1 have been used or have been designed for use in
2 doing dose reconstruction; another group -- Joe's
3 group doing site profile review while I'm doing my
4 -- or our team is doing a basic review or an
5 advanced review. If they're moving together in
6 lock-step with continuous communication, the
7 efficiencies will be incredible. If they're not,
8 we're going to lose a lot of efficiency and it's
9 going to have cost and schedule implications. So
10 that's an observation.
11 **DR. ZIEMER:** Let me interject that I think it
12 certainly was the Board's view and the working
13 groups view that these four tasks are in a sense
14 integrated in the fashion that you talk about. At
15 the same time, recognize that in the sampling
16 process I don't think a priori one could guarantee
17 that a given dose reconstruction would -- that's
18 being reviewed would be from a site that has been
19 selected for site profile review, so --
20 **DR. MAURO:** I understand that, but -- it's a
21 complex problem --
22 **DR. ZIEMER:** Right.
23 **DR. MAURO:** -- but we'll manage it, but these
24 are some thoughts.
25 **DR. ZIEMER:** Yeah, but let's -- there's

1 another comment. Jim?

2 **DR. MELIUS:** Yeah, just to follow up on that,

3 I think that, given the way that NIOSH is doing

4 the individual dose reconstructions, they do -- as

5 I understand it, they do a site profile, then they

6 do a number of individual dose reconstructions.

7 So just on a random basis, it's likely they'll

8 overlap.

9 I think as we charge you with doing dose

10 reconstructions and develop a way of making that

11 selection, it is possible in the future we may

12 want to focus some of the individual dose

13 reconstructions away from facilities that had site

14 profile or things. But I think in that case we

15 should inform you ahead of time as you're, you

16 know, responding as to how those cases will be

17 drawn, or at least some more specific information

18 on that. Again, that's one of the reasons that --

19 some of the changes in the approaches we've made

20 on these tasks.

21 **DR. MAURO:** Therein mind our budget, our work

22 hour allocation per case, presumed that they would

23 be working as a couple. If they're decoupled, we

24 do run the risk of some inefficiencies. We

25 actually costed (sic) out the work hour allocation

1 assuming optimum efficiency, okay? So bear -- I'm
2 already being a project manager, recognize that we
3 -- there are some, you know, loop -- places where
4 we could run at these kinds of problems.
5 Another observation -- I have two more
6 observations, then I'm going to turn it over to
7 Joe. Okay?
8 When I reviewed the Savannah River site
9 profile, I presumed that the -- all of the site
10 profiles will have the same fundamental
11 organization. Let me just reiterate it to you.
12 One is that you first look at the medical expo--
13 in this case, after the introduction there's the
14 medical exposure records, review that carefully.
15 That's, in my opinion, fairly straightforward.
16 Once you understand the time and the type of
17 equipment that was used, the protocols are pretty
18 clear, in my mind, as a health physicist. And we
19 have the staff -- medical health physicist --
20 we're okay. We're okay.
21 Environ-- now here -- the second one is the
22 occu-- environmental occupational exposures. That
23 is releases that occur from a facility that may
24 expose some of the construction workers that we
25 heard from yesterday. I noticed that what -- what

1 was done -- well -- with regard to that issue is
2 to draw upon the work that was done by RAC, Risk
3 Assessment Corporation. That is, they did the
4 reconstruction of the source terms, airborne
5 emissions from the facility for the purpose of
6 doing off-site dose calculations, dose
7 reconstruction. And certainly that very same
8 source term information is of value for evaluating
9 on-site by using appropriate meteorological
10 models.
11 What I guess I was expecting was that these
12 documents would go down -- go to source --
13 original source documents. That is -- in -- in
14 effect, by using -- and this is by no means a
15 criticism, but in effect you're using a tertiary
16 level document. That is, when you look at records
17 -- I've been involved in a lot of off-site dose
18 reconstruction work, and when you go into the
19 literature you find a hierarchy of documents.
20 There are very high level documents that represent
21 summary level information. And then there are
22 intermediate level doc-- then you get right down
23 to the -- the strip charts. Okay? You get down
24 to the nuts and bolts. My sense is, and here's
25 where I'd like to see what your reaction is, we're

1 going to use our judgment of when do we go down
2 into the bowels of the problem; where -- when do
3 we think that -- I'm not just going to trust some
4 tertiary document as being a correct and complete
5 representation. I'm going to go down -- because
6 I've done this before, and I've found lots of
7 surprises. So our plan is when we think it's
8 important -- and here's where things get
9 interesting. When we think it's important -- for
10 example, let's say we're talking about the dose to
11 a construction worker from an airborne emission
12 from a particular facility at a particular time,
13 inhalation exposure to airborne plutonium or
14 cesium or noble gas. When we feel as if that
15 particular scenario might be an important
16 contributor to dose, we're going to dip in from
17 working up here to working down there, and keep
18 you informed. How much of that we're going to
19 have to do, we don't know. So here we have
20 another cost and schedule issue. It's a living
21 process.
22 Now -- so we're -- we're going to -- we're
23 going to keep you apprised of that, so we're not
24 simply going to go back and take a look and say
25 oh, okay, yeah, they -- they -- they used the RAC

1 work correctly. Here's the RAC numbers, here's
2 the source terms, the times, yep. So we're going
3 to check that. That's -- that's standard quality
4 control. But then there is the more probing
5 analysis, do we believe that source term. So
6 that's our plan. I'm hoping that you agree with
7 that 'cause that's the only way to do this.
8 Finally --
9 **DR. ZIEMER:** Let's again allow a moment for
10 comments. I think Jim has one and I have one
11 here. Oh, you don't.
12 Well, what you've described for us is in fact
13 an audit procedure.
14 **DR. MAURO:** Yeah.
15 **DR. ZIEMER:** And it's not something we
16 necessarily have to approve today. I think your
17 plan will include something along the lines of
18 what you just described to us. And in an audit
19 procedure, a certain amount of that probing -- and
20 then you see what your results are and report
21 those back.
22 **DR. MAURO:** Yes.
23 **DR. ZIEMER:** You know, we probed down, we
24 pulled the string here, here and here, and in all
25 cases things made -- were fine or in all cases it

1 didn't make sense, or some distribution in between
2 there. And based on that, then the Board can say
3 well, there's some issue here. And certainly even
4 that kind of audit procedure doesn't have to be
5 100 percent audit. You selectively, based on
6 judgments and so on, start pulling those strings
7 where -- where it's appropriate.
8 **DR. MAURO:** But you --
9 **DR. ZIEMER:** And I assume your plan will
10 describe to us what you --
11 **DR. MAURO:** Yes, but you see how this is an
12 open-ended process.
13 **DR. ZIEMER:** Yes, yes.
14 **DR. MAURO:** And we'll keep you apprised. And
15 when we think we're going to run into cost and
16 schedule issues because of this 'cause we take --
17 we go where the information takes us, and so we're
18 -- we're very vulnerable in terms of well, you
19 know -- and we'll give you our reasons why we're
20 going where we're going and -- and I -- but I
21 guess in a way we're not going to be seeking
22 approval if -- at any point -- we'll keep you
23 apprised, and if you feel that what we plan to do,
24 you're -- for some reason there are problems with
25 it, then I think certainly intervene, say no,

1 don't do that, we don't -- regroup and give you
2 further direction. But right now my plan is to
3 keep you apprised, but to keep the train on the
4 tracks and keep it going.
5 Another observation having to do -- well, two
6 more and I'll be done. When I read chapters in
7 the Savannah River report dealing with
8 occupational exposure, internal and external, I
9 was expecting to see databases of records, of
10 either -- bioassay data, records -- the --
11 database upon database upon databases of air --
12 radiation area monitors, continuous air monitor
13 data. In other words, just enormous -- an ocean
14 of data that represents location and time when the
15 material was collected.
16 What is there is something a little
17 different. It really is almost a -- a guide to
18 the dose reconstructor to help him fill in gaps,
19 understand what the minimum detectable levels are,
20 understand what mixes to assume, what chemical
21 forms to assume. In other words, it's almost as
22 if it's a helper, as opposed to a database. Okay?
23 I think that's good that it -- you know, I guess
24 my reaction was that's good that-- but as an
25 auditor that's trying to independently evaluate, I

1 sure would like that database. Is there anything
2 going on to compile that kind of data? I mean
3 we're talking about the tons of -- of -- the big
4 spreadsheets of Excel databases which show, as a
5 function of time and location, individual
6 measurements -- whether it's bioassay or airborne
7 radionuclide particulate or it's radiation area
8 monitors that are taken by location as a function
9 of time and put into a database. That, to me, is
10 an important information. Now --
11 **DR. ZIEMER:** I don't know that we'll answer
12 that specifically today, but that -- as you get
13 underway now, you will have an opportunity in fact
14 to see a lot of underlying data that's beyond
15 what's in the immediate report.
16 **DR. MAURO:** Okay.
17 **DR. ZIEMER:** And that's one of the things
18 we'll want you to become familiar with is what all
19 the supporting databases are for these things.
20 **DR. MAURO:** Okay, so --
21 **DR. ZIEMER:** And what's there and what isn't
22 there.
23 **DR. MAURO:** Okay.
24 **DR. ZIEMER:** And you know, if -- if you, as
25 our auditors, have some judgments on adequacy or

1 lack thereof of some -- at some site, that could
2 be part of a report.
3 **DR. MAURO:** One of the --
4 **DR. MELIUS:** Can I just --
5 **DR. ZIEMER:** One other comment here.
6 **DR. MELIUS:** Can I just follow up on that,
7 because I thought Jim Neton answered this question
8 partially or in his presentation yesterday and so
9 forth, and I don't know where -- I thought he had
10 referred to the fact that they do have this
11 compilation of information, dose -- exposure
12 information or whatever. It's not necessarily
13 referenced in the document, and --
14 **DR. ZIEMER:** That's why I say I think once
15 you're into beyond what's on the web site, once
16 the contractor has access to all those records,
17 then you can perhaps make a better judgment on
18 what additional things you think are needed or
19 maybe you'll feel it's adequate and so forth.
20 **DR. MELIUS:** But just to follow up on that,
21 and maybe it's -- maybe you've thought of it
22 already, but it -- for NIOSH, in producing these
23 documents, it seems to be a common question, a
24 common concern that people have is why isn't this
25 information look-- referenced, and it may very

1 well have been looked at and in some sense
2 utilized, it's just not printed there as a
3 reference. And maybe that's something you ought
4 to consider adding to those documents as a way of
5 just, you know, showing what kind of a guidance,
6 you know, this is and what other information's
7 available. I'm not familiar with the details to
8 know how practical that is, but it -- you know, it
9 might be helpful. It might be -- for other people
10 as they're looking at these documents, also.
11 **DR. MAURO:** Last point has to do with the
12 other deliverable, the tracking system. I was
13 speaking to Don Loomis, who is the database
14 manager task leader on that, and re-- he knew --
15 told him I was coming to this meeting today, and
16 there -- in his -- his view is that there are no
17 boundaries on how many fields we can handle, any
18 kind of queries you want. But what would be
19 helpful is the -- is when we build the relational
20 database that we put in all of the fields and all
21 of the types of reports built into the system.
22 Now -- that was part -- it was -- that's -- the
23 other deliverable a month from now is that
24 program. So we already have a list. We
25 understand from your request, your torp, and from

1 our proposal what we do plan to put in there. But
2 I plan to put a lot more in there, and let me
3 explain what I mean.
4 For example, all of our project management
5 data where tak-- we took each task, one, two,
6 three, four, and we're breaking them down into
7 subtasks and sub-subtasks. For example, on task
8 two, the site profile work, we expect to have a
9 number of site profiles. Each site profile's
10 going to have its own point number for tracking
11 costs. Each case that comes in on task one is
12 going to have its own point number for tracking
13 costs so that as a project manager I understand
14 where the money is going and why. If there are --
15 in a similar way -- I guess what I'm -- I'm asking
16 you is that anything that you want to do, I don't
17 care what it is, related to queries and sorting of
18 data and reports that you'd like to be able to
19 elicit from this database, we can handle. But the
20 sooner you give it to us, the better. We could
21 revise it later, but it's a little more difficult,
22 I'm told, to do it after the fact than before.
23 And I guess that concludes my I guess initial
24 reaction to things. If there are any questions --
25 **DR. ZIEMER:** Yeah, further questions? Joe,

1 do you have additional comments or items you want
2 to add to...
3 **MR. FITZGERALD:** Thank you, John. Well, it's
4 good to finally be here after some years. I think
5 John covered the highlights, but one thing I want
6 to just mention -- I'm very comfortable with the
7 task, very comfortable with the touchpoints in the
8 task, but I want to emphasize that, you know, to
9 me, this is really doing a vertical sampling,
10 boring down and asking probably questions that if
11 you were doing a horizontal -- and getting the
12 necessary as opposed to maybe totally sufficient
13 data for dose reconstruction, you might not get to
14 or might judge that you might not need. And when
15 you do the vertical and you push down and you
16 actually get beyond what's on the shelf, what the
17 paper says, then you get into situations where you
18 will be asking for data, you'll be probably
19 wanting to interview people that haven't been
20 touched by the process to date. And from some
21 limited experience over 20 years, that's going to
22 enjoin probably some challenges that we will bring
23 back to you in the way of access, the way of
24 perhaps getting information. I know that's been
25 some of the experience to date. But I think doing

1 this kind of review is probably going to engender
2 more of those kinds of challenges in terms of
3 getting to the right kind of information and
4 digging into areas that haven't been dug into.
5 I've done it my entire career, so I know what's
6 involved in doing that, and persistence will pay.
7 But I just want to sort of lay that observation --
8 it's not a question for the Board, but just an
9 awareness of what -- what's involved when one
10 truly does a vertical sampling to answer the hard
11 question of adequacy and completeness. And
12 that's the -- sort of the tail end of necessary
13 and sufficient. We're answering a sufficiency
14 question. And so that's -- that's something that
15 I think as we go into this it'll become clearer
16 what -- where we might need your role perhaps in
17 some cases with the Department of Energy, where we
18 might need some clarification as to, you know, how
19 deep does the vertical go in some cases. But I'm
20 pretty comfortable definitely with the scope and
21 the tenets and certainly we'll be able to
22 articulate a plan that will reflect what we
23 proposed in the beginning, and also what it's
24 going to take to answer that question. And I
25 certainly do understand the challenges that NIOSH

1 and ORAU have undergone in terms of doing this --
2 the necessary part, but this is going to be a --
3 certainly a somewhat different process. And you
4 know, the question of access to information,
5 access to people, workers, all that, I think will
6 be certainly decidedly answered by our first
7 forays into this. So that's -- that's really my
8 only observation.
9 I think John covered some of the more
10 tactical questions, but sort of on the 30,000 foot
11 level, that's -- that's going to be, I think, the
12 biggest challenge and the question of how we can
13 deliver that for you and intend to deliver that
14 for you. So thank you very much.
15 **DR. ZIEMER:** Thank you, Joe.
16 **MR. FITZGERALD:** Any questions?
17 **DR. ZIEMER:** Let's see if there's any
18 questions for Joe. Jim?
19 **DR. MELIUS:** I have a -- I'm not sure who
20 it's for, but in terms -- in -- I'm not familiar
21 with the details of what you've been awarded, or
22 at least -- or I don't recall them, but the -- in
23 terms of making the assignments in the site
24 profiles, are there -- and we have to -- going to
25 try to, I think in our later discussions, sort of

1 narrow down where to get started. In your
2 planning and sort of to do that efficiently, I
3 guess sort of how many does it make sense to be
4 assigned initially or is it -- make sense to say
5 here's the -- whatever it is, ten, 12, whatever;
6 go get started and, you know, they'll be done
7 under this task order under the -- a year, or is
8 it, you know, let's wait three -- you know, do
9 five now, five in three months, what -- I guess
10 I'm trying to get some sense of what your
11 expectations are at this point.
12 **MR. FITZGERALD:** Well, you know, I think --
13 we haven't chatted about the specifics of this,
14 but certainly my expectations, we would certainly
15 want to know what the so-called menu would look
16 like for the year. And I think there's some merit
17 -- and again, this is the Board's purview and
18 decision, but some merits perhaps in ramping into
19 it with perhaps somewhat less complex sites
20 because, again, we're establishing on the ground
21 the procedures that we're establishing on paper,
22 and it certainly would perhaps facilitate things.
23 Nonetheless, the people that we intend to put
24 into these reviews are not coming into it as
25 neophytes. They have the operational experience