we
8 don't think is particularly damaging to the
9 dose reconstruction here. We felt like we were
10 -- by assuming an annual X-ray, we -- we have
11 proceeded appropriately.
12 And then the third CATI comment or interview
13 comment was this interview (sic) claimed that
14 he was involved in spill cleanups and had to be
15 scrubbed down several times. And I don't know
16 that this was specifically addressed in the
17 dose reconstruction report, but for this dose
18 reconstruction the Energy employee's internal
19 dose was reconstructed using the Savannah River
20 overestimating internal approach, which is
21 described in TIB-1, Technical Information
22 Bulletin 1, which we often refer to as the
23 Savannah River high five. So we -- the dose
24 reconstruction contains quite a large component
25 of internal dose from this intentional