

STATE OF CALIFORNIA  
ENVIRONMENTAL PROTECTION AGENCY  
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GREEN RIBBON SCIENCE PANEL  
MEETING

FOUR POINTS SHERATON INTERNATIONAL AIRPORT HOTEL  
GRAND PALACE ROOM  
4900 DUCKHORN DRIVE  
SACRAMENTO, CALIFORNIA 95834

THURSDAY, JANUARY 28, 2010  
9:31 A.M.

A P P E A R A N C E S

Green Ribbon Science Panel Members

Deborah Raphael, MA, Co-Chairperson

Ken Geiser, PhD, Co-Chairperson

Ann Blake, PhD

Bill Carroll, PhD, Co-Chairperson

Bruce R. Cords, PhD

George Daston, PhD

Tod Delaney, PhD

Arthur T. Fong, PhD

Dale Johnson, PhD

Michael Kirschner

Richard Liroff, PhD

Timothy F. Malloy, J.D.

Roger McFadden

Kelly Moran, PhD

Oladele A. Ogunseitan, PhD, MPH

Megan R. Schwarzman, MD, MPH

Michael P. Wilson, PhD, MPH

Robert Peoples, PhD

Julie Schoenung, PhD

Ann Wallin, PhD

DTSC Staff Present

Maziar Movassaghi, Director

DTSC Staff Present

Jeffrey Wong, PhD

Peggy Harris

Maya Akula

Kathryn Barwick

Yolanda Garza

Michael O'Docharty

Hortensia Muniz

Judy Kong

Cynthia Miller

Ron Troyer

Michael Cave

Suhasini Patel

Donn Diebert

ALSO PRESENT

Melanie Marty, PhD

Lauren Zeise

Office of Environmental Health Hazard Assessment

Bob Beck

Masco Corporation

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1 chemistry program.

2           What I'm going to do very quickly before we get  
3 started on our agenda today is a little bit of ground rules,  
4 a little bit of information, and a very quick agenda review.

5           So the first thing I want to note is that these  
6 microphones for you panel members don't have any off  
7 switches. So, you need to be aware of that later on when  
8 you want to make comments about me stuttering over  
9 somebody's name.

10           And we also are webcasting the meeting today. And  
11 we also welcome members of the public that are watching on  
12 the webcast. There will be opportunities for you to comment  
13 to the panel, as well as individuals here in the room. So,  
14 because we're webcasting we ask you to talk into the  
15 microphone, as I'm demonstrating here.

16           I'd like to do a very quick agenda review.  
17 There's one slight change in the agenda, and I want to talk  
18 a little bit about how we manage the public comment process.

19           So we're going to start off, we're going to make one little  
20 change right off the bat. We're going to have Dr. Jeff Wong  
21 do the panel introductions before Director Movassaghi makes  
22 his presentation about his ideas for the future and have  
23 that discussion. So, we'll have Jeff introduce the panel  
24 members to the public.

25           And then Acting Director Movassaghi is going to

1 share his thinking with the panel about what he would like  
2 them to work on through this calendar year. So it's really  
3 important that we have a sense of where we're going over the  
4 next year.

5 After a short break we're going to have a couple  
6 of presentations about the toxic information clearinghouse.

7 And I think we all know that that is the primary topic of  
8 discussion for this meeting today and tomorrow morning.

9 And we're going to have two presentations. DTSC  
10 Staff will present their activities to date implementing SB-  
11 509. And I'd like to point out that Su's presentation is on  
12 the right-hand side of your folder. Even though it says day  
13 two, it's the first presentation on the right side of your  
14 folder.

15 And then Dr. Melanie Marty of the Office of  
16 Environmental Health Hazard Assessment will present  
17 information about some work that they're doing on their  
18 pilot scientist questionnaire.

19 At that point we'll be having clarifying questions  
20 from the panel if there are things that you don't understand  
21 about the presentations. We will entertain those.

22 Before we break we will have our first public  
23 comment period. And we have, in the operations of this  
24 panel, established a pattern of offering that opportunity so  
25 that the public may comment to the panel prior to their

1 discussion and their provision of advice to the Department.

2 We thought it was important that the panel get to hear  
3 those ideas before this discussion. So there will be a  
4 comment period there.

5 I'd like to point out Cynthia Miller and Maya  
6 Akula. They have comment cards. You may have picked one up  
7 as you came in, as well. So if you want to make comment  
8 please just jot down your name, if you feel like sharing  
9 that, and the general nature of your comment. And provide  
10 it to them before the comment period.

11 And then we will organize those and you may -- so  
12 we will be calling people up to the podium to give their  
13 comment. And we are asking people to keep their comments to  
14 two minutes. We also have an opportunity to gather comments  
15 on the web at [green.chemistry@epa.ca.gov](mailto:green.chemistry@epa.ca.gov).

16 So after lunch we have the scientist  
17 questionnaire, and then we have the public comment to the  
18 Green Ribbon Science Panel.

19 So, we have just the clarifying questions before  
20 lunch. And so the first public comment opportunity comes  
21 after the presentation of the scientist questionnaire.

22 So after the break we will have discussion about  
23 the issues that OEHHA brings up and their advice to the  
24 panel. We will adjourn at 4:30 this afternoon, and  
25 reconvene tomorrow morning at 9:00.

1           And tomorrow's agenda will be the Department of  
2 Toxics presenting information about how we can plan to  
3 implement the portal, the web portal for the toxics  
4 information clearinghouse. There will be another  
5 opportunity after that presentation for the public to  
6 provide comments.

7           And then after a short break we will have a panel  
8 discussion.

9           And with that I would like to introduce Dr. Jeff  
10 Wong. He's the Chief Scientist in the Department of Toxic  
11 Substances Control. He'll do a brief introduction of the  
12 panel members.

13           Oh, one more thing. Thank you, Maya. I had it  
14 written down. The bathrooms are in the back of the room,  
15 just to the left of that middle door. And please turn off  
16 your cell phones so that we don't get interrupted as we're  
17 discussing things. And I'll go turn mine off right away.

18           Thank you.

19           DR. WONG: Good morning. My name is Jeff Wong  
20 and, as Kathy said, I serve as the Chief Scientist for the  
21 Department. And I'd like to welcome the panel members here.

22           I'm going to go through a brief introduction, not  
23 try to memorize your entire bio or read your entire bio  
24 here. So I'll state your name; please raise your hand so  
25 that the cameras can pick you up.

1           The other thing is I'm happy that some of you have  
2 followed the no-tie rule, which I failed to follow.

3           (Laughter.)

4           DR. WONG: First, for our Chair -- our Co-Chairs,  
5 Deborah Raphael from the San Francisco Department of the  
6 Environment, and Ken Geiser with U-Mass of Lowell, the  
7 Center for Sustainable Production.

8           Bill Carroll, Occidental Chemical Corporation.  
9 Starting counter-clockwise now, Mike Wilson, University of  
10 California at Berkeley. Dale Lee, who is with the  
11 University of California Irvine is not here. Ann Blake with  
12 the Environmental Public Health Consulting. George Daston,  
13 Proctor and Gamble. Art Fong with IBM.

14           Kelly Moran with TDC environmental. Dale Johnson  
15 with (inaudible) and UC Berkeley. Michael Kirschner with  
16 Design Change Associates. Tod Delaney with First  
17 Environmental.

18           Now starting over there we have Richard Liroff  
19 with the Investors Environmental Health Network. Roger  
20 McFadden with Staples. Julie Schoenung with University of  
21 California at Davis.  
22 Dr. Megan Schwarzman with University of California Berkeley.  
23 Professor Tim Malloy at UCLA. Ann Wallin with Dow. And we  
24 have Bruce Cords with Eco --

25           All right, I think we've covered everybody. Thank

1 you very much.

2 DR. CARROLL: Very good, thank you, Jeff. And at  
3 this point I'd like to turn it over to DTSC Director Maziar  
4 Movassaghi for some opening remarks and some discussion  
5 about our schedule. Maziar.

6 DIRECTOR MOVASSAGHI: Thank you, Bill. Good  
7 morning, everyone. It's nice to see all of you again. What  
8 I really wanted to have a chance to talk about a little  
9 today is something a little unsexy, but something that's  
10 necessary, and that's planning for the year.

11 Last year we brought everybody together. It was  
12 the first year, we were getting our legs underneath  
13 ourselves. But I got a little bit of a sense that we jumped  
14 into the discussions without having a little bit of a common  
15 understanding about where it is that we're going, so we know  
16 when we get there.

17 So I was hoping to have a little bit of a  
18 discussion about planning for this year about the remainder  
19 of the meetings coming up, the other planks of the Green  
20 Chemistry Initiative so we can be a little bit prepared.

21 And when I thought about the amazing diverse set  
22 of expertise around the table, and I put myself in your  
23 shoes, sometimes I thought, well, when am I supposed to  
24 chime in, or what is it that I can chime in and provide  
25 value to the state.

1           And the power of our Green Chemistry Initiative to  
2 me is that it's not a single plank that only focuses on one  
3 issue. The type of fundamental change we're looking for  
4 requires this coordination between infrastructure and  
5 resources and regulations and information. So we've got to  
6 pay attention to these issues in order to get to the world  
7 we want to get at.

8           So, the calendar that was distributed or the  
9 proposed timeline was just a little bit of a thinking of at  
10 least how I see an approach for 2010. The items or  
11 placeholders for discussion purposes, I'm not wed to have it  
12 in this particular sequence, or having it at this particular  
13 timeline. But, again, the idea was for you all to know what  
14 the schedule for the year is. So, I'm hoping to have a  
15 little bit of discussion in the group about the future  
16 agenda of meeting topics.

17           Now, let me talk about the elephant in the room,  
18 what is probably not on here that we do need to discuss, and  
19 that's the regulations. The regulations are the draft  
20 proposal by DTSC is under review by the folks who are going  
21 to allow me to get the green light to put this out in the  
22 public.

23           At the same time we're on a very ambitious  
24 timeline to be able to get through the review processes and  
25 start rulemaking processes, as well. And this Governor has

1 made a commitment to advance this agenda, which means we're  
2 moving very fast.

3 In order to be fast and nimble for the regulatory  
4 topic I think it would be good for us to think about holding  
5 or having a placeholder for a conference call that would  
6 allow us to move quickly. In addition to, if the body feels  
7 the need for it, to have a face-to-face discussion, as well.

8 This body is the expert body that's going to  
9 advise the state, but you all are on the same boat that DTSC  
10 is, in the sense that we're going to put our heads together;  
11 we're going to come up with a good plan. But at some point  
12 this good plan is going to go to an external science peer  
13 review. It is going to go through the official rulemaking  
14 processes, and it's going to get viewed and reviewed through  
15 those processes, as well.

16 So I would like for us to have multiple  
17 opportunities to have a discussion because we're going to be  
18 moving very fast this year. And I think that would insure  
19 DTSC having tapped your knowledges, and insured that your  
20 viewpoints, your concerns, your expertise are at least  
21 captured in the draft proposal that goes out.

22 And then after that we're going to give birth to  
23 this, and you know, just like giving birth to anything else,  
24 you know, you're going to see your kids walk out on their  
25 own and get their legs underneath themselves.

1           So, with that, I'm open to hearing from you all  
2 about how you think, what are some of the agenda topics.  
3 One of the points I'd like to make potentially about the  
4 last meeting is this is a transition year.

5           By this time next year we are going to have a new  
6 governor and a new administration. And as any transition  
7 team that comes in, they're going to -- it will be  
8 beneficial for us to be able to give them a game plan of at  
9 least what did we work on, and what we think this initiative  
10 should be working towards in the new administration, as  
11 well.

12           So, my viewpoint was at least on the last meeting  
13 on this timeline, the idea being that we really come  
14 together to discuss what this body would like to put in a  
15 transition document for the next administration.

16           But other than that, I'm really open. But I think  
17 we need a combination of face-to-face meeting, of phone  
18 calls. And I've heard -- maybe I've heard from the  
19 selective folks that were okay with the call. That, you  
20 know, at least it was a mechanism for us to have a dialogue  
21 and exchange information. So, I think both of them can work  
22 together.

23           So with that, I'm going to turn it to Bill.

24           DR. CARROLL: Thank you, Maziar. And let me ask a  
25 clarifying question first, and then I would ask the panel

1 for questions about the scheduling and the topics.

2 The next two points on this timeline that you have  
3 are March 18th and April 29th. And if I understand you  
4 correctly, your goal is if there is a convenient point where  
5 regulations could be discussed either by conference call or  
6 by meeting that flanges up with either of these two dates  
7 that you would intend to -- purpose those dates to have that  
8 discussion, is that correct?

9 DIRECTOR MOVASSAGHI: Absolutely. Absolutely.  
10 With the idea being, for instance, just for discussion  
11 purposes, if April 29th we say we will book us on expanding  
12 the pollution prevention recommendation of the Green  
13 Chemistry Initiative, if the okay is there to get the  
14 release and talk about the regulations that we picked April  
15 29th to talk about the regulations and the expanding P-2  
16 topic and move into the next meeting.

17 DR. CARROLL: Ken, go ahead.

18 CO-CHAIRPERSON GEISER: Yeah, thank you, Maziar.  
19 Just one comment, one thing you said might be confusing to  
20 the panel, and that is you mentioned that when the regs go  
21 out they will be reviewed by an external science panel.  
22 This is a science panel. Can you explain, so the people  
23 feel comfortable, what the difference is and why that's  
24 there?

25 DIRECTOR MOVASSAGHI: Absolutely. One of the

1 dangerous things about my job is I get to play armchair  
2 lawyer. So, with that caveat, the external science peer  
3 review is part of the official rulemaking process for the  
4 State of California.

5 The legislation, AB-1879 that is the underpinning  
6 for the regulation, calls for our proposal -- this is the  
7 collective big "our" here -- to go to the Environmental  
8 Policy Council, which is really comprised of my counterparts  
9 and the other heads of departments within the Cal-EPA  
10 family.

11 That Environmental Policy Committee has its own  
12 external science peer review. This is intended as a  
13 mechanism to insure objectivity in science. So, for  
14 instance, at DTSC we don't even know who that body is. But  
15 you all, since you have been working with us in developing  
16 this regulatory proposal, the idea is that, you know, well,  
17 we all have a stake in this and this is what we think. The  
18 external science peer review is an objective body that will  
19 look over our shoulders and make sure we're on the right  
20 path.

21 DR. CARROLL: Answer the question, Ken?

22 CO-CHAIRPERSON GEISER: Yes.

23 DR. CARROLL: Okay. Maziar, I don't know whether  
24 this is an in-bounds question or not, but I'll go ahead and  
25 ask anyway. Can you work backward in terms of the timeline

1 for the regulation and what you expect to have; when you  
2 expect the process to end and sort of work backward to the  
3 points where you might reasonably expect to see it emerge,  
4 to the best of your knowledge? And I realize that it's not  
5 perfect knowledge at this point.

6           DIRECTOR MOVASSAGHI: Absolutely. We actually  
7 backward mapped, as well. We starting thinking about all  
8 the different processes you have to go through. The  
9 Environmental Policy Council, as I mentioned; their external  
10 science peer review. Then you've got the Office of  
11 Administrative Law's official rulemaking processes, and the  
12 public noticing and the comments, and all the steps that go  
13 through it.

14           In order to meet the Governor's goal we would have  
15 to start the official rulemaking process sometime in, you  
16 know, late summer. Which means that the Environmental  
17 Policy Council, which is the review before that, needs to  
18 happen by early summer, late spring at the latest, to allow  
19 time for it.

20           So, we would -- for the face-to-face meetings and  
21 the phone call, we would have to have those discussions  
22 probably no later than April.

23           So as far as thinking of placeholders on the  
24 timeline we're thinking of, it would be either one of the  
25 next face-to-face meetings or the next phone call, as well.

1 But that's the general timeline.

2 DR. CARROLL: At this point I'd ask the panel if  
3 there are questions for Maziar. Go ahead, Mike.

4 DR. WILSON: Clarifying question. So what goes to  
5 the Environmental Policy Council, and then what enters  
6 rulemaking is the regulations implementing AB-1879?

7 DIRECTOR MOVASSAGHI: Yes.

8 DR. WILSON: Okay.

9 DIRECTOR MOVASSAGHI: Yes.

10 DR. WILSON: But no other aspects of the Green  
11 Chemistry Initiative? Just that piece.

12 DIRECTOR MOVASSAGHI: Yes. Because AB-1879 would  
13 prescribe the process that you got to go through, and it's  
14 the regulation. So, it not only had its own prescriptive  
15 review, but that was the Environmental Policy Council, but  
16 then you got the official rulemaking process that's  
17 applicable to any regulation being promulgated at the state  
18 level has to go through those processes.

19 DR. WILSON: Right.

20 DIRECTOR MOVASSAGHI: But, if I could, I'd like to  
21 remind everybody -- I do this pretty much with every  
22 stakeholder group that I meet at -- the Green Chemistry  
23 Initiative that called for the safer alternative  
24 regulations, and AB-1879 that gave us the authority and the  
25 call that we're all working on is one of six planks, as you

1 mentioned, Mike.

2           And to me, any one of those planks don't stand by  
3 themselves, don't get us to the world we want to get at.  
4 So, yes, this official rulemaking advances. But as we're  
5 going to discuss today, the toxics information clearinghouse  
6 and the hazard traits information that OEHHA is going to be  
7 inputting into this process, is as critical as the structure  
8 of the regulations, themselves.

9           They're intertwined to me, or the work that's  
10 being done at educational institutions to get the next  
11 generation of green chemists to come out to do the work that  
12 we envision in the regulations, to me, are all intertwined.

13  
14           Hence the need, I think, for this body to keep a  
15 eye on all of those planks together. And for us to have a  
16 discussion about those different components and how they fit  
17 in with one another.

18           DR. CARROLL: Other questions from the panel?  
19 Please, go ahead, Mike.

20           MR. KIRSCHNER: Thanks, Maziar. I would like to  
21 see the draft of this safer alternatives regulation review  
22 be specifically noted on this. We've seen two straw horse  
23 drafts of it to date. Both of them have been quite  
24 problematic. I think it's of great concern, to me  
25 certainly, and probably to a lot of the members here, that

1 we explicitly review this upcoming draft, which is, I think,  
2 more serious than the straw horse proposals, as I understand  
3 it.

4 And that we have adequate time to review it prior  
5 to one of these meetings. So if you can give us any insight  
6 to when we could possibly see that, that would be helpful as  
7 well.

8 DIRECTOR MOVASSAGHI: I'm pretty sure that this  
9 question is in everybody's head, not only around the table,  
10 but in the audience, as well. I'm going to be honest with  
11 you, I'm going to be a little circumspect here.

12 We have been going through internal reviews at a  
13 pace that I didn't think was possible. On December 30th I  
14 was in the Governor's Office and we were briefing key folks  
15 about this. And so there's a commitment from the reviewing  
16 folks to be engaged and we have been engaged.

17 The complexity and the number of reviews we've got  
18 to do is never ending. You know, I kind of think I get to  
19 one point, and then, you know, there's another point to get  
20 to, another point to get to.

21 Our goal, our mission is to come back to this body  
22 and give you this ample time. Because you guys are the  
23 experts that need to advise not only Toxic Substances, but  
24 the state, as well, about where we need to go. So that is  
25 our aim.

1           And because of the noticing requirements for this  
2 body, we will have ample time. I can't give you, right now,  
3 a super-specific date, to say this is the date that we can  
4 definitely come to you at, because I'm not the one setting  
5 that date. You know, it requires many other calendars to  
6 work together to get to that date.

7           We've been, like I said, very pleased that folks  
8 have given us their time and we've been able to brief them,  
9 but at this point the best I can say is on our timeline it  
10 would be sometime in March, maybe April. But, you know,  
11 that's the ballpark that we're shooting for right now.  
12 That's the best I can do at this point.

13           DR. CARROLL: Other questions? Well, seeing none,  
14 I can congratulate you on the smooth and efficient --

15           DR. WILSON: Well, hold it --

16           DR. CARROLL: I'm sorry, go ahead, Mike.

17           DR. WILSON: Mike Wilson. I was interested in the  
18 point at which the education and curriculum piece comes up  
19 on the timeline. And, you know, we're beginning to focus on  
20 the Berkeley campus on what an educational curriculum would  
21 look like for green chemistry.

22           And if would be interesting, to us, I think, to  
23 engage this group in thinking about what the objectives of  
24 that curriculum should be. And perhaps some of the details  
25 of it.

1 I guess the question is what you envision would be  
2 an appropriate role for the panel in that.

3 DIRECTOR MOVASSAGHI: I think actually that's a  
4 great idea in the sense that some of you folks around this  
5 table are hopefully going to hire the people that come out  
6 of this degree program. So it would be interesting to hear  
7 from you about what is it that you would want to see these  
8 students and these graduates to have in their curriculum.

9 Some of you are their teachers, so it would be  
10 interesting to hear from your perspective what you think  
11 needs to happen from an educational perspective.

12 And then some of you are users of these folks, and  
13 what do you want to see -- and consulting. What I was  
14 hoping to have a little bit of discussion is what this body  
15 thinks makes sense. If we hold placeholder purposes, we  
16 hold the call or the meeting for the regulations, the  
17 regulations potentially are going to define a little bit  
18 about what's in and what's out, or what's the general  
19 framework of the processes.

20 Then what other issues makes sense for us to pick  
21 up afterwards, you know, after we discuss the regulations.  
22 Should we be talking about the non-regulatory activities  
23 like expanding pollution prevention? And then talking about  
24 education, and then the transition. That was kind of a  
25 little bit of my stab over here.

1           But I'm curious to hear from this body what you  
2 all think should be the sequence of, well, we'll look at  
3 this slice, then the next slice, and the next slice, and  
4 this is how they fit together.

5           So I think education's an important part, because  
6 if we have a regulatory program, we're asking businesses to  
7 comply with that, but they don't have the intellectual  
8 horsepower to comply with it, it's almost we're setting up a  
9 program that doesn't achieve its goals.

10           So, whether we discuss education right after the  
11 regs, or two meetings afterwards, this is, I think, that's  
12 what I was hoping to get some input.

13           CO-CHAIRPERSON RAPHAEL: Do you want to respond to  
14 that?

15           DR. WILSON: Yeah, if I could. I mean the thought  
16 that occurs to me is that one of the things that, you know,  
17 changing curriculum, and you know, it would be interesting  
18 just to hear from whoever's on this, that it does require a  
19 lot of meeting time. It doesn't, you know, just happen  
20 suddenly.

21           And, you know, coming up with new curriculum  
22 changes -- changes in a curriculum that has been set for  
23 decades, and turning a giant, you know, chemistry enterprise  
24 is work that has to begin now. I'm wondering if it makes  
25 sense to engage the panel perhaps in a subgroup of some kind

1 that's interested in focusing on that question and helping  
2 us -- or, you know, Tim and their work at UCLA, thinking  
3 about what the priorities should be, so we can be certain to  
4 get off on the right trajectory.

5 DR. CARROLL: Very good. Thanks, Mike. Deb.

6 CO-CHAIRPERSON RAPHAEL: So, Mike, you bring up  
7 something that Ken and I were talking about over dinner last  
8 night, and that is looking forward -- well, looking past,  
9 this group has really been driven by the regulation  
10 development. And therefore the agendas and the  
11 presentations were generated from DTSC Staff, because they  
12 were the ones who were really doing the work.

13 If you look at these next topics, I think there's  
14 a great deal of opportunity for us to determine and help  
15 influence who does the presenting, what are the topics, what  
16 are the flow. And that is actually a very different type of  
17 genesis of a meeting.

18 And so to your point, Mike, about who would talk,  
19 what is the order. I think that, as co-chairs, we would be  
20 very willing to really meet and entertain and be much more  
21 proactive in the agenda setting than we have been in the  
22 past. In the past we've been reacting to DTSC's proposals  
23 for agendas. Now I think it might be even more helpful to  
24 DTSC if we became proactive.

25 DR. CARROLL: Thank you, Deb. Kelly.

1 DR. MORAN: Trouble with the mic here. Maziar, a  
2 couple things in response to your comments. One is that I  
3 think that it will probably work a lot better if we have an  
4 in-person meeting about the regulations, even if we could  
5 call that fairly late. And that it would require at least a  
6 full day, given the number of people in the body.

7 And the Department, in constructing that meeting,  
8 I think it would be very helpful if there were questions  
9 that are outstanding from the Department, to pose those to  
10 the panel for reactions ahead of time.

11 And to also consider in what format would be  
12 helpful. I think there will be a lot of hunger to provide  
13 some written feedback given the brevity of our meetings.

14 So to help give us some guidance as to how we can  
15 help the Department through that kind of feedback, and what  
16 kind of feedback is most useful, that kind of thing, would  
17 be really helpful.

18 The second thing I wanted to bring up is that in  
19 looking at the flow that you've got here, I didn't see  
20 something that I thought was actually a really important  
21 role for us, is that once the general proposal is on the  
22 table, I think that the Department and the rest of the world  
23 is going to be struggling to say, so how are we going to get  
24 this done.

25 There's going to be a lot of need for tools, not

1 just the toxics clearinghouse, but methodologies for doing  
2 the alternative assessments that are required, and we talked  
3 about tiering and other things that may or may not be part  
4 of the regulatory package.

5 But should those be, I would look to think to  
6 construct this agenda around some of those more specific  
7 things such that you're getting advice from these folks  
8 about where are the gaps, what is needed, and looking  
9 towards how the Department and CalEPA and the state and  
10 others work towards filling those.

11 Because I think that's part of what is frightening  
12 about these regulations from the point of view of the  
13 regulated community is how am I going to get this done. And  
14 that means a lot of that how has to do with information,  
15 methodologies and so forth, and working through some of  
16 those things.

17 And I think that that's something that this group  
18 particularly has the capability to advise the Department as  
19 to what role the Department can play in doing that and  
20 helping fulfilling those needs.

21 So, think about that. So, like, for example, I  
22 would expect to see the toxics clearinghouse coming back to  
23 us again after the regulations are out there, so we can say,  
24 okay, now, as users, is the initial framework going to meet  
25 the initial needs based on the regulations.

1           And the same thing with alternatives assessments.  
2           Where are methodology needs the greatest and how are those  
3 going to get developed and get some advice on those.

4           That would be my suggestion.

5           DR. CARROLL: Thank you, Kelly. I would stop here  
6 just for a minute. It's been pointed out to us that legally  
7 DTSC will determine what our agenda is. But I can't imagine  
8 that they wouldn't be receptive to our suggestions of things  
9 that --

10           (Laughter.)

11           DR. CARROLL: Well, maybe I can imagine it, but it  
12 would certainly seem to be something that we could weigh in  
13 on.

14           Okay, I have Julie and then Megan and Tim, please.

15           DR. SCHOENUNG: This is Julie Schoenung. I just  
16 wanted to echo what Kelly has said, that also as an addition  
17 to that made me think about is there a mechanism in place to  
18 evaluate our success along the way. And what sort of  
19 metrics will be monitored. And maybe we can talk about that  
20 at a future meeting. How do we measure whether or not the  
21 regulations and the tools that are used and developed are  
22 actually doing what we want them to do. And that we are,  
23 indeed, moving towards safer alternatives.

24           So I'd like to see that somewhere in a future  
25 agenda.

1 DR. CARROLL: Great. Thank you, Julie. Meg.

2 DR. SCHWARZMAN: I would third what Kelly said  
3 about the tools and having that be a specific topic that we  
4 need to address as a group, is what tools need to be  
5 developed to implement the regulations and the new schemes  
6 that are put forward.

7 The other bit that I wanted to highlight in the  
8 flow of topics is the product ingredient network is put with  
9 three currently in the October 28th meeting. And I don't  
10 know what's happening within the Department about the issue  
11 of ingredient disclosure or creation of an online ingredient  
12 network.

13 But it seems to me that a lot of the kinds of  
14 things that have been discussed here with regard to  
15 implementing AB-1879 and certainly when you think about what  
16 the implications are of a toxics information clearinghouse.  
17 A lot of that hinges on our knowledge of ingredients.

18 And so my tendency would be to push that forward.  
19 Maybe even up to where P-2 is, because I think that's a  
20 critical element that we haven't dealt with basically at all  
21 yet, unless there's a lot happening in the Department that  
22 we, as a panel, haven't been privy to.

23 DR. CARROLL: Thank you, Megan. Bringing  
24 something up, I should point out, on the timeline, and Kathy  
25 can correct me, but we had this little discussion yesterday

1 in preparing for the meeting.

2           These dates are not cut in stone at this point.  
3 These are placeholder dates that are spaced approximately  
4 correctly through the year. We haven't agreed that these  
5 will, in fact, be the exact dates for these meetings or  
6 conference calls. So kind of keep -- put those dates in  
7 quotation marks and know that that's approximately the time  
8 to have them, but they aren't exactly those dates.

9           Tim.

10           DR. MALLOY: Thank you. I agree with Mike and  
11 Debbie. I like the idea of getting more proactive in the  
12 agenda and presentations. And one thing that strikes me  
13 that might be useful would be if we could identify folks who  
14 are interested in kind of taking on the role of being  
15 involved in terms of agenda planning on our panel.

16           We could then pair them in advance with DTSC  
17 people who are working on that, so that they could work out  
18 not only what the agenda is, but also kind of how the  
19 presentations would go, you know, what's the right format,  
20 so on and so forth.

21           And along those lines, I think it would also be  
22 useful if we could do that in enough advance time so that  
23 the materials come out to -- I mean at least -- you guys do  
24 a great job getting this right, so this is not a criticism  
25 of how things have gone so far.

1           But one thing I noticed here, I'm a lawyer and  
2 today's meeting, or much of today's meeting is going to be  
3 about the hazard traits and so on and so forth, so I could  
4 envision, you know, it would be great to have the questions  
5 and some of the materials well enough in advance so that  
6 each of us could talk to relevant people in our  
7 organizations and get feedback, so we get a broader  
8 knowledge base. So when we're sitting at this table we're  
9 bringing what we individually know, but also, you know, the  
10 received wisdom from all the folks in our various networks.

11           So, if we had the materials in enough time in  
12 advance we could do that. It's a little harder, you know  
13 how hard it is to get ahold of people, even to schedule to  
14 sit down and talk with them about something. So we do need  
15 more lead time, I think, if we want to do that with the  
16 folks in our organizations, in our various networks.

17           DR. CARROLL: Very good. Thank you, Tim. Are  
18 there other comments, other questions?

19           Well, then I'll say that in noting the smooth and  
20 efficient way that you've transacted this first bit of  
21 business, Maziar, do you have any closing remarks as  
22 comments?

23           DIRECTOR MOVASSAGHI: Actually, it's interesting.  
24 I want to piggyback on what was said about methodologies  
25 and approaches. I was happy to hear that because I think we

1 actually were thinking about the same things, but maybe we  
2 used different nomenclature.

3           Because, again, let me reiterate. When I, for  
4 instance, look at the plank about expanding pollution  
5 prevention, there is much that happened under that umbrella  
6 that is applicable to what is and is not captured under the  
7 regulatory scheme, and what ties into some of the other  
8 planks.

9           So, I'm happy to hear I think we're all on the  
10 same page. It's just that maybe the nomenclature needed to  
11 be a little different. And I was wondering, and this is a  
12 question, whether this body actually wants to nail down  
13 dates, even tentative, but nail down specifics; or whether  
14 we just wanted to keep these as placeholders, and then we  
15 would notify you.

16           I just, believe it or not, this morning I looked  
17 at my Blackberry calendar and my schedule in May is already  
18 filled up. So as I think about you all, you probably have  
19 the same scheduling conflicts. So if we can let you know  
20 ahead of this, this is the date you're coming to Sacramento,  
21 that it might be better.

22           But, again, I want to be respectful of your needs,  
23 as well. So if you want, we can just keep these as  
24 placeholders and discuss them later.

25           DR. CARROLL: Let me make a suggestion in that

1 regard. We're here for another day. There are two ways we  
2 could do this. One is to sort of attempt to do this  
3 offline. Or, Kathy, if it would be possible around the  
4 dates that we've got here, to circulate a calendar that you  
5 could at least get an idea in those general weeks when  
6 people would be available.

7           And perhaps we could do that tomorrow morning?  
8 So, why don't we go ahead and plan for trying to, at least,  
9 see what people's schedules are like in those general areas  
10 tomorrow morning. Thank you.

11           What I'd like to do at this point rather than take  
12 a 35-minute break that leads us into the break, would be  
13 perhaps just go right on ahead. Su, would you feel  
14 comfortable giving your presentation, and we'll kind of work  
15 from there.

16           MS. PATEL: Hello, everyone, good morning. Sorry,  
17 am I too loud?

18           MR. SPEAKER: You can be louder.

19           MS. PATEL: Okay. Good morning; my name is  
20 Suhasini Patel and I am in the Department of Toxic  
21 Substances Control or DTSC. I'm going to present an  
22 overview of DTSC's activities related to the establishment  
23 of toxics information clearinghouse or the clearinghouse.

24           As I look around this room it seems like I may be  
25 preaching to the choir, but my task this morning is to

1 connect the dots for the wider audience and bring everyone  
2 up to date. So please bear with me as I briefly review  
3 California's Green Chemistry Initiative and the legislation  
4 that mandates the development of the clearinghouse.

5 Then we will review some of the international and  
6 national activities related to the management of information  
7 about chemicals.

8 The envisioned toxics information clearinghouse  
9 and DTSC's questions to this panel will be presented by Don  
10 Diebert tomorrow.

11 So without any further ado, California's Green  
12 Chemistry Initiative came about at a time of growing concern  
13 that the Federal Toxics Substances Control Act, passed over  
14 three decades ago, had failed to control the explosion of  
15 hazardous materials in commerce.

16 Europe enacted tougher toxics rules forcing many  
17 American companies to revamp their products made for export.

18 California could potentially become a dumping ground for  
19 products rejected elsewhere.

20 These and other concerns, along with the  
21 realization that very little is known about chemicals and  
22 their potential hazards reaffirmed that a comprehensive and  
23 unified approach to chemicals management was needed.

24 In April 2007 Linda Adams, Secretary for  
25 Environmental Protection, launched California's Green

1 Chemistry Initiative in collaboration with CalEPA Boards,  
2 Departments and Offices and other state agencies.

3 The Secretary directed DTSC to -- the initiative  
4 and conduct a broad public process to generate new ideas and  
5 develop overall policy goals and recommendations. DTSC  
6 conducted this monumental effort in collaboration with other  
7 departments and agencies. And after about a year of  
8 studying exploration and innovative public process, released  
9 California's Green Chemistry Initiative final report in  
10 December 2008.

11 This report made six policy recommendations. And  
12 they are: Expand pollution prevention; develop green  
13 chemistry workforce; create product -- network; create  
14 toxics information clearinghouse; accelerate the quest for  
15 safer products; and move to a cradle-to-cradle economy.

16 Most of these recommendations require action by  
17 legislature before they can be implemented. This meeting we  
18 will focus on recommendation number four, create toxics  
19 information clearinghouse.

20 The report says create online database providing  
21 data on chemical toxicity and hazard traits to the  
22 marketplace and public.

23 In order to drive innovation, technological  
24 innovation, and production of safer, healthier, more  
25 environmentally benign products, we need to provide a tool,

1 or we need a tool to disseminate information on toxic  
2 chemicals for consumers, manufacturers and government to  
3 make informed decisions.

4 This recommendation is supported by legislation.  
5 Before we review that, green chemistry laws also call for  
6 DTSC to form a Green Ribbon Science Panel to provide advice  
7 on green chemistry scientific and technical matters, on  
8 chemical policy recommendations and implementation  
9 strategies.

10 This panel was formed in April 2009; has 27  
11 members and three co-chairs. Distinguished members of this  
12 panel together represent a broad spectrum of expertise and  
13 they will insure that implementation efforts are based on  
14 strong scientific foundation.

15 Let's look at the legislation. In 2008 California  
16 State Legislature approved Senate Bill 509 or SB-509, which  
17 requires DTSC to establish a toxics information  
18 clearinghouse for the collection, maintenance and  
19 distribution of specific chemical hazard traits and  
20 environmental and toxicological end-point data.

21 In other words, design the toxics information  
22 clearinghouse. And Office of Environmental Health Hazard  
23 Assessment to evaluate and specify the hazard traits at  
24 toxicological end-points data, and any other relevant data  
25 that needs to be included in the clearinghouse by January

1 2011. We will hear shortly from OEHHA about their  
2 activities and their planned activities.

3           So for this presentation -- well, before I get to  
4 this presentation, we researched who else has this sort of a  
5 data repository or a data library. What is being done out  
6 there? And we found quite a few publicly accessible, free  
7 databases.

8           For this presentation we selected these three  
9 international efforts: eChemPortal by OECD; Chemical Risk  
10 Information Platform by National Institute of Technology and  
11 Evaluation, Japan; Canada's Existing Substance Assessment  
12 Repository, or CESAR by Canada; and one here in the U.S.,  
13 ACToR by USEPA, which stands for Aggregate Computational  
14 Toxicological Resource.

15           Interesting chemical clearinghouse is a  
16 partnership of states that promotes clean environments,  
17 healthy communities and -- economy through production and  
18 use of safer chemicals and products. One of their goals is  
19 to insure state consumers and manufacturers access to high-  
20 quality, authoritative chemical data and information.

21           As we proceed in the development of our  
22 clearinghouse, we both, OEHHA and DTSC, are collaborating  
23 with IC-2 on a strategy to work on our common goals and  
24 build a solution whereby we can share the information.

25           We selected trichloroethylene, or TCE, to search

1 all of these databases for this presentation so we can see  
2 how various different information -- various different  
3 databases present information on TCE differently.

4 TCE is a well-known data-rich chemical; data-rich  
5 just means there's lots of information available. As  
6 opposed to data-poor, where little or no information is  
7 available.

8 And not knowing whether the information is not  
9 available or the databases now functioning would be a  
10 problem. So, let's see how TCE works out in these  
11 databases.

12 OECD publishes eChemPortal; is it a publicly  
13 accessible portal to chemical information. It allows for  
14 simultaneous search of multiple databases, up to 15; and it  
15 clearly describes sources and quality of data.

16 You can search -- I'm sorry, this doesn't look  
17 very good, but the handouts should be able to read -- you  
18 can search this database by chemical abstract services  
19 registry number or CAS number or chemical name, and you have  
20 the choice to select all databases or a particular number  
21 database. Thank you, makes it a little better.

22 When you search for trichloroethylene, I searched  
23 for trichloroethylene by name and I selected all databases,  
24 it displays the screen that tells us there are 11 member  
25 databases with some information on TCE.

1           To see what the information is you click on the go  
2 to results link, which is on the right-hand side there. And  
3 you're taken -- you're lead to that database, We'll get to  
4 see what that looks like because CHRIP and CESAR are both  
5 member databases in eChemPortal.

6           Chemical risk information platform, as mentioned  
7 earlier, is provided by NITE, or National Institute of  
8 Technology and Evaluation in Japan, focuses on  
9 biodegradation and bioconcentration test results and testing  
10 conditions of existing chemical substances under the  
11 chemical substances control law.

12           Other related information is provided in a  
13 database called total search system within CHRIP, so it is  
14 sort of a database of database. Search for TCE can also be  
15 done -- this also works with either CAS number or chemical  
16 name or group of chemicals -- displays the first screen  
17 which shows general information. And then there are links  
18 for physical chemical properties, exposure information,  
19 hazard assessments and so on.

20           CESAR, as the name suggests, is Canada's Existing  
21 Substances Assessment Repository. It houses risk and  
22 regulatory assessment reports on existing chemicals produced  
23 or imported in Canada, or released into the Canadian market.

24           Now, this is not a statement on all the stuff  
25 that's going on in Canada, but our focus is on the database

1 and repositories that everybody has around the world.

2           So this is not a searchable repository. You get  
3 taken to assessment report for trichloroethylene when you  
4 look for CESAR and TCE.

5           The one here in U.S. USEPA's National Center for  
6 Computational Toxicology has collated over 200 sources of  
7 data on environmental chemicals, mostly their own databases.

8           And it's searchable by chemical name and chemical CAS  
9 number, like all other databases. What's unique about this  
10 one, it's searchable by chemical structure. They use all  
11 the same players, you have the physical chemical characters,  
12 toxicologic data. It also displays manufacture and use  
13 information.

14           Chemicals include industrial chemicals,  
15 pesticides, potential ground- and drinking water  
16 contaminants and much more. This is not all-inclusive list.

17           This is the first page where you can search by CAS  
18 number of chemical name. If you want to search by chemical  
19 structure there is a blue bar on the left-hand side, which I  
20 don't have on my slides because I was unable to download the  
21 applet that allows you to search by the chemical structure.

22           But I was able to do it last night, so I know it works. I  
23 tried many times.

24           The search displays visual information of  
25 toxicological data on TCE. If you click on details, it

1 takes you to this next screen that shows chemical summary on  
2 trichloroethylene. And then you scroll down to see physical  
3 chemical properties and toxicological data, chemical  
4 manufacture and use information and so on and so forth.

5 It is a very comprehensive tool. It's aggregator,  
6 as the name suggests. And it takes a long time to load. So  
7 when you try it, be patient.

8 In conclusion, page 1 of toxics information  
9 clearinghouse will have physical and chemical  
10 characteristics, hazard traits, toxicological end points  
11 from all publicly available data sources.

12 After January 2011 we will include all of the  
13 specific data as specified by OEHHA. Once again, we  
14 envision clearinghouse, and DTSC's questions to the panel  
15 will be presented by Donn Diebert tomorrow.

16 Thank you.

17 DR. CARROLL: Thank you, Su. Now at this point on  
18 the schedule we'd like to invite the panel to ask what we  
19 call clarifying questions. And here are essentially the  
20 ground rules.

21 These are questions that you would ask about the  
22 things that you heard up to this point. You might ask  
23 questions about the portals that Su has looked at. You  
24 might ask for workability of those, about the content that  
25 she's presented.

1           What we would ask you not to do at this point is  
2 to provide advice to say, well, perhaps you should do it  
3 this way or that way. We'd like to hold that for a  
4 different point of the discussion.

5           So, at this point we're open to clarifying  
6 questions, please.

7           Rich, it's yours.

8           DR. LIROFF: Thanks for a great overview. Can  
9 people hear me? Question. What have you learned from the  
10 existing portals? If California's going to create its own,  
11 are there any systematic deficiencies in the existing  
12 portals that you found that you believe California can  
13 improve upon?

14          MS. PATEL: Yes, thank you for that question. Can  
15 you hear? Hello.

16          Yes, the question, I believe, was what have you  
17 learned from these and how can we improve upon it? The ones  
18 we have looked at, their focuses are different. The  
19 information displayed is not -- it's a tool for certain  
20 types of audiences.

21          And what we want to build is for multi-  
22 stakeholders. We want consumers walking down the street to  
23 be able to use our clearinghouse, as well as scientific  
24 community and regulators to use it, which have different  
25 demands, different focus.

1           And we learned that to make it too large and too  
2 complicated will not be -- we will lose some of it. So we  
3 want to stay in the middle. We do like -- directly in front  
4 of it -- sorry.

5           (Pause.)

6           MS. PATEL: So, did I answer that question?

7           DR. LIROFF: Yes, you did, thank you very much.

8           DR. CARROLL: Tim, and then George, please. And  
9 Mike.

10          DR. MALLOY: Thank you for that presentation. It  
11 was really very clear. I had a question, I was interested  
12 about the ACToR database that you talked about. And it was  
13 interesting because you said that they display information  
14 on hazard traits.

15          So, I'm curious like how -- like the slide that  
16 you had shows kind of a band with hazard, chronic,  
17 carcinogenity across. How do they provide information on  
18 the hazard traits? Are these colors on these bands so you  
19 can tell how hazard -- what's it tell you about hazard  
20 traits, I guess?

21          MS. PATEL: All it tells you is that there is  
22 information available for trichloroethylene, it says HA and  
23 the box is red. If there's no information then there will  
24 be nothing, it'll be blank.

25          So if you took a chemical where no hazard

1 information was available, or none of the information is  
2 available, you won't see any of those red boxes. That is  
3 just a visual representation of what data actually is  
4 available in that database.

5 DR. CARROLL: Very good. George.

6 DR. DASTON: It's always red, that's the only  
7 color.

8 MS. PATEL: That's right. Yeah, it doesn't tell  
9 you the priority of the information.

10 DR. DASTON: It's like the models, you can have  
11 whatever color you wanted, as long as it was black.

12 (Laughter.)

13 DR. DASTON: Yeah, whatever color you want, as  
14 long as it's red.

15 I actually have a lot of suggestions for this, but  
16 I understand we're doing clarifying questions. So, really  
17 it revolves around there's an incredible amount of  
18 complexity even in identifying what a chemical is, such that  
19 even CAS numbers do not necessarily identify chemicals,  
20 which is one problem with a lot of data sets.

21 The other problem is quality of information that  
22 goes into them. And so one of the differences between a  
23 highly successful database and a not-so-successful one is  
24 the level of curation that goes into it.

25 I was just wondering whether you have thought

1 about what sort of resources you're going to go into a  
2 publicly accessible resource like this, such that the  
3 curation is of high quality.

4 DR. CARROLL: George, that's walking right up to  
5 the line of the sort of comment we ought to have this  
6 afternoon. If you can answer that, Su, go ahead, but --

7 DR. DASTON: I can hold it. I can hold it. I'm  
8 sorry, you know, I mean I just -- yeah.

9 MS. PATEL: Okay.

10 DR. CARROLL: All right, well, dispatched that one  
11 rather easily.

12 (Laughter.)

13 DR. CARROLL: Mike Wilson and then Michael  
14 Kirschner, please.

15 DR. WILSON: Thank you. This sort of picks up on  
16 Rich Liroff's question about what you learned as you were  
17 looking. It seems as if you selected these databases for  
18 one reason or another. But I guess one is that they were  
19 fairly rich.

20 And my question is what you found in terms of  
21 their comparability, if they actually lent themselves to  
22 constructing a master database, or if they used completely  
23 different measures and so forth that made that impossible,  
24 or would make that impossible.

25 MS. PATEL: This is partially going to answer the

1 earlier question that was scratched. In the environment we  
2 are in, our phase one, we are going -- or maybe phase two,  
3 phase three even, we are going to not filter any data. We  
4 are just bringing it together and letting the user decide  
5 which information they want to use from where. We are just  
6 making it all available in one spot in an easily readable  
7 format.

8           And the databases we selected, they are not any  
9 particular reason for selecting them. I just wanted a  
10 variety of databases to show that there's hundreds of  
11 thousands of databases available. They all have a different  
12 take and different weight and format of presenting the same  
13 information. So that was the reason for selecting them. I  
14 could have selected any other three or four or ten.

15           DR. CARROLL: Michael Kirschner.

16           MR. KIRSCHNER: Thanks. You almost answered my  
17 question in response to Mike's question there. But I was  
18 curious why you didn't select particular databases from the  
19 European Union, EILINCS and INEX, which exist, are filled  
20 with all kinds of interesting information.

21           And second, whether you have looked at the plans  
22 for the RE (inaudible) database.

23           MS. PATEL: We have. We have looked at the  
24 EILINCS, we've looked at ESIS. And we could have selected  
25 those, as well. But eChemPortal kind of mimics what ESIS

1 does. And some of the players are the same. The member  
2 databases are the same. So we just picked the first one  
3 that we liked, was easy to search, and displayed what we  
4 were going for here.

5 DR. CARROLL: Very good. Let me review the  
6 bidding here. We have Ken, and then Dele and then Kelly and  
7 Rich withdraws his. Okay, Ken, it's yours.

8 MS. SPEAKER: And Dale.

9 DR. CARROLL: Oh, I'm sorry, Dale, just saw that.

10 CO-CHAIRPERSON GEISER: This is very much just  
11 clarifying. All of the chemical databases that you've dealt  
12 with deal with all chemicals. We call this the toxics  
13 chemicals access clearinghouse.

14 There's no intention that we only focus on toxics.

15 MS. PATEL: That's correct.

16 CO-CHAIRPERSON GEISER: So it's a full database?

17 MS. PATEL: Full database. It'll be a  
18 clearinghouse of all chemicals.

19 DR. CARROLL: Very good. Dele.

20 DR. OGUNSEITAN: Okay. At an annual meeting we  
21 talked about how to define authoritarian sources, and what  
22 we will consider the threshold.

23 Do any of these databases include information on  
24 how they identify their sources? They all collect data from  
25 different organizations and research programs.

1 MS. PATEL: Yes, they disclose the sources and  
2 quality of data. They do tell you where the data's coming  
3 from.

4 DR. CARROLL: Does that answer your question?

5 DR. OGUNSEITAN: Yes, it does.

6 DR. CARROLL: Very good. Kelly.

7 DR. MORAN: I have two kind of related questions,  
8 and so I'll just ask them both and let you answer.

9 One is what did you find in terms of availability  
10 of environmental toxicity data, to wildlife, fish, like that  
11 kind of thing.

12 And second, -- because I know those have been  
13 harder resources to identify. And second, kind of related  
14 to that, did you find any resources that would help the user  
15 identify which environmental compartments would be of  
16 greatest interest for any particular chemical, so air,  
17 water, et cetera?

18 MS. PATEL: ACToR talks about air and ACToR talks  
19 about water. To answer your question really, we have left  
20 all the toxicological and ecological hazard traits and what  
21 sources and what to use for OEHHA to tell us. So.

22 DR. MORAN: I guess to clarify the second one, I'm  
23 just wondering if you found any examples where if someone  
24 looked at a database they would say, oh, I'm looking at  
25 copper, this is a concern in water; or I'm looking at TCE,

1 that's a concern in air or something like that.

2 MS. PATEL: Yes. Once you go to the database you  
3 can dig deeper and it will tell you that the focus is --  
4 like ACToR has focus on potential groundwater or surface  
5 water contaminants. It's one of their focus. Then you will  
6 see that information. You will not find that probably in  
7 eChemPortal as easily. But if you choose the right  
8 database, member database, you will see what the focus of  
9 that data is, and what the results are saying about that.

10 DR. CARROLL: Very good. I have Dale, then Deb,  
11 and then Megan. Dale, it's yours, please.

12 DR. JOHNSON: Yeah, I did a little exercise on  
13 this, also. So I accessed all these databases with other  
14 chemicals. And, of course, this is something that a casual  
15 user will find very difficult to do.

16 And in some cases -- I will say the amount of data  
17 and what's represented in the databases is fairly  
18 comprehensive. So the information is there.

19 How it's actually, you know, if the goal is to be  
20 able to actually use it in a certain way, that's a difficult  
21 situation.

22 And --

23 DR. CARROLL: Dale, is there a question in there  
24 somewhere?

25 DR. JOHNSON: Yeah, put a question mark after --

1 (Laughter.)

2 DR. CARROLL: We're going to have plenty of time  
3 to augment and make comments.

4 DR. JOHNSON: So my question, then, leading right  
5 to my question, is within the clearinghouse process my  
6 understanding is that it's simply a way to access data. And  
7 that there would be no hazard traits or something newly once  
8 created that aren't within the databases that are being  
9 accessed, is that correct?

10 MS. PATEL: Yes. We will present information  
11 that's available. Eventually add additional sources as more  
12 information becomes available.

13 DR. CARROLL: Thank you. Perhaps that was a  
14 little bit too direct.

15 (Laughter.)

16 DR. CARROLL: Deb, it's yours. No, I mean my  
17 admonition to you. Deb.

18 CO-CHAIRPERSON RAPHAEL: Yeah, Ken's question  
19 stimulated a question. So, will -- AB-1879 is very clear on  
20 what kind of chemicals are covered. So pesticides are not  
21 covered under it. Will this database also be limited? Or  
22 will you be including pesticides and some of the  
23 pharmaceuticals and things that clearly aren't covered in  
24 1879?

25 MS. PATEL: I'm going to defer this to Donn. I

1 want to say it will be included.

2 MR. DIEBERT: That would be my answer, as well.  
3 It will look at all the information for all the chemicals  
4 that are out there. We realize that there's some dual-duty  
5 chemicals, some that are pesticides, that are truly  
6 pesticides, and some that are pesticides that are also used  
7 for other things.

8 So, yes, exactly, all of them are -- we'll see how  
9 it goes.

10 DR. CARROLL: Very good. Megan.

11 DR. SCHWARZMAN: What's the interaction between  
12 the information that you're discussing now that would show  
13 up in the toxics information clearinghouse because it's  
14 gleaned from another existing database, and information  
15 that's proposed to be entered into the TIC by chemical  
16 manufacturers?

17 So I'm referencing various provisions that have  
18 been in the straw proposal so far. And so I don't know  
19 whether they've continued to survive next version. But  
20 where there were proposals for data submission that was to  
21 be entered within the toxics information clearinghouse.

22 And this raises a bunch of questions for me about  
23 if we're taking data that's been aggregated by, you know,  
24 ACToR in an ACToR database and putting it alongside data  
25 that's been entered by an individual chemical manufacturer.

1 What's that interaction?

2 MS. PATEL: We haven't gone that far because we  
3 don't know what the regs are going to require. But we will  
4 have to cross that bridge. So I don't know at this point  
5 what it will be. But we will have to address it.

6 DR. CARROLL: Are there other questions from the  
7 panel, at this point clarifying questions, for Su? Roger,  
8 go ahead.

9 MR. McFADDEN: Roger McFadden, Staples. Great  
10 presentation, by the way. My question is about cost. Did  
11 you investigate, is there cost associated with accessing the  
12 data?

13 If the public wanted to access, would they have to  
14 pay something to do it? Would they have to disclose who  
15 they are to get this information? And thirdly, did you  
16 investigate the funding behind the database? That is, how  
17 do they fund the database now, where do they get their  
18 funding from? Thank you.

19 MS. PATEL: I can speak for what we are looking  
20 at, although it looks like a great funding revenue stream  
21 for us. I'm looking at my bosses now looking at us.

22 (Laughter.)

23 DR. CARROLL: Bosses not laughing at this point.

24 MS. PATEL: The clearinghouse is going to be free,  
25 publicly accessible for anyone that wants to access it. We

1 like the idea of gathering information on who's visiting it  
2 and using it. So it will be something that we will think  
3 about.

4 We don't want people to not come because they have  
5 to share that information. But, at the same time, we would  
6 like to know who we are building this and maintaining this  
7 clearinghouse for.

8 And third question was about funding. I have no  
9 idea. We're working on it.

10 MR. McFADDEN: If I might, --

11 DR. CARROLL: Please, go ahead.

12 MR. McFADDEN: -- my question was really focused  
13 around these databases that you looked at. I wasn't pushing  
14 at this point for funding and so forth behind what we're  
15 building here. I was asking, did you -- yeah, did you look  
16 at these to see how they funded these, and how they kind of  
17 work from an economical standpoint.

18 MS. PATEL: Donn can probably speak better to  
19 this, but all of them were free to me, the user accessing  
20 them. Did not ask for any of my information, they just let  
21 me in. And we know some information about -- for ACTOR  
22 because we've been talking to USEPA. And maybe Donn could  
23 elaborate on that.

24 MR. DIEBERT: Yes, the -- actually showed, we  
25 haven't really got into the funding behind the scenes, how

1 they maintain their operation. Looks like it is a group  
2 effort by those that are contributing. So for -- those 15  
3 sites, they are, I assume, contributing to it for use --  
4 after, they take it upon themselves, so they're actually  
5 spending the bucks. People are supporting it with  
6 information with new websites, new source of information,  
7 from that aspect.

8 We're looking at all three sites. We're not  
9 looking at the sites that we need to pay for. There are  
10 certain logistic issues we got into where you have to pay  
11 for the information because a lot has disclaimer not to  
12 forward, not to use, not to -- for your benefit. So that's  
13 what we're kind of looking at.

14 DR. CARROLL: All right, very good. Seeing no  
15 more questions, we are approximately at the point in the  
16 schedule where we had scheduled a break. And I will offer  
17 you that opportunity for 15 minutes. I have 10:43 at this  
18 point. Could we convene again at 11:00, please.

19 (Brief recess.)

20 DR. CARROLL: At this point in the meeting we have  
21 a presentation from OEHHA, and Melanie Marty will be making  
22 that presentation. And afterwards we'll then have, once  
23 again, clarifying questions about that presentation.

24 Melanie, it's all yours.

25 DR. MARTY: I'm going to hold this and stand in

1 front of the podium, since I'm vertically challenged.

2 Okay, I'm Melanie Marty, I'm part of OEHHA, the  
3 Branch Chief for the Air Pollution -- Tox Section. And I'm  
4 just going to give a little bit of an update on what OEHHA  
5 has been doing.

6 So, you've already seen some background slides on  
7 the clearinghouse. I don't want to waste your time looking  
8 at these, but a couple of points.

9 It is a decentralized web-based system for the  
10 collection, maintenance and distribution of specific  
11 chemical hazard trait and environmental tox and -- data, and  
12 it's supposed to be accessible to the public through single  
13 portal.

14 And my favorite bullet, and staff's favorite  
15 bullet, DTSC shall operate the clearinghouse at a least  
16 possible cost.

17 (Laughter.)

18 DR. MARTY: So, and OEHHA has mandate, as you all  
19 know, we are a sister department within CalEPA, so --  
20 they're the big guns and we're a little gun. But on or  
21 before January 1, 2011, we are required to evaluate and  
22 specify the hazard traits and environmental and  
23 toxicological end points in any of the relevant data that  
24 are to be included in the clearinghouse. So we are working  
25 with Su and Su's crew to do that.

1           So, in terms of an overview of what we most  
2 recently been doing, you guys heard stuff at the October  
3 meeting, I don't want to repeat much of that, but we have  
4 been looking at nomenclature. In part because you guys told  
5 us last time, you know, we need a little bit of clarity on  
6 what you guys are talking about when you say hazard trait.  
7 So we did develop a taxonomy of hazard trait nomenclature in  
8 response to this Green Ribbon Science Panel.

9           We also have developed a draft pilot scientist  
10 questionnaire. So the questionnaire is really just to  
11 elicit expert opinion on hazard traits that should be  
12 included in a clearinghouse, including scientifically valid  
13 indicators of hazard.

14           We are planning for a workshop series with UCLA  
15 and UCB, funded by the UC Toxics Substances Research and  
16 Teaching Program. And I'll get to that in a minute. And we  
17 are also developing a hazard trait framework to work with  
18 DTSC to build the clearinghouse.

19           So our first workshop is March 15th and 16th at  
20 the CalePA building in Sacramento. At that workshop we are  
21 focusing primarily on health hazard indicators. We have a  
22 second workshop planned for May 10th and 11th in Berkeley.  
23 And the date changed; it used to be, I think, the 11th and  
24 12th, so note that. And that workshop will focus on  
25 indicators of environmental end points and exposure

1 potential.

2           Then the results of the workshop and all the  
3 information that people give to us, and opinions, et cetera,  
4 is going to help shape the recommendations on the hazard  
5 traits and use of hazard indicators in the clearinghouse.

6           Workshop one, which is in a few -- a month or so,  
7 will have three session. The first session is going to be  
8 several people speaking about the state of the science on  
9 identifying chemical hazards.

10           The second session, we broke it into three sort of  
11 icities, carcinogenicity, developmental toxicity and  
12 endocrine disruption -- "icity".

13           (Laughter.)

14           DR. MARTY: And we have a couple people speaking  
15 under each of those topics to talk about how you identify  
16 those types of hazard.

17           Then the third section is a moving forward  
18 section. So taking the information that we've all  
19 discussed, how are we going to move forward with human  
20 health hazard indicators.

21           And we have speakers coming from NIEHS, from  
22 USEPA, from a number of UCs, the pharmaceutical industry and  
23 also other organizations.

24           We are also working on developing a hazard trait  
25 framework for the clearinghouse. And, again, the goals are

1 to have an interrelated framework of hazard traits for the  
2 clearinghouse. And when you start to think about it, all of  
3 the little things that we're talking about, many of them are  
4 interrelated. So it's kind of like -- think of it in terms  
5 of relational categories of hazard traits. And also we're  
6 going to include recommendations on use of hazard indicators  
7 in the clearinghouse.

8 So the draft framework and the recommendations  
9 will be based on our research, the UC TS RTP workshops,  
10 ongoing consultations, input from the Green Ribbon Science  
11 Panel and others. And our scientist questionnaire.

12 We also will have public workshops to seek comment  
13 once we put that framework together and get it out there.  
14 And it's due, we have to have it together by late 2010.

15 That's it. Clarifying questions?

16 DR. CARROLL: Okay. Most of this seems to be on a  
17 kind of process going forward. And since I haven't seen  
18 whose flags are up in what order, I'll just move in this  
19 direction.

20 George, is it Art, and then Kelly, is that  
21 correct? Okay.

22 DR. DASTON: Melanie, just a couple of questions  
23 about semantics, maybe. One is, is there a difference  
24 between a trait and an indicator? I mean, --

25 DR. MARTY: You know, we're going to get to that

1 in a little more detail in the afternoon presentation. But  
2 the way we are envisioning it is that a hazard trait is very  
3 broad. And an indicator can be a hazard trait. That's how  
4 we're envisioning it now.

5 But we haven't decided on anything, and, you know,  
6 we're here to get some input from you guys, and also are  
7 going to request input in writing. You'll see that this  
8 afternoon, as well.

9 DR. DASTON: Okay, so I should wait --

10 DR. MARTY: Yeah.

11 DR. CARROLL: Now, I didn't tell you that, George.

12 (Laughter.)

13 DR. DASTON: Nobody's going to answer my questions  
14 this morning. I should have slept in.

15 DR. CARROLL: No, they're just exceptionally good  
16 questions, and we're saving them for the time that we can,  
17 you know, savor them much more.

18 (Parties speaking simultaneously.)

19 DR. DASTON: Let me ask you a different question.

20 DR. MARTY: Sure.

21 DR. DASTON: You know, some of the things that Su  
22 talked about in the compendium of possible databases are  
23 things that aren't necessarily hazard traits, but are  
24 interesting information that if you collected you could  
25 create a weight of evidence one way or another, like

1 phys/chem or reactivity or name some things -- that might  
2 be, you know. Are you thinking about those things or do you  
3 want this to be cut-and-dried?

4 DR. MARTY: We're absolutely thinking about those  
5 things. So, what we don't want to do is keep looking under  
6 the lamppost. All you're going to end up with then is the  
7 chemicals that we already know lots about. And we all can  
8 admit that there are many chemicals which have very little  
9 toxicity information. And we have to find ways to  
10 characterize those chemicals. High through-put assays is  
11 one.

12 Now, obviously there's a tension there between the  
13 quality of data and the quantity of data; who's reviewed it;  
14 has any authoritative bodies opined on these things. And  
15 not being able to move forward on the chemicals that we  
16 don't have a lot of information on. So those tensions are  
17 going to come into play.

18 There's also tensions on how are you going to get  
19 that information into a clearinghouse, particularly if it's  
20 not easily accessible right now. You know, if you look at  
21 how much resource went into the ACToR database, it's huge,  
22 it really is huge. It's a great database. And, you know,  
23 DTSC is going to top it.

24 But DTSC, if you looked at my third bullet on the  
25 second slide, doesn't have resources to do their own from

1 scratch.

2 DR. DASTON: But just, I guess, my last question  
3 for you is all of those things are way more than a consumer  
4 off the street could actually interpret. So you're looking  
5 at this database as something more?

6 DR. MARTY: Yeah, there's another tension that you  
7 pointed out. If somebody is a scientist and wants to look  
8 for information they're going to be looking at a much more  
9 detailed set of data than if somebody is a person who just  
10 wants to know about the stuff that's in their shampoo.

11 DR. DASTON: Right.

12 DR. MARTY: So -- yeah, and there is a bunch of --

13 DR. DASTON: -- get a handle on what division it  
14 is.

15 DR. MARTY: Yeah, it's hard to know what to do to  
16 tell you the truth.

17 DR. CARROLL: Thank you, George. Art.

18 DR. FONG: Thank you. Melanie, could you talk a  
19 little bit about the financial relationship that you have,  
20 not your personal --

21 (Laughter.)

22 DR. MARTY: Jeff pays me a check each month.

23 DR. FONG: -- toxics substances research and  
24 teaching program? Another of us on this panel is actually  
25 also on the advisory committee. It's my understanding that

1 has been eliminated by UC. And so how's this going to work  
2 as you move forward?

3 DR. MARTY: Yeah. Well, actually it has not been  
4 eliminated, so John --

5 DR. FONG: My part has been eliminated.

6 (Laughter.)

7 DR. MARTY: Well, yes, it's true the TS RTP took  
8 huge hits because of the recession and subsequent budget  
9 problems. But we did get a small grant that was awarded  
10 over the summer to do these workshops. So it's not a huge  
11 amount of money, and we did confirm with them last week that  
12 they were still going to be able to give us that just for  
13 these workshops, so that's it, yeah, that's the  
14 relationship.

15 DR. CARROLL: Thank you, Art. Kelly and then  
16 Rich.

17 DR. MORAN: I'm looking for some definitions. You  
18 talked about a taxonomy and you talked about a framework.  
19 And I have no idea what you're meaning on either of those  
20 impractical terms. So it would really help me out if you  
21 could just be very lay and walk through what's a taxonomy,  
22 what are you trying to do with that; what's a framework,  
23 what does that mean?

24 DR. MARTY: Okay. Some of that is this  
25 afternoon's presentation; several of the slides are on the

1 taxonomy. But what we're trying to do is like what are we  
2 talking about when we use the term hazard trait. And there  
3 are different types of hazard traits, and, you know, how are  
4 we looking at the different types and how are they related.

5 So, that's what we really -- taxonomy's kind of a  
6 funny word for it, but it's the word that we came up with.

7 Yeah, and then in terms of a framework we really  
8 are just -- we are to provide DTSC with some idea of what  
9 types of data and hazard traits to put in there.

10 And then we're trying to help them along with the  
11 interpretational aspects since they want to do something  
12 that the general public can get on and understand. So  
13 that's how -- that stuff is all going to go into a framework  
14 of, you know, and I hate to use the word, the P word,  
15 prioritization, but it's going to have to come into play at  
16 some point, you know, what kinds of data are going to go in  
17 there first. And then what kinds of data can be folded in  
18 as time goes on.

19 DR. CARROLL: Thank you. Yes, Rich, it's yours.  
20 And then I have Mike and Tim.

21 DR. LIROFF: Just a quick process question. How  
22 can members of this panel keep abreast of what's going on in  
23 these workshops? Will they be noticed routinely on the  
24 green chemistry list serve and then we'll all get noticed?

25 Because I'm intensely curious about who's going to

1 be speaking, what they're presenting.

2 DR. MARTY: Yeah, they should be noticed on the  
3 DTSC green chemistry. I'm surprised that they weren't yet,  
4 so I'm sorry about that. But I'll check.

5 So, yeah, it would be great if you all could  
6 attend those. And I can send anybody the agenda as it  
7 stands right now for the March 1.

8 DR. CARROLL: Very good. Mike.

9 DR. WILSON: Thank you, Melanie. My question has  
10 to do with how you've been thinking about the interpretation  
11 and possibly the prioritization aspects of this. And, you  
12 know, how we, as the State of California, put this  
13 information in a useable form out into the public.

14 And, you know, you said it might not be all that  
15 useful to John Q. Public. And I guess I want to, you know,  
16 ask if that's part of the, you know, your thoughts in the  
17 development of this information? Is this idea that that  
18 ultimately is what we want to do?

19 I mean in terms of getting information into the  
20 hands of the people who are going to use it. Maybe they're  
21 not individual consumers looking at shampoos, but they might  
22 be small formulators and so forth who are going to have a  
23 very difficult time with a database of databases, and trying  
24 to interpret that information. And, you know, where there's  
25 a lack of uniformity and so forth.

1           That seems to me to be a big challenge of how we  
2 get this information and translate it and interpret it. So  
3 is that part of the process? And if so, to what extent is  
4 it?

5           DR. MARTY: Well, so far we're thinking about it.

6           DR. WILSON: Good.

7           DR. MARTY: And it really is DTSC that's going to  
8 need to put together what the web portal looks like. And so  
9 we're going to be working with them on the thinking part of  
10 how to get information accessible to people who aren't PhD  
11 toxicologists.

12           So I can't say that we have any answers at this  
13 point. We're just thinking about it.

14           DR. CARROLL: Please, go ahead.

15           DR. WILSON: Yeah, like I say, just a follow up.  
16 It might be that members of this, you know, panel who have  
17 some experience in really struggling with interpreting  
18 information and trying to introduce -- interpreting  
19 information and translating that to the public, and  
20 introducing substances into products and so forth, might  
21 have some input on how, you know, what are the kinds of  
22 information that would be most useful and in what platform,  
23 and what searchable sort of platform.

24           DR. MARTY: Yeah, absolutely. So that -- and we  
25 have actually been talking to people who are kind of doing

1 that --

2 DR. WILSON: Yeah.

3 DR. MARTY: -- the green screen folks. Darrell  
4 O'Rourke at Berkeley, his program. So, you know, we're very  
5 aware that it's a big issue and it's complicated.

6 DR. CARROLL: Well, I think we have a fair amount  
7 of time scheduled tomorrow for that, that sort of  
8 discussion, as well.

9 You have another one, Rich. I want to get to Tim  
10 first, though, please.

11 DR. MALLOY: Thank you. Thanks for the  
12 presentation, that was really helpful. I had a question.  
13 It's kind of about timing, but I think it's got a  
14 substantive overlay to it.

15 Like I saw that you said the recommendations would  
16 be available or had to be together by late 2010. Which kind  
17 of raised in my mind, well, what's the relationship between  
18 that and the January 2011 deadline for the regulations.  
19 Because, and this is the -- and the reason I ask this is  
20 because of the substantive overlay.

21 So the clearinghouse, one purpose of the  
22 clearinghouse is to get information out there for consumers  
23 and the marketplace and so on and so forth. But the other  
24 implication of the work you do, in terms of identifying  
25 hazard traits and whatnot, is that those are then to be

1 considered in the identification and prioritization process  
2 under 1879, right? So it's got this double implication.

3 So, there's a question in here. There's two  
4 questions. One is what is the relationship timing-wise?  
5 Like how do you see what you're doing fitting into the  
6 timing of the regulation that we talked about this morning.

7 And then the second one is how are you in the  
8 workshops, and just generally, how are you -- to what extent  
9 does that second purpose, the providing kind of information  
10 -- criteria that would be used in identification and  
11 prioritization, how is that being taken into account in  
12 terms of does that have any role to play in terms of what  
13 you're thinking about, like naming hazard traits? Like, are  
14 you going to look at indicators versus end points and things  
15 like that?

16 DR. MARTY: Well, those are two really hard  
17 questions. The first question, I almost need to kick it to  
18 toxics. The way that the statute was structured, the  
19 deadlines don't coincide very well.

20 So we wanted to do the best job we could, we  
21 wanted to take all the time that we had to come up with the  
22 hazard traits and toxic end points, et cetera, that goes  
23 into the clearinghouse.

24 Now, I think DTSC alluded earlier that they're  
25 going to phase in the structure of the clearinghouse. In

1 the first phase they're going to go in there and grab stuff  
2 like --

3 MR. SPEAKER: Can you speak into the mic --

4 DR. MARTY: Oh, sorry. The first phase of the  
5 clearinghouse they're going to pull in things like ACToR and  
6 stuff that's already out there. And then Su alluded to  
7 building on that, particularly after we're finished with our  
8 little part on the hazard traits. So that was the first  
9 question.

10 And the second question, again, is really more of  
11 a DTSC question, because they're the ones that are going to  
12 be doing the prioritization. We are thinking what kinds of  
13 information are they really going to need from our  
14 perspective to do these prioritizations. So, yes, we are  
15 thinking about that and considering it. But we can't really  
16 tell them how to do it. That's actually what part of their  
17 statutory mandate is.

18 So I don't know if anyone from DTSC wants to  
19 elaborate or comment further on those two questions.

20 Jeff.

21 DR. WONG: So I actually get to do something more  
22 than introduce all of you.

23 (Laughter.)

24 DR. WONG: Again, I think, as Melanie stated, the  
25 timelines that are laid out in the legislation don't match.

1 So the portal, itself, it doesn't -- or actually is moving  
2 forward with the regulation, or 1879 is not dependent on the  
3 completion of the portal. And I think that that's a  
4 recognition that the development of a portal in whatever  
5 form, the kinds of sources that we would have to integrate  
6 are very diverse.

7 We have an interface problem in that -- I  
8 shouldn't say a problem -- we have a challenge, an interface  
9 challenge in that there will be very many users of that  
10 collated or aggregated piece of information. And we have to  
11 figure out how to serve in that interface the right piece of  
12 information for each user group.

13 And I think none of us are expert at all of those  
14 little pieces. And I think we are going to have to sort of  
15 mature through that.

16 The example that we have is our own EnviroStor  
17 database which houses a lot of our hazardous waste  
18 management and hazardous waste site information. And if you  
19 go through the history of our EnviroStor database that's  
20 really been something that's been going on for about ten  
21 years.

22 And so I don't think that we have the luxury of  
23 not moving forward with our mandate under 1879; you know, we  
24 don't have time to wait another ten years as we build the  
25 informational clearinghouse.

1           So, I think while it looked like there is some  
2 disjointment in the legislation, I think it does recognize  
3 that building the portal that Su and Donn Diebert have  
4 discussed, as we've worked with OEHHA, is going to take some  
5 time.

6           So, yes, it would have been better if the portal  
7 was built, it would definitely help us as we go through  
8 prioritization choosing chemicals and choosing products.  
9 But it's not. And so therefore our first steps, as we move  
10 through the initial set of regulations, it won't be perfect.

11          And we'll rely on this disaggregated sources of hazard  
12 information.

13           So I hope -- that's a long-winded non-direct  
14 answer to your question --

15           DR. CARROLL: Richard.

16           DR. LIROFF: Another quick process question.  
17 There's reference in the materials to circulating the  
18 questionnaire. What's your process for circulating the  
19 questionnaire? How are you identifying stakeholder groups  
20 or environmental professionals, or whomever to receive it?

21           DR. MARTY: Yeah, that's a good question. What  
22 we're doing right now is asking the GRSP members if they  
23 will respond. This afternoon we'll have a little more  
24 discussion of that. But not just this afternoon. We're  
25 asking you to respond in writing so that we could collect

1 that, the responses, and have a chance to think about the  
2 answer.

3 We have lists of stakeholder groups that are  
4 always interested in OEHHA and CalEPA activities that we're  
5 going through to help identify people.

6 We don't have resources to do a massive survey, so  
7 it really is, what we're trying to do is sample different  
8 sectors to get expert opinions on what are hazard traits,  
9 and how should we sort of categorize them and use them.

10 So, we also wanted to ask the GRSP members if they  
11 had specific people they thought this person is very  
12 knowledgeable and should be asked these questions. That you  
13 send us those names so we can be sure to gather those up, as  
14 well.

15 DR. CARROLL: Very good. I don't see any more  
16 flags. Are there any other clarifying questions? Then I  
17 guess that sort of brings us to the end of the substantive  
18 business for this morning.

19 There are a couple of things that I'd like to  
20 point out. Kathy, I'd like you to come up and make sure  
21 that we've touched all the process issues that we need.

22 First of all, with respect to public comment, we  
23 will be having public comment this afternoon. We ask, I  
24 believe that each of you has received a public comment card.

25 I would ask that if you would like to make a comment that

1 you fill them out and turn them in, if you can, before  
2 lunch. That gives us an opportunity to sort of stage the  
3 comment period for the afternoon.

4 Many of you will be interested in lunch and where  
5 you can get lunch in this general area. I should like to  
6 point out that in the interest of waste minimization you  
7 have not finished the muffins that are back there yet.

8 (Laughter.)

9 DR. CARROLL: And I would like you to eat those  
10 first before you go somewhere else.

11 Kathy, you also need to give us the Bagley-Keene  
12 reminder and any other reminders.

13 MS. BARWICK: First reminder, Cynthia has got the  
14 public speaking cards for public comment if anybody would  
15 like to have one of those to fill out, raise your hand.

16 Places to eat. All this development out here is  
17 new since the last time I was out here. But I do know some  
18 general information. If you get back on Del Paso Road over  
19 the freeway and head east, you get to about Natomas on the  
20 left, Truxel Road on the right. And there's a shopping  
21 center there. There's some nice restaurants in there.

22 And I don't know if there's any in the complex  
23 over here. The more interesting place to go is on the  
24 river. If you head south on 5 -- how was the Virgin  
25 Sturgeon last night? All right. Food was great, wasn't it?

1 MS. SPEAKER: Yeah, the whole thing was great, but  
2 I don't think you can get through that in that time period.

3 That's a dinner thing.

4 MS. BARWICK: Oh, that's a dinner thing, okay. So  
5 we'll talk about that later.

6 But you can go to Chevy's; it's on the river. You  
7 go south on 5, get off on Garden Highway, turn right. And  
8 Chevy's pops up pretty quickly there on your left. And I  
9 believe there's also a restaurant here in the hotel.

10 DR. CARROLL: So then timing-wise, obviously we've  
11 finished early and we'll start early. I'd like to give you  
12 until 1:00 for lunch, if that would be all right. And we'll  
13 harvest 45 minutes.

14 So, let's reconvene at 1:00.

15 MS. BARWICK: And before we break, I'm just here  
16 to remind you on Joe Smith's behalf, of our obligations  
17 under the Bagley-Keene Open Meetings Act. So, panel  
18 members, we do not discuss the agenda items during the  
19 social hour.

20 DR. CARROLL: All right, thank you all very much.  
21 See you at 1:00.

22 (Whereupon, at 11:28 a.m., the meeting was  
23 adjourned, to reconvene at 1:00 p.m., this  
24 same day.)

25 --o0o--

AFTERNOON SESSION

1:04 p.m.

1  
2  
3 CO-CHAIRPERSON GEISER: So this afternoon we're  
4 going to move toward actual more open discussion. We have,  
5 I know, sort of narrowed, disciplined everyone with the idea  
6 that we only have had clarifying questions. Your more  
7 substantive and complex and interesting and exciting and  
8 challenging questions and issues hopefully will come this  
9 afternoon.

10 We have one more presentation, which is a  
11 presentation basically on the questionnaire. It is in your  
12 packet, your green packet that was on the table this  
13 morning. And the questionnaire we're being asked to take a  
14 look at, provide advice on the questionnaire.

15 The way this afternoon will run, Melanie is going  
16 to do another presentation here on the questionnaire, a  
17 short presentation. We will again have short, clarifying  
18 questions, only clarifying questions.

19 Then we will do a public comment period and we'll  
20 see where we are in regards to a break. Try to put a break  
21 in there. But if we are moving fast enough, and I think we  
22 are going to be, we may begin the discussion at that point.

23 The discussion is open, the rest of the afternoon  
24 is really open for us to really take a look at what OEHHA  
25 and DTSC put forward in their morning and now early

1 afternoon presentations.

2           So, with that I'm going to turn this over to  
3 Melanie and we will have one more presentation here.

4           DR. MARTY: Okay, now that you're all not hungry  
5 anymore, falling asleep, I'll drone on. Okay, a couple of  
6 things before we start the presentation. The panel members  
7 got some handouts on the questionnaire, and the language is  
8 a little bit different in the handouts. So I'll point that  
9 out as we go along.

10           But they're in your packet. I don't have the  
11 questions that we put in the questionnaire as a slide, so  
12 you'll have to refer to the second page of that  
13 questionnaire to see what questions we're actually referring  
14 to.

15           The purpose of the questionnaire is really to seek  
16 expert input on several things, including the nomenclature  
17 that we touched on this morning, the hazard traits to be  
18 included in the clearinghouse, and the use of indicators to  
19 evaluate human health, environmental health and exposure  
20 potential. So that's where we're heading on the  
21 questionnaire.

22           So, a few slides about the nomenclature issue.  
23 The statute, of course, doesn't provide definitions for  
24 hazard traits. And that's a good thing because you don't  
25 really want the legislators to come up with the definitions.

1 Nothing against the legislators, but they don't have the  
2 background.

3 And they don't provide definitions, of course, for  
4 environmental and toxicological end points or even other  
5 relative data.

6 So, this is really a multi-disciplinary effort  
7 here to the whole Green Chemistry Initiative. So all these  
8 different sciences have their different ideas of what those  
9 words mean. So we're trying to come to some consensus about  
10 how we're using the terms.

11 So the Co-Chairs recommended to us, of course, to  
12 clarify the nomenclature for the purpose of the  
13 questionnaire, so we get answers to the questions we're  
14 actually asking.

15 So, I wanted to talk a little bit about the  
16 possible hazard trait taxonomy, to stimulate discussion and  
17 organize the questionnaire, OEHHA has described this  
18 taxonomy and it's shown in the handout. And there's some  
19 wording changes between yesterday and today, which I'll  
20 point out.

21 And also I wanted -- we're totally open; we  
22 haven't made a decision. There's other options that could  
23 be used. So the panel input and public input is welcome on  
24 both the nomenclature, how we're using words, and how we're  
25 organizing them.

1           So I think I mentioned earlier the hazard trait we  
2 want to use as an over-arching term in the possible taxonomy  
3 to include general types of human health toxicity,  
4 environmental effects, including ecotox, and exposure of  
5 properties. Specific toxicological end points, specific  
6 environmental end points, and exposure potential parameters.  
7     And indicators for all of that.

8           So I think in the handout it says that the hazard  
9 trait taxonomy can be represented as a tiered system. And  
10 we're all kind of running into sort of a funny thing with  
11 the word tier, because it kind of means priority setting,  
12 and it means different things to different people. And  
13 somebody yesterday pointed out that, well, you're not  
14 talking about the tiered testing categories, are you. And,  
15 no, we are not.

16           So rather than using the word tier, think of it as  
17 a category or a layered approach to looking at the hazard  
18 traits.

19           So, category 1 would be the general types of human  
20 health toxicity, environmental effects and exposure  
21 properties. Category 2 would be toxicological and  
22 environmental end points and exposure potential parameters.

23     And category 3 gives you as indicators for all of the  
24 above. And I'll give a couple of examples in a second.

25           And the categories are all interrelated. Some

1 people might view toxicological end point, such as  
2 genotoxicity, as an indicator for the toxicological end  
3 point carcinogenicity. So nothing is very clear cut. And  
4 they're all interrelated.

5 Category 3 reviewing is things that predict  
6 categories 1 and 2. And I just mentioned that category 1 or  
7 2 might predict another type of toxicity.

8 So here's an example of what we were thinking for  
9 category 1. So the broad category of health, human health  
10 that means, environmental health and exposure.

11 So, carcinogenicity. Okay, that's a pretty broad  
12 category entity. Neurotox, reproductive developmental tox,  
13 immunotox and major organ toxicity.

14 Then environmental broad categories might be  
15 habitat loss or aquatic toxicity, which could have obviously  
16 a whole bunch of different toxicological end points  
17 underneath each one of those.

18 And then exposure, a more broad hazard trait that  
19 we would call category 1 would be something like  
20 environmental persistence, where it's already measured, you  
21 know it's out there, it's persistent, you have half-life or  
22 bioaccumulation. Something again that's already measured;  
23 you have the data; you know it's bioaccumulating.

24 Examples of categories 2 and 3. Category 2 hazard  
25 traits could be lung cancer. That's a specific type of

1 carcinogenicity. Bronchiolitis obliterans, again, another  
2 type of toxicity for the organ system, the lung. Growth  
3 retardation is the fetus; that's another type. It's a type  
4 of developmental toxicity. And so forth.

5           And then category 3 hazard traits we looked more  
6 at as indicators, and indicator of potential exposure might  
7 be a high log octanol water partition coefficient. So if  
8 you have a high octanol water partition coefficient, it  
9 might bioaccumulate because it would rather be in fatty  
10 tissue than in the water that the fish is swimming in, for  
11 example. Ditto high vapor pressure might indicate potential  
12 for inhalation exposure if the chemical is emitted into the  
13 environment.

14           The first bullet there is debatable, and I'm not  
15 even sure I like it there. But a positive in vitro assay  
16 for chromosomal aberration. That could be considered  
17 genotoxicity. But generally when you look at genotoxicity,  
18 you're looking across an array of assays, most of which  
19 measure something different; different types of  
20 genotoxicity. So genotoxicity would be a higher category  
21 than a single positive assay.

22           So now back to the questionnaire, the topics cover  
23 sort of general areas; possible nomenclature; taxonomy of  
24 it. But in particular we're really concerned, interested in  
25 what experts think are the highest priority hazard traits

1 that need to be in the clearinghouse.

2 Other important hazard traits, and, of course,  
3 everybody's going to have their own opinion, you know. What  
4 might be important to one expert is less important to  
5 another. So, we're interested in other important hazard  
6 traits that people think should be included in the  
7 clearinghouse.

8 And then scientifically valid indicators that are  
9 useful in the absence of full data. So what indicators of  
10 either a specific toxicological end point, or one of those  
11 icities is going to be useful to get into that  
12 clearinghouse.

13 We are interested in people's personal,  
14 professional experience in evaluating hazard and exposure.  
15 We're well aware that people in industry do this all the  
16 time. The pharmaceutical industry has their own methods for  
17 screening before anything is developed further into a drug.

18 And it's very interesting that that particular sector is  
19 really well organized because they don't want to stick  
20 something out there that they spent a billion bucks on, and  
21 then have to pull it back after two years because it's  
22 causing a problem. So we're very interested in folks in  
23 that arena who have looked at early screening.

24 So the question there is going to be given to  
25 people to get at their own professional experience and have

1 their own companies do this.

2           So, in terms of follow-up, this is a draft, pilot  
3 thing. We will revise it based on the panel's input. And  
4 the revised questionnaire will be sent to all of the panel  
5 members. And we would really encourage you to think about,  
6 you know, take a little time, think about the responses, and  
7 send it back to us in writing.

8           And, as we mentioned earlier this morning, we're  
9 also sending it, sampling other sectors, scientists in other  
10 sectors for what they consider hazard traits.

11           So there are now several discussion questions  
12 which we can get into later. But I think right now Ken  
13 Geiser wanted to start with clarifying questions.

14           CO-CHAIRPERSON GEISER: Yeah, I think the way we  
15 organize it now is go back to our clarifying questions.  
16 We're going to get into specific -- these questions, these  
17 four questions, are four questions which the Department and  
18 OEHHA is asking us to attend to.

19           But for the moment, just on Melanie's  
20 presentation, are there some specific clarifying questions?

21           Art.

22           DR. FONG: If I can, Melanie, could you just  
23 expand on the word, following up on what Kelly asked this  
24 morning, taxonomy? That's really confusing because that's  
25 the very first question on your questionnaire. So you were

1 mentioning that you'd like, you know, come to industry,  
2 people like us, and right off the bat, which is completely  
3 confuse us to what you were asking --

4 DR. MARTY: So that the answer to the question is  
5 no. Is the hazard trait taxonomy in the pilot clear.

6 (Laughter.)

7 DR. MARTY: Okay, now that we've got that out of  
8 the way. So, okay, the question you're asking me is you are  
9 confused by the category that we have there? No.

10 DR. FONG: No, actually confused by the word, how  
11 you're using the word taxonomy. Exactly what Kelly asked  
12 this morning, --

13 DR. MARTY: You can think of it -- okay, you take  
14 the word taxonomy, let's use structure. The structure of  
15 the hazard traits. It's just how are we organizing our  
16 thoughts on hazard traits. We have this big category, the  
17 category is more general; the category 2 specific  
18 toxicological end points is specific. Ecotoxin points, you  
19 know, might be the LCA 50 -- that kind of a thing.

20 And then finally the third category indicators for  
21 hazard traits.

22 DR. WONG: No, I think most of us understand the  
23 three different categories that you have and why you have  
24 separated the three categories. And we certainly understand  
25 the other parts of it. But I'd like --

1 (Parties speaking simultaneously.)

2 DR. MARTY: But just the word taxonomy is  
3 confusing everybody? Okay. Dump it.

4 DR. WONG: Okay.

5 (Laughter.)

6 DR. WONG: I'm sorry, I'll let somebody else --

7 CO-CHAIRPERSON GEISER: George.

8 DR. DASTON: So I actually found the examples very  
9 helpful. And I think that category 1 and category 2 are  
10 very clear to me on they're being used.

11 But I'm kind of at a loss to understand how you're  
12 going to come to some sort of decision-making around the  
13 category 3 information. I mean all of that would be very  
14 much used in some sort of a weighted evidence approach, as  
15 you were talking about, with the chrome aberra example that  
16 you had.

17 So I guess the question is, is there going to be  
18 some sort of attempt to come up with guidance on how one  
19 would use those indicators?

20 DR. MARTY: We are trying to work that into our  
21 framework for the hazard traits that we're then handing over  
22 to DTSC. So I think the answer is yes.

23 Again, I mentioned this earlier, we don't want to  
24 end up with only having information on well-characterized  
25 chemicals from a toxicological standpoint.

1           So where you have a whole bunch of arrows that  
2 indicate maybe this chemical is not something we want in  
3 consumer products to get all over the place. For example, a  
4 structural similarity to PCBs, high log octanol water  
5 partition coefficient.

6           You add all those things up, you have to ask  
7 yourself, is it really smart to stick that out there. We  
8 don't have any tox data on this thing, or not very much tox  
9 data on this thing. But it could bioaccumulate and we're  
10 going to end up eating it and drinking it, or breathing it.

11         Do we want to do that.

12           So that, I think we have to get at that now. You  
13 know, if you look towards the future, we're not going to get  
14 a whole lot of animal tox data. I predict we'll get less  
15 animal tox data in the future than we're getting now for any  
16 particular chemical other than something that's required,  
17 like drugs or food additives.

18           So we're going to have to get around this problem  
19 of not having strong, robust, standardized tox testing on  
20 all of those chemicals. And that's where the indicators  
21 have to come into play. And it's a tough call, you know. I  
22 don't know what the answer is right now. But I know we're  
23 going to have to use them in some way.

24           CO-CHAIRPERSON GEISER: I'm going to ask people to  
25 be very clear that we're on clarifying questions, which is

1 questions to Melanie about words she used or something. Not  
2 interpretations, if we can.

3 So I'd like to get through this so we can have an  
4 open discussion. Richard. Is it Richard?

5 MR. McFADDEN: No, Roger.

6 CO-CHAIRPERSON GEISER: Roger, sorry.

7 MR. McFADDEN: Real quick. I'm wondering, is  
8 there plans to submit the responses to the questionnaire  
9 back to the panel so that we would have a chance to read  
10 that, as well?

11 DR. MARTY: We hadn't thought about that, but,  
12 sure. You know, it's not -- what we're doing is to compile  
13 people's answers to the individual questions. We haven't  
14 decided, you know, or even know what we're going to be able  
15 to get out of it. But we, you know, definitely want a  
16 sampling of opinion on the answers to all those questions.  
17 We'd be happy to share that.

18 MR. McFADDEN: I'd like to request from the Chair  
19 if it's possible to get that information, that would be  
20 useful.

21 CO-CHAIRPERSON GEISER: Yeah. Meg.

22 DR. SCHWARZMAN: The second question on the  
23 questionnaire here is asking for second and third, and then  
24 also questions that you'd like to pose, to ask later, is  
25 deciding on highest priority indicators for human health

1 toxicity, environmental toxicity or exposure properties.

2 And when I picture either being asked or asking  
3 somebody this question, the first thing that immediately  
4 comes to mind is what will the clearinghouse be used for.  
5 So highest priority in terms of what? Right.

6 So, I feel that -- do you have some clarification  
7 about how you would answer that question? That is, are you  
8 asking people to identify the current best test in each of  
9 those categories? Or are you asking for what would be your  
10 favorite piece of information to be able to collect on a  
11 chemical? Or --

12 CO-CHAIRPERSON GEISER: Meg, with all respects,  
13 could we hold that -- it's a beautiful question, but it's  
14 going to lead into a discussion and it's just already --

15 DR. SCHWARZMAN: I didn't have an opinion is why I  
16 was putting it now. I wanted information.

17 CO-CHAIRPERSON GEISER: Okay, but why don't we  
18 hold it, if I could.

19 DR. SCHWARZMAN: Sure.

20 CO-CHAIRPERSON GEISER: Again, please save it,  
21 because I want to keep the rules open for everybody, that we  
22 basically have a full discussion coming up in a few minutes.  
23 Kelly.

24 DR. MORAN: I just want to understand why you felt  
25 it necessary to define into three tiers and to ask such a

1 complicated questionnaire. It sounded to me from the  
2 earlier presentations like what you really wanted advice on  
3 was what kinds of information should we be recommending you  
4 put in the database. And what indicators are appropriate  
5 for us to be looking for, knowing that we're not going to be  
6 able to get all the information we want on every chemical.

7 And so I actually personally found all this  
8 information exceptionally confusing, partly because I'm a  
9 chemist and the word taxonomy doesn't mean a lot to me.

10 But now that you've clarified a little bit, I'm  
11 still confused about why a request for all this larger  
12 stuff, and why the need for the organization instead of just  
13 asking the two questions.

14 DR. MARTY: Okay. That's an interesting question  
15 in and of itself. You know, if you look at -- this is going  
16 to get into some more discussion area, but --

17 CO-CHAIRPERSON GEISER: Yeah, I --

18 DR. MARTY: -- if you look at the question, you  
19 know, I think I mentioned earlier, this is a very multi-  
20 disciplinary panel, and it's a multi-disciplinary audience  
21 and a multi-disciplinary stakeholders out there.

22 So if you ask a toxicologist what do they think  
23 are the most important hazard traits, you're going to get  
24 probably the field that they work in, the little subfield in  
25 toxicology that they work in that they're going to view as

1 really important. So that is the reason that we're asking  
2 people for input on what those hazard traits should be that  
3 go into it.

4           The other reason is people have a different  
5 viewpoint of how they would use the information, the  
6 clearinghouse, even. And so they might think, well, gosh, I  
7 think it's important to have, you know, this type of  
8 information over here in that clearinghouse.

9           So, it's, right now, very open as to what should  
10 be going in there. At the same time, it's a balance of what  
11 information is actually obtainable and out there.

12           So that is why we're trying to get input through  
13 this questionnaire from a variety of people with really  
14 varied expertise.

15           A chemist, for example, might say, oh, you should  
16 have something about the reactivity of the chemical in  
17 there. Somebody who's in the global warming arena might  
18 say, oh, you need to have the global warming potential in  
19 that.

20           So, you know, that's why we're trying to find out  
21 what do people think is the most important to use to put in  
22 there.

23           CO-CHAIRPERSON GEISER: Dale.

24           DR. JOHNSON: Did you consider -- maybe you did  
25 find it too hard to do, to actually have categories where

1 there wasn't so much overlap. So it's very hard to look at  
2 something and figure out actually what category it actually  
3 falls in, because it would relate to whether there's no  
4 other information that would put it into another category.

5 So it's a little hard to interpret what the  
6 categories actually mean. And then how you would place  
7 something in it. And part of it would be something like  
8 physical chemical properties. And just from your examples,  
9 say, some kind of a mungenicity test.

10 DR. MARTY: Yeah. No, we actually had a lot of  
11 internal debate about that before we came up with the three  
12 relatively broad categories. And physical chemical  
13 properties would likely be in the indicator side of things.

14 Because a physical chemical property, itself, doesn't say  
15 anything about toxicity of that chemical, in and of itself.  
16 But it may indicate persistence, potential for exposure and  
17 even depending on the physical chemical property, it might  
18 indicate reactivity in a biological system.

19 So that, to us, was a, you know, I hate to say, a  
20 lower level or lower layer of hazard trait that might be  
21 useful to have in that clearinghouse.

22 But you are right, it is not very simple. And,  
23 you know, you think of it more rather than be real discrete  
24 layers, more of a webbing with some, you know, higher layers  
25 up on top, the easier stuff to get at up on top.

1           So, carcinogenicity, okay, that's kind of obvious.  
2           It means it causes cancer, either in animals or humans.  
3           But what end points have been measured that might -- that's  
4           the second layer down. So what evidence do you have, what,  
5           you know, is it a liver carcinogen, is it a lung carcinogen.  
6           And then below that would be evidence you have possibly  
7           related to a mechanism everyone's concerned about, mutagens  
8           for example for the end point carcinogenicity.

9           So that's how we were trying to layer it. And you  
10          are absolutely right, there is, you know, you ask any  
11          toxicologist and they're going to argue which layer it  
12          should be in.

13          CO-CHAIRPERSON GEISER: Okay, I'm going to return  
14          this to Tim and that'll be the last.

15          DR. MALLOY: I thought maybe the questions that  
16          they were asking might have overlapped with mine so I  
17          waited. But I think my question, and this really is just  
18          for clarification, what I'm trying to figure out is when you  
19          have -- you're using a taxonomy or a tiered system or  
20          something, if it weights because there's some significant  
21          place in one area versus another.

22          All right, there's a purpose for categorizing  
23          things in the way that you did. And what I'm trying to  
24          figure out is what is the purpose of categorizing things,  
25          not why you put on in this one rather than the other, but

1 kind of like what is it that led you to adopt any kind of  
2 taxonomy at all. Like what value do you perceive coming  
3 from organizing in this way, or what challenges are you  
4 trying to address by organizing in this way? That's what  
5 I'm having trouble figuring out.

6 DR. MARTY: Yeah. Well, I think the first  
7 challenge is what is a hazard trait. And we can debate that  
8 till we're all blue in the face. And some people will say,  
9 well, a log Kow that's high is not a hazard trait. And many  
10 other people would disagree with that.

11 So, the more obvious hazard traits are in the  
12 first layer. And as you go down, you get sort of deeper,  
13 more narrow in terms of what is a hazard trait and how it  
14 reflects on the hazard potential of that chemical. That's  
15 why we're doing that.

16 I mean we could just end up in the end having no  
17 layers, we'll just have this big laundry list of potential  
18 hazard traits, and then hand it to DTSC. Say, here, you  
19 guys do it. So, I mean that is an option. We don't have to  
20 have a layered system.

21 It's only because, you know, there was a bunch of  
22 toxicologists in the room thinking about it, and we tend to  
23 layer it by, you know, how much evidence there is for any  
24 specific adverse health impact.

25 DR. MALLOY: Can I please make a comment?

1 (Parties speaking simultaneously.)

2 CO-CHAIRPERSON GEISER: I'd rather you didn't  
3 carry on with this unless you really -- are you still  
4 confused?

5 DR. MALLOY: Yes, I am, because the question.  
6 That was helpful, but then just like that last part, which  
7 is I get what you're saying about why this one's in a higher  
8 tier and a lower tier, but what is the significance -- in  
9 the framework what would be the significance of somebody  
10 saying it's tier 2 rather than tier 1? Would that have some  
11 substantive significance in terms of how it's treated in the  
12 clearinghouse? Or is this just to help people think about  
13 it?

14 DR. MARTY: It's just to help people think about  
15 it.

16 DR. MALLOY: Okay.

17 DR. MARTY: You know, we're not ready to -- I  
18 think what you're -- another way to put your question is are  
19 we prioritizing mentally what we think is more important.  
20 And we're not there yet.

21 I think, you know, in the room, I think a lot of  
22 people could agree, benzene has a whole bunch of health  
23 importance; that's a pretty important chemical. But, you  
24 know, chemical X over here that we don't know that much  
25 about, but has all these pointers pointing to potentially

1 pretty serious adverse toxicity, where would you put that in  
2 relation to benzene? I don't know.

3 And that's what we're faced with every, you know,  
4 regulators have been frustrated for 25 years now, because we  
5 have this problem all the time.

6 CO-CHAIRPERSON GEISER: Thank you, Melanie, thank  
7 you very much. Maziar has a response, as well.

8 DIRECTOR MOVASSAGHI: Tim, I'm wondering if this  
9 might help a little bit. I believe as we incorporate this  
10 kind of information into the Green Chemistry Initiative,  
11 including the regulatory package, there is a desire from the  
12 elected officials that we make an attempt at least to try to  
13 prioritize chemicals of concern, the products and the hazard  
14 traits so we can have a rolling game plan, as opposed to  
15 potentially coming out of the gates and saying, we're going  
16 to look at a gazillion chemicals, a gazillion products and a  
17 gazillion hazard traits because of all the tradeoffs and  
18 pros and cons that come along with it.

19 So, the same way we're going through a  
20 prioritization process that's called for in AB-1879, I think  
21 the approach that Marty's talking about is an attempt also  
22 to see if we can somehow not prioritize in rank order of  
23 preference, but is there a way to group at least a little  
24 bit in some general approach so when we bring it into the  
25 regulatory structure or even some of the voluntary programs,

1 we know where to get started. This is a big endeavor that  
2 we're getting going.

3 I hope that helps.

4 CO-CHAIRPERSON GEISER: Thank you. All right, so  
5 we have, at this point now, finished with the formal  
6 presentations until tomorrow. We have one more on the  
7 actual from DTSC.

8 At this point, though, before we really open it  
9 up, I think Melanie and others should be prepared for some  
10 really engaging questions --

11 (Laughter.)

12 CO-CHAIRPERSON GEISER: -- even the clarifying  
13 questions were getting very interesting questions. But  
14 before we move to that, we'd like to take a few minutes for  
15 the public comments. And I'm going to turn this over to  
16 Kathy, I believe. Oh, to Cynthia, I'm sorry.

17 So these are comments from the public to the  
18 panel.

19 MS. MILLER: We have 30 minutes carved out for  
20 this time frame for public comments. We have two public  
21 comments, so I don't think that we're going to be taking up  
22 the whole 30 minutes.

23 Both comments come from people who are here in  
24 attendance today. And I just want to let the two of you  
25 know that we will be timing your comment. You have two

1 minutes. And Maya will be holding up a 1 when your time is  
2 halfway done. And then when you've run out of time, she'll  
3 hold up the zero.

4 So the first person commenting is Bob Beck.

5 MR. BECK: Thanks. I'm Bob Beck, Masco  
6 Corporation in Taylor, Michigan. We make a lot of consumer  
7 products. My impression of what we're doing here is, and I  
8 may be wrong about this, but trying to make a website that  
9 will be useful to kind of the everyday consumer, and also be  
10 useful to toxicologists, scientists, manufacturers and so  
11 forth.

12 And my only real comment is that Masco makes a lot  
13 of consumer products. And most of the time we do market  
14 research to find out what the consumers really value.

15 So I would suggest that maybe the DTSC or the  
16 Green Ribbon Science Panel kind of find out what consumers  
17 want to see on this website. Because it seems to me the  
18 intent of the law is to -- got one minute, that's really  
19 good -- the intent of the law is to provide consumers in  
20 California with information that they can act on.

21 So the last part of the comment is all this stuff  
22 that I've heard is great, but from a regular consumer  
23 standpoint, not being a biologist or microbiologist, it's  
24 very confusing.

25 So I think the job of making this thing actionable

1 on the part of a consumer is pretty big and is something  
2 that ought to be thought seriously about.

3 Thank you.

4 CO-CHAIRPERSON GEISER: Thank you, sir. Actually  
5 in your two minutes you said a very important thing to us,  
6 thank you.

7 MS. MILLER: The second commenter is David Smoltz  
8 (phonetic).

9 MR. SMOLTZ: Good afternoon, David Smoltz with  
10 Commonweal and the Change Coalition. Thank you for all the  
11 presentations this morning, very informative.

12 I was struck, though, there seemed to be quite a  
13 difference in vision between what OEHHA imagines for this,  
14 and what DTSC is laying out, at least so far.

15 From our point of view I think it's very important  
16 to be capturing as much information as possible from the  
17 get-go, all the hazard traits, end points of concern to  
18 human health and ecotoxicity right from the beginning.

19 So, of course, authoritative bodies will be  
20 accessed. But we need to go beyond that to other sources of  
21 data that are going to be useful. If we limit ourselves to  
22 authoritative bodies, how are we going to capture, for  
23 example, neurotoxicity or endocrine disruption?

24 There's a lot of sources of data out there that  
25 need to be in this GIC and we need to have some sort of

1 comprehensive capture of peer-review literature. Granted,  
2 you're going to have to take some steps to avoid inclusion  
3 of poor data. But the point now is to think big, put these  
4 things on the table now, because if you don't it seems very  
5 unlikely to me that you're going to go back and put them in  
6 later.

7 Now, with that said, I think it's obvious to  
8 everyone we're not going to be populating all the fields  
9 that we identify right off the bat. And that's just a  
10 resource constraint that we have to accept.

11 But we still need to put those out there, and also  
12 identify where we have data gaps. Just putting stuff in the  
13 TIC of data that we already know is going to miss the  
14 potential to identify where we need more data. I don't  
15 think we're going to be requiring anyone to provide that  
16 right off the bat. Another resource constraint that would  
17 be difficult to fill. But maybe the fact that a data gap is  
18 identified will stimulate some people to go out and fill  
19 that on their own.

20 Similarly the TIC should identify where there's a  
21 negative finding. This would be very important where  
22 companies that are looking for alternatives, or the public  
23 wants to find alternatives that might be safer, can access  
24 the database and see where there is a safer product already  
25 identified.

1           Also we should have ingredients included in this  
2 database for the same reason. How can the public use this  
3 database to protect themselves if they can't find out what's  
4 in products that they might be concerned about.

5           And I know I'm over time, so in conclusion, I  
6 would again say that you should think big and include all  
7 the fields that you can possibly want to have information on  
8 at some point. And as resources become available we can go  
9 back and start to fill in some of the fields.

10           To not include these now would fail to reach the  
11 promise of this legislation, the Green Chemistry Initiative.

12           And I'd also just like to close and ask Director Movassaghi  
13 a question. When you laid out your timeline this morning, I  
14 wonder if you might, at some point this afternoon, let us  
15 know whether in your timeline, at the roll out of these  
16 regulations, if you expect to have a third straw proposal  
17 circulated so you can harvest additional comments? Or  
18 whether the next iteration is actually going to be a draft  
19 regulation? Thanks, again.

20           MS. MILLER: Do we have any other comments from  
21 attendees? All right. We do not have any comments from  
22 folks viewing our webcast.

23           I do want to remind folks that there are -- the  
24 four presentations today are available online. And most of  
25 them are up right now, but one of them will be added

1 tomorrow before noon or so.

2 Also, I'd like to give you the opportunity, since  
3 we are ahead of time in our schedule, to continue this  
4 discussion.

5 CO-CHAIRPERSON GEISER: Thank you, Cynthia. So,  
6 yes, we are ahead of time, both because people were pretty  
7 efficient in getting back from lunch, but also because the  
8 public comment period was shorter.

9 So, here's my suggestion: We have four questions  
10 that are put forward to us by OEHHA that are -- were up on  
11 the screen. If it would be possible to put them back up,  
12 that would be great.

13 This is the part where we get interactive. This  
14 is what we came to do. We've heard some very good  
15 presentations this morning from the staff of the state  
16 agencies. And now -- from now until the close of the day  
17 today, provides us a chance to sort of give feedback on this  
18 set of issues.

19 Let me try to frame this just a little bit. And  
20 that is we have two different agencies, two different  
21 responsibilities here that are collaborative and related to  
22 each other.

23 What we're going to talk about this afternoon is  
24 the OEHHA part of this, which has to do with the hazard  
25 traits and this questionnaire and the points that have been

1 raised there.

2           This has to do with how you think about  
3 constructing what goes into this database. Tomorrow we're  
4 going to be talking -- we're going to hear another  
5 presentation on the actual structure of the database. And  
6 there the questions having to do with the audience and how  
7 accessible this is going to be and how structured it is,  
8 such that you can get at it, and how this information is  
9 actually going to be plugged in in a way that can really be  
10 useful.

11           These are two separate things. But, in fact, they  
12 sort of bleed into each other. So it's a little hard to  
13 discuss them in such discrete ways. But let us try to stay  
14 with the agency that we're trying to give advice to, OEHHA,  
15 at this point on the hazard trait area of work.

16           Now, my suggestion in regards to timing is we have  
17 four questions. The first question really has to do with  
18 the hazard traits and with this framework that has been put  
19 forward.

20           I would suggest that we spend the next hour,  
21 before the break, on that question alone. And then come  
22 back after the break to talk about the questionnaire and  
23 what our priorities are.

24           Does that make sense to people? I think it does.  
25 I also know that we've sort of put various people on hold,

1 George, Dele, Meg, you've all had really good questions and  
2 I apologize for those of us who organized the actual  
3 presentation. We tried to make a little, quick little area  
4 for clarifying questions. And it was clear we want to get  
5 at these real issues.

6 So, please, the three of you that we asked to  
7 hold, get your questions back in here so that we can really  
8 engage them, as well.

9 So, from here on let us talk about this framework,  
10 this idea of defining hazard traits with these three  
11 different categories. Does this make sense; is this the  
12 right way to do it? We've heard questions about even why  
13 you even have different categories. And so all of that go  
14 on the table now. Let's try to give the staff the best that  
15 we can at this point.

16 And -- pardon?

17 DR. BLAKE: I think Dele was a split second ahead  
18 of us --

19 CO-CHAIRPERSON GEISER: Oh, okay. All right. So  
20 we'll start with Dele. Dele. Or Ann. Okay, Ann.

21 DR. BLAKE: All right, so I've been sitting on my  
22 hands for most of the morning trying to figure out how to  
23 structure this, because I think a lot of these -- I may or  
24 may not stick to this, you know, answering question one,  
25 because I think they all sort of flow together.

1 (Laughter.)

2 DR. BLAKE: Go ahead, you can use your chop block  
3 if you wish, Ken.

4 CO-CHAIRPERSON GEISER: It's a rambunctious crew.

5 DR. BLAKE: So having built something similar to  
6 this under the health criteria for -- a lot of the questions  
7 that have come up today have been, you know, ones that we  
8 struggled with for awhile.

9 And, Melanie, I don't know if this helps, but we  
10 called it an ontology, but we found the same kind of  
11 complication, that people respond to the word ontology the  
12 same way that people responded this morning to the word  
13 taxonomy. So I don't know if that's a particularly helpful  
14 piece of information, but that's how we thought about it.

15 So, the idea being, you know, that these are the  
16 kinds of questions you ask, just in the list, what are the  
17 criteria you need underneath, what are the data sources.

18 What I've been struggling with a little bit is the  
19 scope of this, because I think Meg commented on this  
20 earlier, but part of the decision of what you put in depends  
21 on who your intended audience is.

22 And response to Bob Beck's question, we build a  
23 structure that, you know, were intended originally for  
24 consumers, but we wanted to use the same data to be  
25 filterable by somebody else, like an upstream retailer, a

1 manufacturer or potentially a small formulator using that  
2 information. And we're looking at the same data sources you  
3 are, the same kinds of hazard traits in our ontology/  
4 taxonomy that you are.

5 And I will tell you that who your intended  
6 audience is, is going to change very much, the data you  
7 choose, the priorities that you put in. So this answer to  
8 the question of what are the highest priority general human  
9 health toxicity and environmental toxicity very much depends  
10 on who's asking the question.

11 And consumers don't really want the kind of detail  
12 that we've been talking about this morning. They say, give  
13 me an iPhone app, and we have one, that tells me what to  
14 buy. Just roll the information up. And, yes, you need that  
15 information underneath it and all those clear criteria, but  
16 they really don't want to know that level of detail.

17 So what it looks like you're building is really  
18 something for somebody -- for this group, that we would use  
19 to research products. So that we can -- or products and  
20 ingredients and hazards so that we can make decisions about  
21 them.

22 Let's see. I would also echo Davis' point about  
23 data gaps. That if we can put in place as we're putting  
24 criteria not because we know that there's data available,  
25 but because these are the things we would like to have. Our

1 experience in environmentally preferable purchasing for  
2 institutional purchases has been if you pose the question  
3 the data gets generated. So that's an important thing to  
4 think about in terms of a hazard trait that you would  
5 include.

6 And I will -- that wasn't question one at all, so  
7 there we go.

8 (Laughter.)

9 DR. WILSON: Well, we waited till the afternoon.

10 DR. BLAKE: We did try.

11 DR. OGUNSEITAN: Thank you. I do think that the,  
12 I prefer to call them categories, hazard trait categories,  
13 are clear. And in response to maybe a follow up to Tim's  
14 question about why, what is the point of this, the best I  
15 can think is that it helps to organize the data.

16 A general public, someone looking at this, the  
17 general types of -- the fourth category should be meaningful  
18 to everybody who's just interested in what are the health  
19 impacts, what kind of ecological effects should I be  
20 concerned about. Am I likely to be exposed to the hazard.

21 And as you go down the categories then it becomes  
22 more refined. It comes to what evidence we have to generate  
23 this fourth category. What evidence we have about human  
24 health toxicity.

25 If it's just carcinogenesis then what kind of

1 cancer is it, and what kinds of evidence associated with  
2 that.

3 My main issue, though, is with the last category  
4 here. And I wanted to ask if you thought of separating this  
5 into two. In the definition of what an indicator is you use  
6 the word predictor. And in the following sentence on this  
7 handout you said some indicators may predict. So this are  
8 two different things. The kinds of data that we use to  
9 predict are different from what one might consider an  
10 indicator. And I just want us to have a discussion on  
11 whether this would be useful to have those two separate  
12 categories.

13 CO-CHAIRPERSON GEISER: Yeah, can you give an  
14 example of what you mean as to the difference between an  
15 indicator and a predictor?

16 DR. OGUNSEITAN: Well, in some cases indicators  
17 may predict specific toxicological environmental end points,  
18 or exposure of potential, but are not -- are more commonly  
19 used for general predictions.

20 So a chemical may be strongly positive as an in  
21 vitro general toxicity -- indicating potential to cause  
22 cancer, but it's not -- the site is not able to predict that  
23 cancer.

24 So there is an indication through the general  
25 toxicity animal studies, but it doesn't predict that there

1 will be a hazard.

2 CO-CHAIRPERSON GEISER: Jordan. Wait, -- yes, do  
3 you want to respond?

4 MS. ZEISE: So, at that point I think what we're  
5 saying --

6 MS. SPEAKER: Lauren Zeise.

7 MS. ZEISE: Lauren Zeise at OEHHA. Okay. And I  
8 think with that point what we're saying is that you might  
9 not necessarily know the type of cancer that might be  
10 caused, but you might have something like a structure that's  
11 very similar to a same structure as a carcinogen.

12 So it gives you an idea of carcinogenicity, but  
13 you might not know the specific site. Does that make sense?

14 DR. OGUNSEITAN: Well, it does, but --

15 (Parties speaking simultaneously.)

16 MS. ZEISE: So it predicts at the higher category,  
17 not the end point category. Anyway, with the clarification  
18 it still --

19 (Parties speaking simultaneously.)

20 DR. OGUNSEITAN: Yeah, I think not all indicators  
21 seem to me to predict what would happen if you were exposed.

22 But --

23 MS. ZEISE: I think it's safe to say that some are  
24 better predictors than others.

25 DR. OGUNSEITAN: All right.

1 MS. ZEISE: So, just a follow up. I think just to  
2 add an additional point regarding the question about  
3 priority, I mean what would be good to perhaps focus on are  
4 those indicators that are more predictive than others.

5 Over time you might find that a certain type of  
6 tenotoxicity test actually doesn't predict genotoxicity. So  
7 we wouldn't want to necessarily include that in the  
8 database.

9 CO-CHAIRPERSON GEISER: George.

10 DR. DASTON: I'm going to do my level best to  
11 stick with question one here. I do want to have time, I  
12 guess it's tomorrow morning that we're going to talk about  
13 who this is for, structure and all that.

14 I guess in terms of the taxonomy or the ontology  
15 or whatever we want to call it kind of thing, I mean I  
16 looked at it in a different way, which was I looked at the  
17 highest order category one kind of stuff as these are the  
18 kinds of health effects or environmental effects that one  
19 might reasonably presume could have an environmental  
20 component to their cause.

21 And so, you know, you're going to have  
22 carcinogenicity and developmental toxicity and all that kind  
23 of thing. And you want to make sure that you got all those  
24 large categories because you want to make sure you've  
25 covered the waterfront.

1           And then category two I see as further parsing  
2 category one into what are the manifestations of  
3 carcinogenicity or developmental toxicity or environmental  
4 toxicity. You know, how are those things actually  
5 manifested as disease states or environmental dysfunction or  
6 whatever in ways that people measure, either in populations  
7 or in laboratory studies. And I'm okay with that, too,  
8 because that makes sense.

9           And then the third category, I think, just goes  
10 way off in a different direction. And it's not that it's  
11 bad stuff, but it just doesn't follow from a taxonomy of,  
12 you know, phylum class orders, species. It's very different  
13 information.

14           So when I start thinking about the category one  
15 information and the category two information, what leads one  
16 to put a chemical or the information about a chemical hazard  
17 into the category one or category two is almost a settled  
18 science kind of question.

19           So, there has been some sort of testing or  
20 analysis or expert peer review done such that somebody  
21 somewhere has concluded that compound X is an aquatic  
22 toxicant, or compound X is a liver toxin or something like  
23 that.

24           Whereas category three, I think, are a very  
25 different set of information. And of all kinds of different

1 value. But that don't necessarily lead one. So it might be  
2 just raw building blocks, some of which could lead you to  
3 putting something into category two. And some of which  
4 don't.

5           And I think that it's a real problem trying to  
6 figure out what to do with that information. My preference,  
7 honestly, would be to acknowledge that there's all kinds of  
8 information that gets you to a conclusion that something  
9 belongs in category two, but that it's not part of the  
10 hazard hierarchy.

11           You know, because I just see it as something that  
12 is going to be not necessarily useful in the purpose of  
13 informing especially the public about particular hazards,  
14 but also contentious even for the scientific community  
15 because you're going to have to come up with all sorts of  
16 guidance as to, you know, how each of those building blocks  
17 does or does not lead you to a particular conclusion. Or  
18 how to add them together.

19           And I think the difficulty that I have in putting  
20 that guidance together is not in putting the guidance  
21 together, but the context in which the information will be  
22 used.

23           So one would make a very different -- might draw a  
24 very different conclusion or take a very different action  
25 depending on how one was going to use the information, as to

1 whether one was going to put it into one of those categories  
2 and conclude that compound X was a developmental toxicant,  
3 or whether you were just going to use the information for  
4 prioritization or hypothesis generation about the particular  
5 chemical.

6 So that, to me, is where I started to worry about  
7 this being -- this taxonomy being something that looked like  
8 a pyramid where each succeeding layer supported the layer  
9 above. I think it falls apart there.

10 Not that it's bad information, not that you don't  
11 want to collect it, but you want to separate it out and call  
12 it something else.

13 DR. MARTY: I don't think we had intended to use  
14 indicators and make a statement that a chemical fall into  
15 one of these categories, but rather than to give -- it's  
16 like a little flag that it should be looked at more.

17 So, I mean one example could be if it has a high  
18 Kow it might be biocumulative. But if it used in a process  
19 loop that's closed and never gets out there, you know, it's  
20 not going to bioaccumulate if it never gets out there. So  
21 that's one example.

22 Or if something is mutagenic in a couple of Ames  
23 tests, it does not therefore mean it is going to be a  
24 carcinogen, much less a carcinogen in a specific target  
25 area.

1           So I figure we're trying to say, oh, we're going  
2 to use these things down here to put it into some category  
3 in the higher tiers or higher levels or layers; I figure  
4 we're doing that. Just trying to get a place to pull  
5 together other information about the chemical that may be  
6 relevant to deciding whether a product manufacturer wants to  
7 use it or not. You know, my guess is a product manufacturer  
8 is not going to want to use something with a really high Kow  
9 that they don't know much about.

10           MS. ZEISE: I guess I also had just a question  
11 back to George about what he meant by the category two  
12 manifestations. Because a lot of times much of the data we  
13 have come from animals. And for most of the icities they  
14 might not predict the exact and same end point in humans,  
15 but they may predict the same icity.

16           So in a way they are predictive of the other major  
17 categories, but without evidence from epidemiology you don't  
18 know what the specific end point would be in humans.

19           So I'm wondering how you see that playing out in  
20 terms of putting information into what you would advise  
21 regarding that category two piece and how to describe it.

22           DR. DASTON: I guess how I'm looking at category  
23 two is it's information -- well, first of all, you know,  
24 it's a more granular explanation of what's in category one  
25 in terms of, you know, what do we mean by developmental

1 toxicity. Well, we mean four things, you know,  
2 malformations and miscarriage and growth retardation and  
3 functional deficit.

4 And it's just, in that sense, a way to make sure  
5 that you've covered all of the relevant information that  
6 might lead you to conclude something is a developmental  
7 toxicant.

8 The other aspect of it, coming from the direction  
9 of how do we determine whether something is producing one or  
10 more of those manifestations, is more or less a matter of,  
11 if not settled science, something on which we have a great  
12 deal of consensus as to how we would categorize something as  
13 being a developmental toxicant, in an animal study or in an  
14 epidemiology study what level of evidence would allow one  
15 to, you know, conclude, oh, this agent causes malformations  
16 or something like that.

17 You know, so I look at that category in that way.  
18 As being basically an integrator of a great deal of  
19 scientific discussion and eventually consensus on what type  
20 of information would lead you to be able to draw a  
21 conclusion for putting a hazard into that category.

22 CO-CHAIRPERSON GEISER: Is that -- can we move on?  
23 Meg.

24 DR. SCHWARZMAN: I'm not at all sure I'm going to  
25 ask the same question I was asking --

1 CO-CHAIRPERSON GEISER: Maybe louder?

2 DR. SCHWARZMAN: I feel like I'm hearing almost  
3 two parallel processes in action, one of which is OEHHA's  
4 effort to determine what end points would be useful, and  
5 which are currently acceptable with science, and which  
6 should be developed further, and how we can start using the  
7 information.

8 And that seems to me about sort of titling the  
9 columns into which information goes in a toxics information  
10 clearinghouse. And that's one whole set of scientific  
11 questions.

12 And the other thing that I'm hearing is Maziar  
13 saying I need a way to prioritize chemicals of concern.

14 And I almost feel like these two should not  
15 intersect. That when we're looking at designing and  
16 populating a toxics information clearinghouse, that should  
17 not contain a prioritization scheme. And it shouldn't  
18 involve a prioritization process. That we should be  
19 discussing how to best design and create a true  
20 clearinghouse for information.

21 And there are more ways to use that information  
22 than there are people in this room. And more different  
23 kinds of uses to put to it.

24 So when I think about what purpose California's  
25 work could serve to the wider world, and to California, it's

1 to create something very robust and that brings information  
2 into a common place that is usable by many. Not to  
3 predetermine its application.

4 And anytime we start thinking about prioritization  
5 schemes, we're already predetermining how we're going to use  
6 the information.

7 And so my sense is that we not -- we shouldn't  
8 think too far about well, what is a consumer going to be  
9 able to tell, based on, you know, which kind of genotox  
10 measures are included in the TIC that is really valid to  
11 have discussions about, what kind of measures of toxicity  
12 are helpful.

13 California creates this very robust toxics  
14 information clearinghouse and there becomes a tremendous  
15 resource for many people to put interpretative lenses on.  
16 And many people can design user interfaces and tools for  
17 interpreting the data that's in the clearinghouse for  
18 various purposes. For product designers, for people buying  
19 baby shampoo, and everything in between.

20 And to mix design of the database with the  
21 prioritization scheme from pulling information out of it, I  
22 just get really tangled in my head when I'm trying to think  
23 of those two things at once.

24 So, my sense is that we should keep the, you know,  
25 with always having in mind, well, what role is this data to

1 serve in the world in any way. We keep that in mind because  
2 that's the reason we're here. But the point is, how do you  
3 build a really robust collection of information.

4           And I think this was the origin of my question  
5 this morning, too, which is how do we -- where does the  
6 information clearinghouse that was described this morning  
7 that looks like a portal into all the tox data that's  
8 available on the internet, where does that mesh with the  
9 toxics information clearinghouse that we read about as the  
10 recipient for information companies submit under various  
11 requirements of AB-1879.

12           So I feel like in some ways there's these sort of  
13 parallel processes, one happening at OEHHA and one happening  
14 in the Department of Toxicity, and they really do come around  
15 to a common place. But we could keep those efforts -- the  
16 point of those efforts clear, or we lose track of what we're  
17 putting into them.

18           Did I end up with a question? That takes me to  
19 the category -- so I guess where that takes me is the  
20 categories that Melanie described, to me, following up on  
21 Tim's question, why have an organizational scheme. What is  
22 that trying to portray? That it was a useful answer to me.

23           It's just trying to help people think about the kind of  
24 evidence, the kind of information that's in the  
25 clearinghouse.

1           So there's three categories of information that  
2 could go into the clearinghouse. And it's a way of  
3 organizing our thoughts not putting any hierarchy on them in  
4 terms of value.

5           So there's three categories of information. Now  
6 what are all the ways of gathering that information? So  
7 there's various ways of gathering the information that is  
8 represented by category one, et cetera.

9           But then it hung me up a little bit when Maziar  
10 said, well, we're looking for these categories because we  
11 need to make priority-setting decisions.

12           So I guess I could use a little clarification that  
13 are we to be thinking of these categories of hazard traits  
14 like organizational structure, because that's what kind of  
15 information that's available, rather than the value or  
16 interpretation in terms of prior --

17           CO-CHAIRPERSON GEISER: Maziar, do you want to try  
18 to answer that?

19           DIRECTOR MOVASSAGHI: I'm trying to follow Megan's  
20 thinking here. What I was trying to clarify was being a  
21 little bit tea-leaf reader for Tim, in saying that at some  
22 point -- and maybe I could be delightfully surprised that  
23 this question doesn't come about, but at some point when we  
24 sit down and look at the information that's being collected  
25 and proposed, -- and I do hear the members of the public and

1 members of the panel that talk about, you know, looking at  
2 the big picture, not getting lost by looking at a very small  
3 lens.

4           When you look at a big picture, and when you want  
5 to implement that big picture, at some point there's got to  
6 be some rationale in thinking that we want to look at all  
7 these issues, but we're going to take A, B or C, or 1, 2 or  
8 3, or whatever it is, and say we're going to look at these  
9 first to just get the ball rolling.

10           And maybe we'll be surprised and folks won't ask  
11 us that question. Say just populate the clearinghouse.  
12 Let's start generating the data. Let's see how the data  
13 gets built and where the gaps are, and that might lead us  
14 into that question in some way. You know, to Ann's point,  
15 you know, ask the question, then hopefully the data will  
16 come.

17           But I don't view the prioritization that's  
18 necessarily going to happen for 1879 as only being tied to  
19 this issue. It's probably a data stream that comes into  
20 this process, but it's not going to be the only one.

21           But there are some thinkings that will be similar.  
22           And I guess -- you know, I'm being asked those questions a  
23 lot, so I was wondering whether Melanie is being asked those  
24 questions, as well.

25           DR. MARTY: Oh, yeah, I think Meg's point about

1 keeping the prioritization separate from building  
2 information database I think is fine. And that's kind of  
3 how we are proceeding.

4 But, you know, the practical matter is at some  
5 point DTSC is going to have to start taking regulatory  
6 action on chemicals. They're going to have to have some  
7 way. It can't handle 82,000 chemicals in 5 billion products  
8 all at the same time. There is going to have to be some way  
9 to prioritize it.

10 And whether they turn to the information  
11 clearinghouse to look and see, okay, let's pull out all the  
12 developmental toxicants and let's start there, because we're  
13 concerned about kids. Then that is one thing that they  
14 could do with that database.

15 But it doesn't mean that, you know, we would like  
16 limit what goes into it because we're concerned more about  
17 developmental toxicants than carcinogens or something like  
18 that. We're not really looking at it that way.

19 Hopefully it will be useful to DTSC for their  
20 prioritization, because we'll have information there on the  
21 chemicals that -- and the other thing that comes into  
22 prioritization is how much of which chemicals are they  
23 talking about. Is it something that's, you know,  
24 manufactured in 10,000 pounds per year, or 10 billion pounds  
25 per year. And that piece of information also has to come

1 into their decision to go after which chemicals first.

2 CO-CHAIRPERSON GEISER: Dale, I think you're next  
3 here.

4 DR. JOHNSON: Yeah, I'm getting a little confused.  
5 And I think possibly we have to circle back to, you know,  
6 what is the objective of the clearinghouse.

7 Number one, if it's, in fact, a source of data  
8 that's renewed on a, you know, on a reasonable basis so you  
9 have the latest information and everything else, and it  
10 exists in a way that people can access it, that's one  
11 particular -- and I think that's what the goal was  
12 originally. And maybe I'm wrong on that.

13 But then there's this concept of the number of  
14 groups that become users of the clearinghouse. And if there  
15 is a wide variety of users, and we heard this from some of  
16 the public comments, a wide variety of users, so there's the  
17 general public all the way to scientists and regulatory  
18 action groups, then I think if that's actually the, you  
19 know, the whole objective of using the clearinghouse, as  
20 itself, then I think you have to have some kind of a  
21 validation from the different user groups.

22 So I think the panel here suggests, gives comments  
23 on what the clearinghouse should be. The clearinghouse is  
24 then published at a certain period of time.

25 But then there has to be some validation that

1 users can actually use it, if there's a mandate that users  
2 are supposed to use that particular data.

3 Then there's the question of does the  
4 clearinghouse exist as a data source, a really good data  
5 source, categorized in various ways. And then somebody else  
6 has to put together the tools and the application for the  
7 various user groups to use it.

8 So, for instance, that would be the public using  
9 it -- I mean the example of good guy would be one of those  
10 examples for the public.

11 So what I'd like to do is just circle back a  
12 minute and say, just to get a clearer understanding of what  
13 the objective is and where you see this thing when it's  
14 rolled up. Because, you know, it's difficult to sit and try  
15 to assess that without understanding that. Because I think  
16 there's a lot of different ways you can do this.

17 CO-CHAIRPERSON GEISER: Do you want to try to say  
18 what you think it is? We're here to provide advice, not  
19 necessarily questions. So can you say something about what  
20 you think ought to be done?

21 DR. JOHNSON: Yeah, in my own opinion, this is  
22 what I always kind of thought it was, is a very rich source  
23 of data that is categorized in a way that people can use it.  
24 Not categorized in making judgments as to how valid certain  
25 pieces of data are. But allowing the user to go in and look

1 at the data, understand how to either validate it, do a  
2 scientific inquiry or understand it from who's ever trying  
3 to use it.

4 I always thought that there would be the necessity  
5 of having tools that would be useful to apply to different  
6 user groups. And the certainly manufacturers or people that  
7 manufacture products don't manufacture the chemicals, but  
8 manufacture products, and then deal with very limited kind  
9 of information, have to be able to use it in a different way  
10 than a toxicologist viewing things from a scientific basis.

11 So I always thought of this as a series of tools  
12 that people could use. And those tools would tie back into  
13 the correct kind of use of the data that's in there.

14 Now, I don't think that's part of the objective of  
15 the clearinghouse, but I see that as a way that this thing  
16 would be done.

17 So if that's not the case, I'd love to hear a  
18 little bit more about that. Somebody else's opinion.

19 CO-CHAIRPERSON GEISER: But your comments and  
20 Meg's are both, if I understand it, sort of like build a  
21 library that can be used by many different users for many  
22 different purposes. And then Maziar's comment that one of  
23 the purposes is to help set priorities is one of those  
24 purposes.

25 DR. JOHNSON: Yeah, and then every user that's

1 using it would have a great deal of confidence in the data  
2 that's in there and how it's being, as George mentioned, how  
3 -- was it George or -- how it's being curated.

4 Understand the quality of the data, what's in  
5 there. And then develop a way, and then use it.

6 DR. CARROLL: Thank you, Ken. Going back just to  
7 question one, and I want to say that at some point or  
8 another I want to make some comments about overall the  
9 things that we've heard. But I'm just going to restrict  
10 this comment to question one.

11 In terms of the types of information, I see three  
12 types of information, but they're not exactly the types that  
13 you mentioned.

14 First, I see things that I would call frank  
15 effects, whether they are ecological or health effects. And  
16 your category two sort of becomes a category 1-A to me,  
17 wherein you have carcinogenicity and you have a zillion  
18 different kinds of those. That if you check the box for  
19 carcinogenicity, that can't happen without having examined  
20 at least something of what organ that came in, and what  
21 animal it was done in. And so you have, you know, more  
22 information that needs to go in that.

23 So, I would see category one as being frank  
24 effects and all the sub-effects that go along with that.

25 Category two, I'll use your term indicators. But

1 at least what I think I'm hearing is that these are tests  
2 that are not directly frank effects, but they are tests that  
3 you can measure in some other way. Or they are structural  
4 predictive kinds of things. For example, QSAR or read-  
5 across or other indications that might tell you something  
6 about the different chemical.

7 The third thing that I see I would call physical  
8 chemical properties, because that's the way I look at  
9 persistence and bioaccumulation and Kow and things of this  
10 variety. I see them less as health effects and more  
11 physical chemical properties that are really not desperately  
12 dependent on causing some kind of harm.

13 Now, all those are perhaps worth gathering. And  
14 it doesn't bother me very much that you would attempt to  
15 collect all those things. Where I start to sweat is in  
16 listening to the discussion about how you're going to  
17 capture all of this from all the different databases and put  
18 it all in one place so that it's all nicely packaged up and  
19 curated. But I'll talk a little bit more about that later.

20 Thank you.

21 CO-CHAIRPERSON GEISER: Maziar.

22 DIRECTOR MOVASSAGHI: Let me clarify a little bit  
23 to Dale's point and some of the issues that's been raised.

24 My point wasn't that this database is intended to  
25 prioritize. That's not the intent of the database. I'm

1 actually looking at the language of the bill and it is this  
2 repository information, this concept of creating a  
3 clearinghouse to evaluate and specific hazard traits and  
4 environmental and toxicological end points, and any other  
5 relevant data that are to be included in the clearinghouse.

6 My point was, I guess I'm drawing on my experience  
7 on having created databases around natural resource  
8 programs, and we spent \$6.5 million in this state coming up  
9 with a database related to wetland. And we focused on the  
10 bird species, aquatic quality. But at the same time the  
11 science was getting to the point that we realized the health  
12 of a wetland was dependent on information and health from  
13 the watershed.

14 Well, the watershed data was built by someone  
15 else, different program, different columns and rows. And  
16 then we have to spend another 5 million to put these two  
17 databases together.

18 So I was just asking that in addition to thinking  
19 about what are those column settings, other than typical  
20 toxicological end points, are there other columns? Is there  
21 a super -- or something else that we also need to add to  
22 this library so you can go to it and do research. You can  
23 go to it and get consumer information. And you can go to it  
24 and cobble a bunch of information together to figure out  
25 where you're going.

1           So, it's not intended to be prioritization, but  
2 are toxicological end points it? And if they're it, you  
3 know, that would be a good answer and we will be able to  
4 move forward.

5           Maybe there's other information that we should  
6 think about at least building around the infrastructure or  
7 building nodes and placeholders that in the future won't be  
8 so expensive and time consuming to expand.

9           So, I hope that helps.

10          CO-CHAIRPERSON GEISER: It's almost like there's  
11 -- the word application has got its own thing, but it's  
12 applied to this, this library with various applications.  
13 Debbie.

14          CO-CHAIRPERSON RAPHAEL: So getting back to  
15 question one, again. You notice the discipline of the  
16 chairs.

17          (Laughter.)

18          CO-CHAIRPERSON RAPHAEL: So it seems, as I'm  
19 listening and I'm thinking about my own use and the work  
20 that I do professionally, I think you're actually getting a  
21 lot of validation for your approach. That's what I'm  
22 hearing.

23           And I just want to say that while beauty is in the  
24 eye of the beholder, value is in the eye of the user. And  
25 so I was very glad to hear that you're talking about

1 including these without value.

2           Because so, for example, in my world when we're  
3 doing alternatives assessment, we're interested in  
4 persistent or interested in bioaccumulation, and there is no  
5 data, but we want that as a criteria across which we're  
6 evaluating alternatives, we use Kow as an indicator.  
7 Because that's all we've got.

8           And so we're really trying to avoid regrettable  
9 substitutions in an imperfect world. I mean that's the  
10 user, that's my value. So I need -- if I don't have  
11 bioaccumulation, I need Kow, or I've got nothing. And then  
12 I have great insecurity as a user and a selector of an  
13 alternative.

14           And when I think about the real key reason to do  
15 this clearinghouse, I see it as a way of supporting this  
16 lovely thing called alternatives assessment. I mean really  
17 that's what 1879 is about. And to me that's what the  
18 resource is missing out there, to help that process happen  
19 in a meaningful way.

20           And those of us who do alternatives assessment  
21 know that we are in an imperfect world. And I know you know  
22 that deeply. So I'm just supporting.

23           And if, to George's point, that tier three or  
24 category three is not as universally accepted, that's fine.  
25 It still needs to be there for those of us who are using

1 this for particular applications.

2 CO-CHAIRPERSON GEISER: Kelly.

3 DR. MORAN: Thank you. And I want to support some  
4 of the other comments here. Particularly, I think is  
5 important in thinking about what this whole -- how do we  
6 make, whatever, the taxonomy or whatever you're going to  
7 call it, is thinking about what's the ultimate purpose of  
8 the database and coming back around to that.

9 And I think what Debbie just said about the most  
10 fundamental purpose of this data set, this data warehouse  
11 that's being assembled, is to make sure the information  
12 that's necessary to conduct alternatives assessment is going  
13 to be available in some fashion.

14 And so when I'm looking at the structuring of  
15 that, it actually makes me nervous because different kinds  
16 of end points will require different kinds of data. I mean  
17 I don't see any tiering whatsoever. You have to have  
18 chemical properties, you have to have some basic  
19 environmental data, which I didn't see mentioned at all.  
20 Those are just essential or you can't understand what's  
21 going on with the alternatives if you have to do any kind of  
22 environmental hazard assessment or risk assessment  
23 calculation.

24 And the tiering, I'm recognizing that the reason  
25 that doesn't make sense to me is that if you're thinking

1 about human health, then you're thinking about that. If  
2 you're thinking about ecological end points, so all of the  
3 aquatic toxicity -- I work in the aquatic toxicity world  
4 largely -- and there there aren't layering. It's a toxic --  
5 species.

6           So in structuring this I guess I'd advise you to  
7 step back and think a little bit about -- focus more of your  
8 energy on what needs to be here, what information is  
9 necessary to do alternatives assessment, what might be  
10 necessary in the future. And make sure that we have a  
11 placeholder in the database that we create for all those  
12 various things, even if we can't populate some of those end  
13 points right now.

14           And then I would completely separate out the  
15 indicators part, because I see that as a different set of  
16 decision-making that hard data available to characterize  
17 things. There's another layer you're putting on top of  
18 there when you're saying such-and-such is an indicator for  
19 this. That is a judgment.

20           And, in fact, there are lots of people all over  
21 the place struggling as to what, you know, there are things  
22 we use everyday as indicators. Debbie just mentioned a set  
23 of things that is commonly used as an approach to  
24 bioaccumulation.

25           So that is true, but that, in itself, is a

1 methodology or decision. That's separate from do we collect  
2 the data.

3           And that whole thing about indicators, I think  
4 ultimately is an important piece of prioritization for what  
5 data are we going to require or try to get voluntarily out  
6 of chemical manufacturers. And that's a question that  
7 actually is being discussed at great length about pesticides  
8 right now at EPA Headquarters. So they're saying what is it  
9 that we really need to understand the pesticide and what are  
10 our priorities for data collection.

11           We're asking the same question here. I do not see  
12 that as being fundamental to this database. But I do see it  
13 as being fundamental to the overall direction of where the  
14 green chemistry work goes.

15           So I guess I'll just leave that there.

16           CO-CHAIRPERSON GEISER: Thank you, Kelly. Anne.

17           DR. WALLIN: I'm going to rethink a little bit of  
18 what is, in light of what Meg said. And I think that's a  
19 really good point. If the clearinghouse is really just  
20 meant to be an enormous repository of data upon which you  
21 put different applications depending on who the audience is,  
22 that's really important.

23           Which gets me to the question I was going to ask  
24 you. And that is the one that's missing from the  
25 questionnaire. Is this taxonomy helpful or valuable? And I

1 would suggest actually you don't need to ask that question.

2           And the question you ought to take off is the one  
3 about the taxonomy. Because I don't think the taxonomy,  
4 other than to explain to the people filling out this  
5 questionnaire, that takes the information and pieces of data  
6 you want to collect, I don't think it serves a lot of value.

7           And I am a little bit confused between what you  
8 all are doing in this parallel effort at DTSC, and how these  
9 two things are going to come together. Because surely it is  
10 out of all of those existing compilations of a lot of this  
11 data that you're going to somehow construct this enormous  
12 repository. And how that's going to happen, and the link  
13 between those two, I don't know.

14           And to what extent experts who fill out this  
15 questionnaire might look at those existing portals of  
16 information and say, yeah, but this is the sort of  
17 information that's not captured in ACToR or OECD or any of  
18 the other big repositories of information.

19           And then my final comment, which is not related to  
20 question one, and I apologize, is that I am very encouraged  
21 to see some sort of information to give people an indication  
22 around exposure, potential and exposure indicators. Because  
23 I do think that that's critical information that people are  
24 going to want to be able to use. And so your broad view of  
25 hazard traits I would encourage and applaud.

1 CO-CHAIRPERSON GEISER: Mike.

2 DR. WILSON: It seems to me in sort of listening  
3 to the panel talk about this, is this sort of two-step  
4 process where OEHHA builds a library clearinghouse that  
5 could then be used by various different user groups, sort of  
6 as Dale described and others. And that OEHHA could then  
7 also use in giving advice on setting priorities to DTSC.  
8 But the information base, itself, would sort of stand alone.

9 And I guess my question is if in looking at this  
10 question one that you pose is I'm really interested in this  
11 database, including an assessment of the nature of the gaps  
12 in information.

13 And that requires that there be this sort of a  
14 priori determination of what information you're looking for  
15 for each substance, and whether that information piece has  
16 been satisfied or not versus just sort compiling really  
17 random information into a giant box.

18 So I'm asking, is there a -- do you have a  
19 decision-making process that you're contemplating about the,  
20 you know, the specific metrics that you're using for -- that  
21 you're using. And does the substance meet any one of those  
22 metrics.

23 So, you know, an example would be a measure of  
24 environmental persistence. So in OEHHA's determination the  
25 best measure of environmental persistence is this measure of

1 the -- and a water coefficient, for example.

2           And we made this -- in looking at these 10,000  
3 substances here's the 6000 that meet that measure; here's  
4 4000 that failed in that measure.

5           Is that the process that you're moving along?

6           DR. MARTY: I would say yes and no.

7           DR. WILSON: Okay, good.

8           DR. MARTY: Nice clear answer. We are well aware  
9 that there are huge data gaps, including -- toxicity. And  
10 what we're trying to do is figure out what hazard traits  
11 should be in there. If there's a big blank for a specific  
12 hazard trait you should be able to see that in how the  
13 database is constructed by DTSC.

14           So in talking with Su and crew, they are  
15 interested in how do we show these data gaps. If you look  
16 at some of the databases they'll have like carcinogenicity,  
17 no data. Something like that. So, you know, we are  
18 encouraging DTSC to do that, so that you can see.

19           You will see the many many chemicals, you know, if  
20 you have a little matrix most of the fields that are blank.

21           And I think that's really important for everybody to know.

22           DR. WILSON: If I could follow that quickly. I  
23 guess my question then is that if your example, so a measure  
24 of carcinogenicity, are you developing a set of criteria  
25 that you would then determine whether it has met that

1 metric. Is it one test, two tests, or is it a  
2 comprehensive, you know what I'm saying, --

3 DR. MARTY: Yeah, --

4 DR. WILSON: -- comprehensive carcinogenicity  
5 panel, for example.

6 DR. MARTY: Right. Well, think of it a little bit  
7 this way. So you have the category of category one,  
8 carcinogenicity.

9 DR. WILSON: Right.

10 DR. MARTY: Then you click on that and you can go  
11 down and see what are the end points that have been  
12 measured. And then you could go down another layer, are  
13 there any mutagenicity assays, are there any other assays,  
14 for example, for DNA -- that might influence your thinking  
15 about it, -- genetic mechanisms.

16 So, you know, a deep layer, if you want to go  
17 there, should be available. But, you know, --

18 DR. WILSON: Yeah.

19 DR. MARTY: And then if there's blanks in all of  
20 that, there's no data.

21 DR. WILSON: Okay.

22 DR. MARTY: Yeah, so we're not going to say, oh,  
23 no, this is a carcinogen only because IARC said so. We're  
24 not going there.

25 DR. WILSON: Right, okay. I just might encourage

1 in making those gaps in information as transparent as  
2 possible in the library, itself.

3 DR. MARTY: Yeah, that's tricky.

4 DR. WILSON: Thank you.

5 CO-CHAIRPERSON GEISER: I think, Mike, you also  
6 raised the whole question of metrics, itself.

7 DR. WILSON: Yeah.

8 CO-CHAIRPERSON GEISER: And that comes up and is  
9 an important thing to remember, that to any degree that  
10 people are going to make a comparison amongst chemicals, the  
11 metrics and all need to be clear so that you know what  
12 you're comparing when you're comparing across any of these  
13 ten points.

14 Roger.

15 MR. McFADDEN: Thank you. I was thinking a lot of  
16 this -- I'll see if I can bring this back to the practical  
17 world where businesses have to do business and bring  
18 products to customers in a real business setting. And say  
19 that if a business says when there's credible evidence or  
20 information that a chemical can pose harm or hazard to human  
21 or environmental health, they we should strive to remove  
22 that hazard or chemical from our product or supply chain and  
23 replace it with a safer alternative, if that is the  
24 principle, if that's what the goal is. Then it says we need  
25 to have credible information to make those decisions on.

1           Therefore, your first one, the hazard traits.  
2 Hazard traits are critical in this because if we're going to  
3 base our decisions on hazard, then we must understand all of  
4 those potential hazards.

5           Whether one company thinks hazard A is important  
6 or not may be very important to another entity that's  
7 deciding that that one is important to them. So, I'm not  
8 sure if we should be making judgments on that.

9           I'm wondering, though, if maybe we should be sure  
10 that we look at all these databases, look at their hazard  
11 traits that are in those databases that exist now. And if  
12 there's been harmonization to see how many of those are  
13 alike and how many of those could be, you know, incorporated  
14 into this database may be one way to look at it.

15           The other one is hazard traits should be relevant;  
16 they should be measurable; they should be credible; they  
17 should be understandable; and they should be as  
18 comprehensive as we can possibly make them.

19           And if we can achieve those things then we have an  
20 extraordinary thing that we've created here that's usable,  
21 that's understandable and usable for companies to design and  
22 make products. And understandable for consumers to make  
23 their choices with.

24           So, I would challenge you not to be shy in adding  
25 as many hazard traits as possible with the understanding

1 that many of them probably will have data gaps at first.

2 Because we often are challenged with this: A new  
3 chemical pops up in the newspaper and now we're challenged,  
4 in the supply chain, with where's it at. And is it  
5 hazardous. And what makes it hazardous.

6 But if consumers think it's hazardous, and if  
7 consumers stop buying a product we offer because it's in  
8 there, then we need to do something about it. We either  
9 need to communicate that the hazard that they've been told  
10 that is a hazard isn't. Or, in fact, accept the fact that  
11 it may be, and do something about it.

12 So, I would just challenge that -- also, one other  
13 thing on indicators. I think if you just change one word,  
14 indicators are predictors. If you just said indicators can  
15 be predictors, that kind of solves that problem because  
16 you're not saying that it always is, but that it could be.

17 Another one is physical properties. To Bill's  
18 point, they can be indicators sometimes. For instance, pH  
19 of 14 could indicate that we're going to have corrosive foul  
20 up. So sometimes these physical properties become very  
21 important.

22 So, thank you very much.

23 CO-CHAIRPERSON GEISER: We have two remaining  
24 questions here, and I think what we'll do is take a break  
25 after these two.

1 DR. MALLOY: I had a response to that first  
2 question about the taxonomy and the comments, if you know, I  
3 mean concerned about, if you're creating a categorization or  
4 taxonomy or whatever, it ought to have a purpose. You know,  
5 it should advance the ball in some way. And I haven't been  
6 able to exactly figure out how it's doing that.

7 So that when I think about it, I would get rid of  
8 it, because I think, well, you know, cross-benefit, what  
9 does it add. I don't know that it really added, but I think  
10 it created a lot of confusion. And it might distract people  
11 from more central questions they seem to have about this.

12 And I think it also creates some mischief beyond  
13 that, which is it takes, it kind of takes this notion of  
14 prioritization, and I think hides it in a -- or could hide  
15 it in a exercise in creating categories without dealing with  
16 the notion of prioritization as the question you're trying  
17 to answer.

18 Having said that, I think there's also technically  
19 when you look at the statute, the statute says that come up  
20 with these -- that OEHHA ought to identify hazard traits and  
21 toxicological end points. But your definition of hazard  
22 traits defines hazard traits as including toxicological end  
23 points. So it's kind of like a mis-match there about  
24 whether the statute is saying that. I don't know what it  
25 gets you by, you know, putting them together.

1           So, the other reason I think maybe it would make  
2 sense to get rid of it is because I think it kind of --  
3 there's like this fuzziness about the role of OEHHA and the  
4 role of DTSC that, I think, is compounded when you do this.

5           And so I thought about it, I said, okay, so what  
6 do I think -- this ought to work. It seems to me like there  
7 ought to be a list of hazard traits and there ought to be a  
8 list of toxicological and environmental end points.

9           And then once you come up with that list, it seems  
10 to me, another task or job ought to be to identify what  
11 triggers being put -- having one of those traits. Like Mike  
12 talked about metrics.

13           I'm not really sure. It seems like we talk about  
14 metrics, and then we talk about indicators. It's not clear  
15 to me the difference between those. So I think maybe  
16 difference doesn't matter, maybe it's -- the goal is  
17 identify a category, some type of hazard trait. Then tell  
18 people what they have to look at to figure out if you fit  
19 within that category. Perhaps it would be direct -- or some  
20 form of testing. Perhaps it would be indicators.

21           But I don't think it's necessary to kind of give  
22 these indicators their own level of being a hazard trait. I  
23 think the role they play is identifying whether it's a  
24 hazard trait or not.

25           I took your example hazard traits from the prior

1 worksheets when you were doing your categorization, and  
2 every single one of your category 1 hazard traits is in this  
3 list. And then everything in category 2 or category 3, as  
4 far as I could tell, wasn't in the list. Which to me kind  
5 of makes me feel like category 2 and 3, they're meant to be  
6 -- they're meant to help you figure out if something's in 1.

7           So that's why, I think, you know, identify hazard  
8 traits. Then identify what triggers being in that hazard  
9 trait.

10           I think the other important thing would be to also  
11 provide some control over data quality, identifying what  
12 kinds of data actually should get into the system or not.

13           In terms of the role for prioritization, I think  
14 that's DTSC's. They're charged with that under 1879, for  
15 1879 purposes. But I really think OEHHA ought to play a  
16 role in that. I think that you have expertise and you  
17 should play an important role in that. But I wouldn't play  
18 that role by identifying what hazard traits are. I would  
19 play that role separately and directly through consultation  
20 with DTSC.

21           CO-CHAIRPERSON GEISER: Dele.

22           DR. OGUNSEITAN: It's actually a follow-up point.

23           I appreciated the use of trichloroethylene this morning on  
24 the slides. And I was thinking through how using TCE,  
25 according to these categories, would help us clarify some of

1 the questions that have been raised this morning. And we  
2 certainly will have a lot of information about that.

3 But for general audience, one would like to know  
4 what part of contingency, why is it used in those products?

5 Are there legislative actions in Europe, in Japan, in the  
6 United States restricting TCE use in some products? What  
7 alternatives are being proposed or used with the same  
8 properties but different toxicological end points that one  
9 could then click on to look at those alternate usage?

10 Figure out whether that makes sense, or for comparisons.

11 So, these are additional data sets that probably  
12 should be close to these toxicological end points that will  
13 make it useful for DTSC to make judgments about  
14 prioritization.

15 But I think this other categories about usage,  
16 alternatives, legislation should be part of the toxics  
17 clearinghouse so that anybody who looks at that can make  
18 additional value that's different from what you showed this  
19 morning with ACToR and the other. And I don't see those  
20 kinds of information.

21 CO-CHAIRPERSON GEISER: So we could wrap up at  
22 this point. Just a few things that I have taken away from  
23 this.

24 We've spent some time talking about what is the  
25 database for. And sort of, in that area, ended up sort of

1 saying that this should be a library with different  
2 applications to it.

3 We also spent some time talking about the  
4 categorization schema, and a couple of us said, they  
5 questioned whether you even need that schema at all.  
6 Others, Bill, George, Dele have made some suggestions about  
7 how to tweak it or think about it differently than the way,  
8 I think, you have.

9 There's been some discussion of how to handle data  
10 gaps, and how to make sure that that doesn't get lost in all  
11 of this.

12 So I think we've sort of moved through a bunch of  
13 different pieces to it.

14 Is there any comments you would have to this, at  
15 this point, before we take a break?

16 DR. MARTY: No, just thanks for the input. And  
17 some of your thoughts are a little easier to deal with than  
18 others. We're appreciative of the input. And nothing's set  
19 in stone, so.

20 CO-CHAIRPERSON GEISER: All right. Well, why  
21 don't we take a break then. Let's take about a 15-minute  
22 break and relax a little.

23 (Brief recess.)

24 CO-CHAIRPERSON GEISER: Okay, I'm going to start  
25 calling names. Kelly, Tim. All right, so we're here at

1 about 3:00. We're planning to go until 4:30. We have three  
2 more questions to go through.

3 By the way, I thought that the discussion we just  
4 had was pretty substantive, very constructive, very useful.

5 I thought it was very good information, and thank you folks  
6 for being able to respond to it and also not being  
7 defensive, concerned or whatever. That makes for a nice  
8 exchange. Thank you.

9 So, here we have this sort of somewhat odd  
10 situation, though, and that is we're supposed to comment on  
11 the questionnaire that we will eventually fill out.

12 (Laughter.)

13 CO-CHAIRPERSON GEISER: By the way, I learned how  
14 to do survey --

15 (Laughter.)

16 CO-CHAIRPERSON GEISER: I think there's all kinds  
17 of flaws in it, scientifically. But, anyway, the idea is  
18 there is a questionnaire. It's how many, 12 questions or  
19 something like that. It's appended to the last page of  
20 this.

21 We're being asked to comment on these questions.  
22 So, please, if you see either a way to reframe the question  
23 to get at things you think are important, or in terms of  
24 adding questions or whatever, to it, will be useful.

25 The second thing we're being asked is to consider

1 the highest priority general types of human health toxicity  
2 and environmental effects. How would you set priority of  
3 those. And then also, how would you set priority on  
4 exposure properties. So both in terms of the actual  
5 toxicity and environmental effects question, and also the  
6 exposure, what kind of priorities would you give it.

7 And I think we can do these together because  
8 there's a question on the questionnaire for both of those,  
9 as well.

10 So, any comments from you folks on -- you've said  
11 all you need to about the questionnaire. So, let's just  
12 turn to the --

13 MS. ZEISE: Yes, --

14 CO-CHAIRPERSON GEISER: So just --

15 MS. ZEISE: Just this third bullet. I mean what  
16 we're talking about is the general types of toxicity, the  
17 highest layer.

18 CO-CHAIRPERSON GEISER: The highest layer.

19 MS. ZEISE: The third question's around the  
20 highest layer, yeah.

21 CO-CHAIRPERSON GEISER: Do you mean category one?

22 MS. ZEISE: Category one.

23 CO-CHAIRPERSON GEISER: Category one, okay. So  
24 modify that second thing by understanding that this has to  
25 do with category one of this, typology or -- what's the word

1 you used?

2 MS. ZEISE: Ontology.

3 CO-CHAIRPERSON GEISER: Ontology. And there's  
4 also nomenclature, there's so many wonderful words we would  
5 use. Okay.

6 So the floor is now open for comments on the  
7 questionnaires.

8 (Pause.)

9 CO-CHAIRPERSON GEISER: Tim.

10 DR. MALLOY: We can address any of those three  
11 remaining ones now?

12 CO-CHAIRPERSON GEISER: Exactly, yeah. All three.

13 DR. MALLOY: So, Meg and I were talking. We have  
14 a joint question.

15 (Laughter.)

16 (Parties speaking simultaneously.)

17 DR. MALLOY: We were afraid Bill was going to tell  
18 us that we'd have to wait till tomorrow to ask the question.

19 (Laughter.)

20 DR. CARROLL: Particularly if you're going to do  
21 it in tandem.

22 DR. MALLOY: So I guess our question is why, and  
23 maybe we're misunderstanding number three. I read number  
24 three to be saying of all the things that could be in the  
25 clearinghouse what are the highest priority things. As if

1 to say that if you're not the high priority there's a  
2 possibility that you wouldn't be included in the passage  
3 rate? Is that it? Or is it what should go in category 1 as  
4 opposed to category 2 or 3?

5 DR. MARTY: We really were looking for input on  
6 what individuals thought was really an important general  
7 type of toxicity or environmental effect that we have to  
8 include. So what is your opinion? Is it carcinogenicity,  
9 is it developmental, is it aquatic tox of a specific type,  
10 you know?

11 So that's really what the question is. And it's  
12 at the higher level, not sort of digging down. We don't  
13 want to know which, like if you like the common assay better  
14 than, you know, some other thing.

15 DR. MALLOY: Okay. Then I will --

16 CO-CHAIRPERSON GEISER: Ann.

17 DR. BLAKE: So I think this may be of help  
18 clarifying the question a little late. So, following on to  
19 that, so the intent of this is to get -- to make sure that  
20 this is as inclusive as possible? That you've got all the  
21 hazard traits that anybody who's working in the field or any  
22 version of this field is -- to get full coverage --

23 DR. MARTY: Question three just really not  
24 necessarily as inclusive as possible, but what are the  
25 things that people think are most important.

1 DR. BLAKE: Priority, okay. It may be helpful to  
2 contextualize that somehow, because from here it's hard to  
3 tell if we're interested in what you, the individual person  
4 who's receiving this questionnaire is getting.

5 So if you say we're trying to include -- to get a  
6 pretty good overall view and a consensus view on what the  
7 most important priority traits are, so what's your opinion.

8 DR. MARTY: Yeah, not necessarily a consensus  
9 view, but a sampling of what --

10 DR. BLAKE: Sampling.

11 DR. MARTY: -- people from different sectors view  
12 as --

13 DR. BLAKE: Okay.

14 DR. MARTY: -- most important so that, you know,  
15 we can be sure to include all of those.

16 DR. BLAKE: With the additional weight that some  
17 of them are going to be -- there's a handful that I think a  
18 lot of people are going to agree on, a lot of places. But I  
19 heard George muttering here, it's going to be a third rail,  
20 right?

21 (Laughter.)

22 DR. BLAKE: So there's going to be a point of some  
23 agreement and some disagreement.

24 DR. MARTY: Yes.

25 DR. BLAKE: Are you trying to capture all of that?

1 DR. MARTY: Sure.

2 DR. MORAN: This is where I go back to the -- I  
3 make a simpler recommendation. Having been involved in  
4 design of some surveys and response to many, I think the  
5 survey is way too long. And I think you won't get the  
6 responses that you're looking for with this type of survey.

7 I'm glad that you are thinking about a survey, and  
8 are wishing to get help from others in doing this, because I  
9 recognize what a tremendous challenge it is that you're  
10 taking on here. And I'm very happy to do my part to help  
11 out.

12 Like I said before, I really didn't even  
13 understand what you were asking in some of these questions.

14 And -- to tell you that simply the whole taxonomy thing, if  
15 I were you I would just omit all of that.

16 And it really seems to me what you want to know  
17 falls into two categories. What data do we need to create a  
18 field for, you know, that's a question you're asking. And I  
19 don't think you really want to get a list of every type of  
20 data point that people will -- okay, I got to step back and  
21 say I'm a chemist. I use a lot of aquatic toxicity data.

22 So I'm very interested in this data warehouse  
23 either connecting to, you know, probably just utilizing, for  
24 example, the USEPA ecotox database, which is also accessible  
25 through the ACToR database. And that is a whole set of

1 aquatic toxicity data.

2           And I don't really want -- a survey where I'm  
3 going to list you should have -- you should have -- I don't  
4 think you're looking for that. So you need to structure the  
5 database a little bit to say, to make it obvious, maybe even  
6 have some check marks on things that we want.

7           It seems to me what you're really looking for is  
8 what's not a standard thing. So, -- and have you got all  
9 the broad categories that people would need to do the  
10 alternatives assessment.

11           Like, for example, I haven't heard anything about  
12 environmental -- data, so that would be -- seems that  
13 perhaps what you need to be asking is a little bit simpler  
14 questions like that. And let people know, we're already  
15 thinking of these things. Are there -- is there something  
16 we're missing, is probably going to be a more efficient way  
17 of asking the question to generate the response that you're  
18 looking for.

19           And that would be more likely to have someone  
20 actually respond to it in a way that's going to be helpful  
21 to you.

22           DR. MARTY: We're also not only just looking at  
23 that, but we are also asking questions about indicators of  
24 hazards.

25           DR. MORAN: So that's the next part --

1 DR. MARTY: And what are the more important  
2 indicators of hazard. And, in particular, we're asking  
3 people what do you guys use in your job if your job involves  
4 figuring out what to put into a consumer product or what not  
5 to put into consumer products, for alternatives assessment,  
6 which --

7 DR. MORAN: Exactly. So that's the next part of  
8 my -- so the first part of my comment has to do with  
9 questions one through four. I would restructure those in  
10 the way I just described.

11 Questions five through eight are about indicators.  
12 And here I want to again restructure those, because what  
13 you're doing is asking for specific experience with specific  
14 things.

15 And I think instead what you need to be asking  
16 more broadly is what examples are there of indicators, can  
17 you point us to those examples. What do you know that works  
18 in these areas. Rather than asking for a couple of narrow  
19 indicators, we really need to be asking more broadly.

20 And I think you're going to hear back that it's  
21 not just about using chemical properties as a substitute for  
22 actual toxicity testing. You're probably also going to hear  
23 from aquatic toxicologists, these are the most important, you  
24 know, if I only had three data points for aquatic toxicity,  
25 here are the three that I most want. And you should be

1 prepared to have some of those kinds of answers, as well.

2           And this is an area, I think, that's really  
3 growing. So I would not expect and not challenge yourselves  
4 to think that you're going to get to a perfect answer on  
5 this indicator thing.

6           So I would also advise you to really focus, on  
7 number one, let's get the database going, so that we have  
8 stuff to put into the clearinghouse and populate it.

9           And then, number two, we can come back and work  
10 through this indicator thing. Because it's much harder than  
11 two workshops and a survey question. That's a  
12 methodological question.

13           And I really urge you to separate out warehouse  
14 data and helping people with methodologies to do their  
15 alternatives assessments. Those are two separate and very  
16 difficult things. So let's get data together, and then  
17 we'll try to help provide indicator and other stuff that we  
18 can help people do their methodologies.

19           And then I really like the last couple questions.  
20 Is there anything else you'd like to comment on? Those are  
21 always excellent questions to ask.

22           And number nine is also a good question. But if  
23 you ask people to write the procedure for how they're doing  
24 alternatives assessment, you also not enjoy the responses.  
25 So I would, again, suggest that you focus in on is there

1 anything, you know, is there something that we can point to  
2 that's a written procedure. Or is there something that we  
3 should be putting in the warehouse that would help make it  
4 possible to do this. That's really the immediate data need.

5           So I would advise those things specifically. So  
6 that would narrow and simplify the questionnaire and  
7 hopefully gets you closer to where you want to go.

8           And then another thing that you need to think  
9 about here is what's the audience for this. Clearly the  
10 audience for the ultimate clearinghouse is going to be a  
11 broad variety of people. There may need to be some  
12 different interfaces. And I know we'll be talking about  
13 that tomorrow.

14           And ultimately the audience that you really want  
15 this information from is from people who are doing  
16 alternatives assessment. But many of those people won't  
17 know about all of these things. You're asking kind of a  
18 deeper level of questions.

19           So, for example, a lot of people can be doing  
20 alternatives assessments -- at least some are going to be a  
21 bunch of engineers. And you probably haven't even thought  
22 about engineers as a target audience. But they make an  
23 awful lot of the decisions about the products that we're  
24 talking about.

25           And I'm actually not exactly sure how to advise

1 you to handle that. Because I don't think engineers are  
2 going to be able to tell you a lot of those answers. But we  
3 need to make sure that we have the information that's  
4 necessary to do the alternatives assessments.

5           So that's, you know, perhaps a deeper crowd, but  
6 you need to have a broader net and make sure that you're  
7 catching people who are not just doing it from the health --  
8 because having data in here that will help us figure out  
9 which environmental compartment the product is going to go  
10 into, and what it's going to be in that compartment, it's  
11 absolutely essential to taking the next step to say, is  
12 there any harm that could occur in the environment.

13           DR. MARTY: Can I just make one clarification. We  
14 really aren't viewing this as a survey in the sense of  
15 survey science. We don't have the resources to do that. So  
16 it really, by the very nature of that, has to be somewhat  
17 limited.

18           CO-CHAIRPERSON GEISER: Yeah, I just wanted to  
19 clarify that, as well. We're trying to gather information  
20 by use of a questionnaire, not statistically analyzed  
21 through. Julie next.

22           DR. SCHOENUNG: Well, I guess when I read these  
23 questions I interpreted them a little differently. Instead  
24 of trying to get a broad set of input, I saw them as trying  
25 to find a way to narrow your list.

1           When I see the phrase highest priority that says  
2 to me, okay, if instead of 20 or 30 or 50 attributes that we  
3 want to measure, if you had to reduce the list to only five,  
4 because that's all we have resources for, which five would  
5 be the most important in your mind.

6           So I don't know whether or not that's a hidden  
7 message here, or --

8           DR. MARTY: No, --

9           DR. SCHOENUNG: -- if there's sort of a pilot  
10 level you're going to work through in developing, that you  
11 want to start with a smaller list. But that's how I read  
12 the phrase highest priority, or interpret that to reflect  
13 that you're trying to reduce your list, as opposed to  
14 broaden it.

15           DR. MARTY: No, we're definitely not trying to  
16 reduce the list. We are trying to get -- I mean, you know,  
17 Lauren and I come from specific backgrounds and we have our  
18 own ideas of the higher priority things that we definitely  
19 want to have in there.

20           But there may be stuff that we don't think about.  
21 I'm not an aquatic toxicologist. I don't think about that  
22 much. So, what we want is to get people with a variety of  
23 expertise to tell us what they view as high priority, so  
24 that we do capture stuff. We're not trying to limit it at  
25 all.

1 DR. SCHOENUNG: I guess a suggestion in echoing  
2 Kelly's comments would be to include a list of what you  
3 intend to have on your list. And then what you're really  
4 asking for is validation, this is something that you would  
5 put on the list. And is there anything missing.

6 Because that's an easier thing for people to  
7 answer, as well, --

8 DR. MARTY: Yeah, right.

9 DR. SCHOENUNG: -- because a checklist as opposed  
10 to my remembering all the --

11 DR. MARTY: Yeah.

12 DR. SCHOENUNG: -- you know, that were important  
13 to me now and were important to me five years ago for a  
14 different project --

15 DR. MARTY: Puts it more into context.

16 DR. LIROFF: Just a quick comment to second  
17 Kelly's about question number nine. I can see why you're  
18 asking question number nine. But that is one question that  
19 in itself will induce survey fatigue.

20 (Laughter.)

21 CO-CHAIRPERSON GEISER: Bruce.

22 DR. CORDS: Yes, this relates to question number  
23 three or bullet number four. And I guess I'm wondering what  
24 you're actually looking for in that question. Do you mean  
25 by highest priority exposure -- when you refer to highest

1 priority exposure does that mean as in oral, dermal,  
2 inhalation? Or does that mean exposure of a certain sector  
3 of the population, to prioritize that? Or does that mean  
4 where an X chemical might be used, and how broadly it's  
5 used?

6 I'm just wondering what are you all asking for in  
7 question number three?

8 DR. MARTY: What we were thinking about is things  
9 like bioaccumulation and persistence. But we realize the  
10 term -- properties, what does that mean. So the question,  
11 itself, isn't very clear.

12 So I think, you know, we have to go back -- also,  
13 these questions were written before we had a whole bunch of  
14 discussion, including with the Chairs, about how we were  
15 framing the, quote, "taxonomy".

16 So there's inconsistencies now between these  
17 questions and what we presented earlier today. So, yeah, --

18 MS. ZEISE: There were more abstract forms of  
19 exposure information.

20 CO-CHAIRPERSON GEISER: Does that answer it,  
21 Bruce? Bill.

22 DR. CARROLL: Thank you, Chair. This is a point  
23 that I've made previously in these discussions, but I'll  
24 make it again. I recognize that there is a desire in the  
25 group to collect all the information in every category about

1 everything.

2 But I would note that the more categories of  
3 information that you have, the greater is the probability  
4 for those that are less often done, that you will have  
5 limited data.

6 So, as a decision-making tool, you probably ought  
7 to be most interested in the tests that are most commonly  
8 done, because then you'll have the most data to work with  
9 earliest to make decisions.

10 On the other hand I also understand that desire to  
11 know everything there is to know about everything. I wish  
12 you good luck with that.

13 There are a couple of points that I would like to  
14 make about various questions. I want to start with question  
15 three and it's related question, question six. I see those  
16 two as going together.

17 And I think we really need to find a different  
18 term other than exposure properties. Because I don't see  
19 Kow as being an exposure property at all. Kow is an  
20 inherent property of the material in a test.

21 Now, you may use it as an indication of  
22 bioaccumulation or potential bioaccumulation, but I think --  
23 and I think this is where Ann was going before, you're not  
24 looking at exposure at all here. These are all kind of  
25 hazard traits. And if you're truly interested in including

1 some measures of exposure, that will be an entirely  
2 different set of characteristics than what you have here all  
3 together.

4 Now, what I'm not suggesting is that the things  
5 that you call exposure properties aren't important. They  
6 may well be. But give them a different name, please,  
7 because they don't -- to me, the word exposure is relevant  
8 for some of the things that you have here.

9 I see question --

10 MS. ZEISE: So, I'm --

11 DR. CARROLL: Yes?

12 MS. ZEISE: -- I'm wondering if either now or  
13 offline you could make some suggestions --

14 DR. CARROLL: I'd be happy to. I said physical  
15 chemical properties would include some of these things, as  
16 well. And it really matters what you're talking about.

17 To me, exposure -- and maybe this is a narrow view  
18 -- but, to me, exposure means an organism comes into contact  
19 with a chemical. It's not an inherent property, the  
20 chemical like Kow.

21 DR. MARTY: Yeah, I think what we're getting at  
22 was inherent properties of a chemical that would indicate  
23 potential for exposure like --

24 DR. CARROLL: But they don't. But they don't, in  
25 themselves. A high Kow is an inherent property of the

1 material. It only matters if that happens to be, you know,  
2 in water or in sediment or somewhere else --

3 DR. MARTY: Right.

4 DR. CARROLL: -- where --

5 DR. MARTY: We totally recognize that.

6 DR. CARROLL: And so that's why I'm saying, at  
7 least for those of us in industry, and I would ask Ann  
8 whether she agrees with this, when you say the word exposure  
9 that immediately indicates to us some organism coming into  
10 contact with some chemical, not a property of that chemical  
11 that might have some relevance in that context.

12 DR. MARTY: Right, so we just need to be clearer  
13 in what we're talking about.

14 DR. CARROLL: It's a nomenclature thing.

15 DR. MARTY: Right.

16 DR. CARROLL: It's a nomenclature thing.

17 DR. MARTY: So I think, you know, people in  
18 alternatives assessment talk about exposure potential. And  
19 what they're -- they're literally talking about potential,  
20 not that somebody's out there and has measured it.

21 DR. CARROLL: And that you could make a case for.  
22 But when you say exposure property, that's different.

23 I see questions two and seven almost as two halves  
24 of the same question. And I might suggest that you pull the  
25 two of them together. Because you're saying what are the

1 highest priority general types of toxicity. And what are  
2 the best indicators of that. So those two things almost  
3 seem to be two halves of the same question.

4 And the same things for questions five and eight.

5 In the absence of full studies what indicators do you  
6 consider scientifically valid? And have you used any of  
7 them? What's your experience?

8 So if you find those sets of questions relevant I  
9 would pull them together and almost make them parts of the  
10 same question.

11 And I would like to echo the idea that nine seems  
12 to be more of a, you know, later analysis kind of question  
13 and not the sort of thing that you want to use in  
14 constructing the database.

15 Thank you, Chair.

16 CO-CHAIRPERSON GEISER: Anne.

17 DR. WALLIN: Well, before I start on my questions,  
18 I guess I wasn't as -- I see where exposure could be  
19 confusing. But I think I understood your intent was to use  
20 it as a surrogate for a predictor and indicator.

21 So I think to the extent you can clear that up,  
22 because I think the properties that you're listing are ones  
23 that people want to know. So, it's useful information to  
24 have. We just need to be careful how we characterize its  
25 use.

1 I like Julie's idea. I, too, was going to comment  
2 on questions two and three, and frankly, question seven.  
3 But I do like the idea of a list. And really rather than  
4 asking what highest priority, which leads to a lot of  
5 confusion, ask them which ones they use most. Which ones do  
6 they rely on. Which ones do they find most important.

7 I don't know how you want to structure that  
8 question, but I think that would get at a little bit of what  
9 you're trying to understand when you say highest priority  
10 without leading people down a path that we're in a funnel  
11 and some information's going to get winnowed out.

12 In terms of hazard traits, that was one of the  
13 questions here somewhere, I think you have a good list from  
14 the workshop. And I think you have some good examples in  
15 there. But one of the interesting things I've haven't heard  
16 mentioned at all really today is acute hazards.

17 And I think that's one not to lose sight of,  
18 particularly given the very broad audience who could use  
19 this clearinghouse. Not everybody is making choices for  
20 consumers. A lot of these get handled in industrial  
21 processes for which we haven't managed to squeeze all of the  
22 materials acute hazards out of that value chain. And so  
23 those are important.

24 And I would say particularly in the days when I  
25 was at the bench many years ago, dermal and inhalation acute

1 toxicity was really critical to understand.

2 Question --

3 MS. ZEISE: Could I just ask a follow-up on that?

4 Are you talking about providing maybe some acute toxicity  
5 values to get at that, or --

6 DR. WALLIN: I think you want that data. Just  
7 like you want carcinogenicity data, I think you want the  
8 acute toxicity data in there, as well.

9 MS. ZEISE: Do you want it sort of -- are you  
10 suggesting that we take it in sorted by particular end  
11 point, or -- I'm just trying to get -- wrap my mind around  
12 what exactly you're --

13 DR. WALLIN: Right, so you have an inhalation  
14 toxicity value, right?

15 MS. ZEISE: A value, okay.

16 DR. WALLIN: Right, that would be a LC50 or, you  
17 know, I believe the familiar one that I'm -- not a  
18 toxicologist, I'm rapidly getting into the deep end here.  
19 But I think you'd want to collect that information just as  
20 you are intending to do for a lot of the chronic toxicity.

21 DR. MARTY: Yeah, I think we actually were all --  
22 we were thinking about that, and we kind of lumped it into  
23 target organ toxicity.

24 DR. WALLIN: Okay.

25 DR. MARTY: Yeah, because, you know, -- air group.

1 Air toxicity is a huge issue for air pollutants. So we're  
2 at the acute tox issue. So, yes, we do intend to put it.

3 DR. WALLIN: Okay.

4 DR. MARTY: Maybe we just need to be a little  
5 clearer about that.

6 DR. WALLIN: And then question nine, I agree that  
7 it's a rather daunting question if you don't have anything  
8 documented. But if you have something that was documented,  
9 I think then it becomes perhaps -- again, I can see where  
10 it's really related to the application of initial reviews,  
11 of persons trying to build a clearinghouse in the first  
12 place. But it's not necessarily a nice two-for to get that  
13 information sent in under this process.

14 And so I would ask them that if they've got a  
15 documented practice, that they just provide it, if they  
16 would. And, you know, you can compile that and do with it  
17 what you need to. So I think that's a good suggestion.

18 CO-CHAIRPERSON GEISER: Let me just follow up  
19 Anne's question. Are you thinking of really acute toxicity  
20 or acute conditions like burns and explosivity --

21 DR. MARTY: Yeah, I -- well, see I'm a  
22 toxicologist, so I'm thinking of acute toxicity and not of  
23 hazards like explosivity or flammability. But I think that  
24 those are critical to capture if people are going to be  
25 thinking about consumer products.

1 CO-CHAIRPERSON GEISER: Art.

2 DR. FONG: Thank you. I have some comments on  
3 questions -- asking for additional questions. And I have  
4 two suggestions. Again, coming from the perspective of when  
5 you mentioned that I do some chemicals assessment, I do  
6 believe -- I think, you know, the question that you might  
7 want to include somewhere, maybe not necessarily in this  
8 questionnaire, is, you know, what would make you, meaning a  
9 scientist responding to the questionnaire, use the TIC  
10 instead of going to one of the existing databases that Su  
11 mentioned today.

12 I know there's, you know, a legislative mandate we  
13 need to create the clearinghouse, but why would I want to  
14 use it?

15 The second question that you may want to add,  
16 again somewhere, maybe not in this questionnaire, it might  
17 be good to ask the scientists or whoever's going to respond  
18 to these questionnaires, I'd ask them how they get and  
19 handle data that are not publicly available.

20 Because when I do a chemicals assessment, the  
21 first thing I look at is not so much the high priorities,  
22 you know, what you have here. Because that information's  
23 readily available. And I'm interested in data that's not  
24 being published in a peer-review journal or some government  
25 database. So I think that might be important if you were to

1 ask, you know, how people get these types of data, and how  
2 they handle these types of data.

3 Thank you very much, Ken.

4 CO-CHAIRPERSON GEISER: Good questions, good.  
5 Roger.

6 MR. McFADDEN: Thank you. I wanted to say I'm  
7 sitting next to brilliance here, Julie, because when you  
8 said that a list to start with, a basic list, it really  
9 doesn't make sense, doesn't it? Because it gives us a  
10 framework upon which to begin.

11 And then you can ask the question from the list  
12 you have in front of you, which ones do you think are  
13 important and why. And secondly, which ones do you think  
14 should be deleted for whatever reason. Let them have the  
15 opportunity to share why it should be deleted.

16 And then thirdly, what should be added? Maybe  
17 something that got overlooked that gives them an  
18 opportunity.

19 The other suggestion might be to make sure that  
20 you -- and I assume that you will note who submits these  
21 questionnaires, knowing the discipline they come from will  
22 be very useful to see if there's differences from the  
23 disciplines that can be identified. And why they might be  
24 different.

25 Also, kind of on Art's point, you know, how do you

1 currently get past CBI? For instance, how does your  
2 organization, when you are asking for disclosure on these  
3 hazardous traits currently, and you run into confidential or  
4 proprietary situations, how do you get around it. That  
5 might lend some ideas on how you might structure the  
6 database, yourself, to get that information.

7 Thank you.

8 CO-CHAIRPERSON GEISER: Dale.

9 DR. JOHNSON: I'll give you my impression of what  
10 I thought you were asking in here before I came here today.

11 So I was looking at the hazard trait, let's call it the  
12 hazard trait quality or so forth, as these key types of  
13 things that you actually made decisions on. So they could  
14 be a variety of things. And that's what you actually want  
15 to search on within a database.

16 So the hazard traits that are important that you  
17 make decisions on, whether it's a alternative assessment or  
18 whatever it happens to be, that becomes a search item. So,  
19 in other words, if -- and I see this all the time, I see  
20 this with my students -- you can readily search on a  
21 chemical. That's no problem. You can search on a chemical  
22 and you can do structure similarity searches on other  
23 chemicals and get the information. That's available in so  
24 many free sources on the web that it's pretty  
25 straightforward.

1           But what you can't do is you can't start out and  
2 say, I want, okay, I've got this particular quality in a  
3 chemical, and now I want to search for something that  
4 doesn't have that particular quality, but has other  
5 characteristics that are the same.

6           And so I see the, you know, I see kind of this  
7 hazard trait. I don't see three categories of hazard  
8 traits. I see this maybe 20 or something different things  
9 that you actually make decisions on. And then be able to  
10 search things through that in a very nice way.

11           And that's kind of what I thought you were getting  
12 to here in this particular thing. I'm not sure that it is,  
13 you know, now that I've sat here all day. But I would say  
14 that's a goal that you should be getting to.

15           So, for instance, you don't have to categorize  
16 whether in one case there is an animal carcinogenicity study  
17 because, you know, if it's got a carcinogenicity fine, if  
18 there was an animal carcinogenicity study that was run,  
19 that's the only way you can actually get that finding.

20           And so to put these categories together.  
21 Reproductive hazard, you know, there's an ecotox hazard,  
22 there's something else, but you want to be able to search on  
23 that, search through various things and use that as a way of  
24 probing data. So that's what I see the value of a hazard  
25 trait.

1 CO-CHAIRPERSON GEISER: Thank you, Dale. A little  
2 trepidation in asking Julia to speak after --

3 (Laughter.)

4 CO-CHAIRPERSON GEISER: Go right ahead, try it.

5 DR. SCHOENUNG: I actually just have a very quick  
6 comment, and that is we had a lot of discussion about what  
7 to call all these things that we want to put in the  
8 database, whether they're properties or traits or end points  
9 or indicators or predictors.

10 And just a suggestion of what we use in the  
11 decision-making community is just attribute. And that way  
12 you're not classifying what type of attribute it is, it's  
13 just something about the substance we want to know. So,  
14 just a suggestion. And you might make some categories, but  
15 that's a word that's a little less sensitive in terms of  
16 interpretation.

17 CO-CHAIRPERSON GEISER: Thank you. Meg.

18 DR. SCHWARZMAN: The issue of prioritization was  
19 finally clarified for me when I realized you weren't really  
20 asking for favorites, you were just wanting someone to give  
21 you ideas. Now I understand.

22 Many people have echoed this point that you'll  
23 provide a list and get feedback on that. That's all  
24 resolved for me now. So that's very hopeful.

25 But I think in a way this process was a good

1 demonstration of how confusing a request that actually was.

2 But that's very helpful now that I --

3 DR. MARTY: We didn't take the questionnaire  
4 ourselves, probably should have.

5 (Laughter.)

6 DR. SCHWARZMAN: But the point that I wanted to  
7 return to is the question of indicators. Because listening  
8 with interest, Kelly, to how you relate to the idea about  
9 hazard indicator, because I think what I'm hearing is I know  
10 very little about ecotox and that's what you deal in. And I  
11 know much more about human health hazards, and basically how  
12 little we know about them, and how little we can directly  
13 find out about them.

14 And I think the question of the use of indicators  
15 as this sort of category that you've laid out is one that we  
16 need to hold onto to address this issue. We can feed  
17 chemicals directly to -- I'm not even sure that's how you  
18 say them, and see what happens, right?

19 You get various measures and various  
20 understandings of aquatic tox, but we have no parallel for  
21 to generate much of an understanding about health hazard  
22 attributes.

23 And so there's all these indirect ways of doing  
24 it. There's indirect ways of doing it through animals.  
25 There's indirect ways of doing it through QSAR to see what

1 might else act like that.

2 But then there's also things like well, what's the  
3 effective of the substance on thyroid hormones. Because we  
4 know that's associated with neuro-developmental toxicity.

5 So I think what I hear when I see OEHHA developing  
6 ideas around how to include other toxicity indicators, I see  
7 the effort to move the field forward in a way that I want to  
8 support. I think that's very useful impulse to create a  
9 structure for building and generating that kind of  
10 information. And collecting from the scientists in the  
11 field, the people who are doing alternatives assessments,  
12 collecting the sort of most useful information that  
13 currently exists, and what would be -- what is most  
14 necessary.

15 So I like the idea of asking people what are the  
16 indicators that you use the most. But I would also -- I  
17 think that was what you suggested, Ann, but I would also  
18 very much follow it with a question, and why. Is it because  
19 it's cheap and its readily available, or I know how to  
20 interpret it. I have a chart that says this is what it  
21 means when it comes up with this.

22 Or is it because, no, actually this provides me  
23 this very valuable piece of information that I've never been  
24 able to get at before?

25 So the why question, I think, there is essential.

1 Otherwise we end up just with well, I use this because it's  
2 cheap on the shelf. And we certainly don't want to be  
3 perpetuating that forward.

4 So, I think that's -- you know, when you talk  
5 about creating a library, we want to put -- well, I won't  
6 push that too hard -- but I think there's all kinds of  
7 information that we'd want there. And I think very clearly  
8 we don't want to limit it to well established animal  
9 carcinogenicity studies that are very animal consumptive and  
10 we can't use to screen a whole lot of chemicals.

11 And we also don't want to introduce a lot of junk  
12 because it's cheap, throw-away into the library. But we do  
13 want to create a demand or a way to highlight the need for  
14 new indicators to measure things that we're not very good at  
15 measuring yet.

16 And I think the category of indicators is really  
17 important, and we should hold onto and continue to develop,  
18 as the way that we're going to get past ultimately, probably  
19 several decades hence, the bind that we're in now with human  
20 tox.

21 CO-CHAIRPERSON GEISER: Thank you, Meg. Mike.

22 DR. WILSON: So, thanks. I have just a couple --  
23 two things. One on the survey design. And get -- what was  
24 that?

25 DR. MARTY: Questionnaire.

1 DR. WILSON: Questionnaire -- okay, the  
2 questionnaire. And this again, you know, this is a point  
3 that Roger and Julie and Meg are all raising, that the  
4 danger of open-ended questions is you get undisciplined  
5 answers. And so you might get, you know, the answer yes.  
6 Or you might get an entire essay. And so it is really  
7 difficult to use that information.

8 But then the danger of very closed-end questions  
9 is you get not very rich information. And so I think what  
10 we're getting to is a very nice melding of as you ask the  
11 question, it needs to include, currently under consideration  
12 by OEHHA, the following, you know.

13 And then, you know, as Meg is suggesting, you  
14 know, why, if you're adding to deleting from our list, what  
15 is your reasoning. And that you may get fairly  
16 undisciplined answers, but at least you get -- the first  
17 part will at least be, you know, sort of guide people into  
18 more disciplined responses.

19 So then the second thing, I think, on this is --  
20 and this is, I'm going to push back on, build here a little  
21 bit on the question in framing your list so that it's broad  
22 rather than narrow. And it may be that we just have a  
23 nomenclature issue here, or, you know, a definition  
24 question.

25 But the question of exposure is a good one, that

1 is it simply an organism coming in contact with a substance.  
2 The fact is we don't have the information like that. We  
3 don't have good information in that regard, so we have to  
4 rely on exposure surrogates. And I think this is where  
5 you're going with your physical chemical properties.

6 Bioconcentration factors, environmental  
7 persistence factors are good indicators of exposure  
8 potential over time and space. And, I think, you know, Tom  
9 McCohn (phonetic) has demonstrated that quantitatively.

10 Just as vapor pressure, as you indicated, is a  
11 good indicator of exposure potential in the workplace. Low  
12 boiling point. Wide flammable range, a good indicator of  
13 explosivity. Those are important physical chemical  
14 properties that I think are reasonable surrogates of  
15 exposure. And you wouldn't want to delete those off of your  
16 list of those being considered.

17 CO-CHAIRPERSON GEISER: George.

18 DR. DASTON: Well, I'm thinking about so many of  
19 the things that have been said today, particularly around  
20 whether there is a single, discrete purpose for this  
21 clearinghouse, or whether it's going to be a large library.

22 And I'm real -- I'm still struggling with how one can make  
23 this clearinghouse function without a purpose.

24 So, you know, one of the things that we've seen  
25 this morning is that a good, but incomplete, survey of the

1 data sets, the databases that are out there already. Each  
2 of which serves a different purpose and has taken a long  
3 time to put together and everything. And I think none of  
4 which, by themselves, would serve the purpose that DTSC  
5 needs in terms of supporting the identification of  
6 alternatives.

7           And maybe one idea to put to you is rather than  
8 creating yet another set of information, it's more what if  
9 the most useful thing is finding ways to -- or finding a  
10 methodology that would suggest to people where they should  
11 go, which database serves a particular function in making  
12 decisions about physical chemistry, or about human health  
13 hazard, or about ecotox, or about potential for exposure  
14 from a particular medium, or something like that.

15           That actually might be a more fruitful way to go  
16 than to try and create de novo, you know, something that no  
17 one else has done before, but have put a lot of investment  
18 into making parts of. So that, I think, would be another  
19 idea for you to think about for this clearinghouse.

20           CO-CHAIRPERSON GEISER: Ann.

21           DR. BLAKE: So I was actually going off some  
22 earlier comments, but now I think that was sort of a segue  
23 to what I was thinking about, too, about ways that we could  
24 use this in a slightly different pattern, and it could come  
25 off some questions that you might add to the questionnaire

1 -- questionnaire, it's not a survey.

2           And one is things that we could do, next question  
3 about what do you use as an indicator and why. And without  
4 making this too open ended and getting too much other  
5 information, but what additional indicators would you like.

6           So this is sort of parsing the data gaps, from people who  
7 use these pieces of information for decision-making. I'm  
8 using this indicator because I don't have this other piece  
9 of information that I would actually prefer.

10           And then this may be a level that's beyond the  
11 questionnaire, and perhaps it's more towards George's idea  
12 of what additional value does this clearinghouse provide.  
13 And it's also building off Dale's thing about, I thought  
14 about these traits, as well, as things that you make  
15 decisions on. That's how we've used it also for creating a  
16 product rating under health.

17           But one of the ways that we had thought about  
18 using it for good data is filtering, building an IT, this is  
19 actually like an IT layer that you build on. You build this  
20 huge database, this library, and then you build these  
21 filters for people to use it.

22           One of the filters, you know, I'll use a simple  
23 example. Right now you can screen it for animal friendly,  
24 things that are not tested on animals. And that's pretty  
25 easy to fill in once you've got that data already, you know.

1 So you have tested/not tested on animals and you can screen  
2 it that way.

3 So moving towards, and then bringing in sort of  
4 these elements that design for environment is brought in,  
5 clean ingredients thing. You could start thinking about  
6 performance and characteristics that you build on, as well.

7 So I would like to find a chemical that works in a chemical  
8 formulation that a) isn't a reproductive hazard, isn't some  
9 having substituted like an explosive thing that's a really  
10 unfortunate substitution. And also meets the performance  
11 criteria that I'm after.

12 I don't know if you can actually add --  
13 performance criteria might go back to your physical chemical  
14 properties, for example.

15 So it is possible, you take that data and then you  
16 start building, you know, like IT filters that your users  
17 can use in different ways to make decisions.

18 CO-CHAIRPERSON GEISER: Kelly.

19 DR. MORAN: I want to support what Ann just said,  
20 and build on what George said before. I'm recognizing the  
21 realities of the California budget, that we aren't going to  
22 have the money to build a whole new database here.

23 And one thing we might want to take the  
24 opportunity in this questionnaire to think about is of the  
25 resources, some of the things that we're looking for, there

1 are actually multiple existing databases of those data, some  
2 of which cover exactly the same chemicals and have different  
3 values in them.

4           And having gone through the exercise of trying to  
5 figure out which are the best data set, it's complicated.  
6 And it would probably be helpful to you to consider whether  
7 there are any examples of that that you might to get the  
8 opinion of those who are familiar with the multiple  
9 resources, which ones are better.

10           Another example of that is the, like when I first  
11 heard about this whole exercise, I think a lot about aquatic  
12 toxicity and ecotoxicity. And I was thinking, well, we've  
13 already got the EPA ecotox database. And perhaps there are  
14 some other databases that have some additional data. It  
15 would be nice to know.

16           But I would certainly, that ecotox database is a  
17 huge exercise, and I would not expect that the state would  
18 have the resources or interest in repeating it.

19           So, if that's the case, and we know there are some  
20 things like that that we're looking to say, okay, this is  
21 the primary resource, you might want to take the opportunity  
22 of this questionnaire to say, is there something else that  
23 people know about that we should be building on. Because I  
24 think that is free advice that would be helpful to the  
25 state.

1           And it's reality. I think if you put this too far  
2 forward to keep going on the idea of we're going to build  
3 this whole new thing, people will say it will never happen.

4           And it probably won't.

5           So to the extent that you put it forth as we're  
6 going to try to put some interfaces on and try to fill some  
7 gaps with our thing, that's probably reality. And you might  
8 get much more alternative advice.

9           DR. MARTY: And I'm just kind of -- DTSC, I'm now  
10 stepping on your toes, so tell me to be quiet if you want.  
11 But OEHHA is not the entity that's building the database.  
12 And, you know, in our discussions with Su, they're well  
13 aware of the resources, for example, put into ACToR at  
14 USEPA. It's astronomical.

15           And if you look at the Canadians, how much effort  
16 they have put in to go through their 23,000 chemicals. You  
17 know, 60 PY in the first five years. Well, we don't have  
18 those kind of bucks.

19           So, you're right. I think in the end it will be a  
20 web portal to other sources of information. And what OEHHA  
21 is trying to do is make sure that the information we think  
22 is important in terms of hazard traits, tox end points, et  
23 cetera, is out there in -- either by pointing to ACToR or  
24 pointing to one of these other databases, at least in the  
25 beginning.

1           So, yeah, I mean those points are very well taken.  
2       There's no way they're going to build something de novo.

3           MS. ZEISE:   And I think the suggestion about  
4       building this into a question to identify data sources --

5           DR. MARTY:   Very good.

6           MS. ZEISE:   -- particularly when we have our list  
7       of things that we think would be interesting to also ask  
8       about that.

9           CO-CHAIRPERSON GEISER:   Debbie.

10          CO-CHAIRPERSON RAPHAEL:   I just want to make a  
11       little observation based on what just happened.  I've heard  
12       Dele and Kelly and a bunch of people on this side of the  
13       room giving you suggestions for the questionnaire that are  
14       really answers aimed at DTSC.

15          And they're also getting into tomorrow's  
16       discussion a lot on this side of the room.  And this --

17          (Parties speaking simultaneously.)

18          CO-CHAIRPERSON RAPHAEL:   You're such a  
19       troublemaker, yeah, such a troublemaker.

20          But I mean because they're bringing up amazing  
21       things.  So the point I want to make is that this  
22       questionnaire is actually an opportunity to not only give  
23       information to OEHHA, but also to DTSC.  Because you guys at  
24       DTSC are going to be trying to figure out some ways to move  
25       forward.

1           So I would suggest in the spirit of sister  
2 agencies working together that you might also want to take  
3 this questionnaire and re-think it in terms of answers that  
4 would help both. Because these were outstanding suggestions  
5 for questions. And why go to people twice, right? You're  
6 asking about the same end product, and make use of that.

7           So I would just suggest that the two agencies  
8 think about that.

9           CO-CHAIRPERSON GEISER: Well, not seeing any other  
10 questions, let me just pose a thought that's been sort of  
11 growing in me as I listened over the last sort of 40 minutes  
12 of this discussion.

13           When I look at the questionnaire and I think about  
14 the enterprise that we're engaged in here, I mean we have a  
15 statute that tells where you need to establish the TIC, and  
16 then OEHHA is supposed to come up with the hazard traits.

17           So I go back to that and sort of think about it in  
18 terms of the first couple of questions here in my mind are  
19 intended to help think about how we build that hazard traits  
20 in a way that can be helpful to DTSC in actually building  
21 the database.

22           If you start at a different place it seems to me  
23 this questionnaire may not be the right idea. Let me just  
24 suggest this, that what you're trying to do with the latter  
25 questions, which seem to be more asking what end points or

1 hazard traits are most important to you in making a  
2 decision.

3           And I think about how people make decisions about  
4 chemicals. Stepping away from whether the database works at  
5 all, but rather if you think about either yourself or myself  
6 the way I think I do, or the way we've run a science  
7 advisory board now for 20 years under the Massachusetts  
8 Toxics Use Reduction Program. We monthly ask them to make  
9 decisions about chemicals.

10           And I often will sit quietly and watch as they try  
11 to make a decision about whether to list or delist, or  
12 whether there's a safer substance or what the particular  
13 hazards of a chemical are, things that I think we think  
14 people are going to use this database for.

15           And, you know, it's sort of judgment at that  
16 point. It's the way in which people form judgment about the  
17 hazards of the chemical based on a platform of scientific  
18 data. But it's not very linear. It is looking at a group  
19 of things and trying to make some guesses and some ideas  
20 about what actually may be going on there, with the amount  
21 of information that's at hand at that moment.

22           A questionnaire like this doesn't get at that kind  
23 of thing, because what it's doing, it's asking you to  
24 identify the things you would think are the highest  
25 priorities of the traits or whatever. But that isn't the

1 way I think we make those decisions. I think we make those  
2 decisions in relationship to each -- to a set of variables.

3 Where we're kind of going like it's got this characteristic  
4 and this characteristic and this characteristic. That, with  
5 my experience, normally means that it probably is this level  
6 of concern or something like that.

7 So, here's my suggestion, and that is maybe  
8 another kind of way of gathering some of this later data  
9 would be to actually sit with some people and ask them to  
10 try to make a decision about a chemical. And talk it  
11 through with them, how they actually do do it.

12 Or get a couple of people to work together and  
13 watch them making the decision, such that you can see, in  
14 real time, how real people try to make real decisions about  
15 chemicals. And that may be a different way to gather this  
16 information; might be just as much fun.

17 But I think it might be a richer source of seeing  
18 how the database, how these hazard trait end points really  
19 get used in a real situation. That's just a thought.

20 Other points here? Other things? Roger.

21 MR. McFADDEN: I think you're right -- excuse me,  
22 get closer to the microphone here -- I think you're right on  
23 to something here. It is going back to the idea of a  
24 competitive advantage. In business we talk about what's our  
25 competitive advantage, what do we bring to the consumer that

1 maybe our competitor doesn't. I think that lends itself  
2 well to what either George or Art said earlier about what is  
3 this database going to do that other, you know, resources  
4 don't do for us already.

5 And so I would ask, challenge you with a question:

6 Is this database intended to keep people from using a  
7 chemical, or is it intended to encourage a business or a  
8 user of a chemical to use that chemical?

9 Because in one case you're trying to avoid --  
10 you're trying to run someone off or suggest to them they  
11 should have used a specific chemical. In the other case  
12 you're maybe encouraging them to do it.

13 It reminds me of a trip to the fast food  
14 restaurant with my daughter recently. And I was ready to  
15 order something and she was over reading the charts on the  
16 wall. She overheard what I ordered and she said, "Dad,  
17 stop." I said, what? And she was suggesting that it was  
18 this many calories and this much fat and this much  
19 cholesterol. And so I picked a different thing. And she  
20 said, "Dad, stop." And we went through that like three  
21 times, and I ended up with the salad.

22 (Laughter.)

23 MR. McFADDEN: And I think that if the objective  
24 here is to help the consumer make those informed choices,  
25 that's a good thing. That's something that we probably all

1 need and we all would cherish and all would use effectively.

2           So, if this clearinghouse is going to be a  
3 depository, if you will, for information to help us make  
4 informed choices, then that's a good thing.

5           And then after my daughter left, I ordered --

6           (Laughter.)

7           MR. McFADDEN: -- what I really wanted.

8           CO-CHAIRPERSON GEISER: Well, let me ask, at this  
9 point, the second two questions there on your list. We  
10 haven't spent as much time, but it's been, I think, very  
11 excellent feedback on the questionnaire, very very good.

12           We haven't really asked these two questions, but  
13 these two questions really on the questionnaire, really, --  
14 do you want us to proceed with those questions at this  
15 point, or do you feel comfortable with what you have in  
16 regards to the questionnaire design?

17           DR. MARTY: It's up to you guys. We've gotten  
18 lots of great ideas about the questionnaire, itself. And we  
19 were kind of going to try and see if we could pull some  
20 answers to the questions in the questionnaire out of you  
21 guys if that was possible and there were time.

22           So, really, it's totally up to you. If you feel  
23 like spending the panel's time looking at those last two and  
24 coming up with some answers. In all honesty, those kinds of  
25 questions require some thought, and we would rather have you

1 write it down and send it in after we revise the  
2 questionnaire.

3 CO-CHAIRPERSON GEISER: Well, in a moment here, do  
4 people think -- how do people want to respond to this? We  
5 could try to begin to march off on some of these just to try  
6 out what do people think is the highest priority. Richard,  
7 do you want to say --

8 DR. LIROFF: Just a quick comment. It's sort of  
9 like when are you going to plan the next meeting when a  
10 bunch of people are on a phone call. You've got a captive  
11 audience, and I don't know where the discussion's going to  
12 go, but we ought to take advantage of the time we have  
13 together here.

14 CO-CHAIRPERSON GEISER: I'm willing to do that.  
15 Just think, there's a nice dinner, nice wine out there  
16 someplace, so --

17 (Parties speaking simultaneously.)

18 CO-CHAIRPERSON RAPHAEL: Can I ask a clarifying  
19 question?

20 CO-CHAIRPERSON GEISER: Yeah.

21 CO-CHAIRPERSON RAPHAEL: So just as a clarifying  
22 question, because this came up especially with Meg's concern  
23 about highest priority. You then clarified that to say  
24 which of the ones you use most frequently and why. Is that  
25 really the question that we want to ask, as a group?

1 DR. MARTY: Yeah, because I think that the term  
2 highest priority was confusing to a lot of people and meant  
3 things that we didn't mean it to mean. So, yes.

4 CO-CHAIRPERSON GEISER: Okay, so the question that  
5 we're going to march off on here --

6 DR. MALLOY: I wanted to change the question is  
7 that I would say more for me, I think maybe a little bit  
8 more efficient way of dealing with it such as there's this  
9 list from the prior workshop with, I don't know, maybe  
10 there's 10 or 15 on there. We have nothing more efficient  
11 than to say, okay, here's this list, are there any that  
12 people think ought not be on there, or any that people think  
13 ought to be on there.

14 Because otherwise, I mean it seems like you have  
15 now, or you're going to plan ahead now, or generating a  
16 list. And there's already a starting point of a list that  
17 would be a good starting point. And this way we could look  
18 at the outliers as opposed to -- the workshops from  
19 January --

20 CO-CHAIRPERSON RAPHAEL: Yeah, I just didn't bring  
21 that.

22 (Parties speaking simultaneously.)

23 DR. MALLOY: -- 2009. It was in the materials  
24 that were sent for today. Just an idea. Or maybe you don't  
25 want to do it that way.

1 CO-CHAIRPERSON RAPHAEL: No, it's a great idea.

2 CO-CHAIRPERSON GEISER: Maybe I could ask Ann or  
3 anyone to just read those. People keep in mind, the way  
4 we're framing this question is in situations where you're  
5 making a decision about a chemical, or fantasize that you  
6 are, which of these do you consider and why. Is that right?

7 Yeah.

8 CO-CHAIRPERSON RAPHAEL: And is there anything  
9 missing.

10 CO-CHAIRPERSON GEISER: And is there anything  
11 missing. So, Ann is going to read the ones that came from  
12 the workshop, itself. And then we'll respond to that.

13 DR. WALLIN: Okay. Carcinogenicity; reproductive  
14 toxicity; developmental toxicity; genotoxicity;  
15 neurotoxicity; immunotoxicity; respirator effects including  
16 asthma; cardiovascular effects; effects on other organs, for  
17 example, liver; endocrine disruption; perturbation of other  
18 hormone systems; exotoxicity; sensory irritation;  
19 sensitization; persistence; bioaccumulation; corrosivity;  
20 flammability; reactivity; structural alerts; other physical  
21 chemical properties indicative of a hazard.

22 And if anybody else has printed that off, it's A4-  
23 2.

24 CO-CHAIRPERSON GEISER: So, thinking of how you  
25 make a decision, which of these seem highly relevant in that

1 decision and why. Or which would you not use. I guess I  
2 would still like to say, in context with each other. What  
3 are the ones that you use when you're trying to make a  
4 decision. Ann.

5 DR. BLAKE: I'm going to give the answer that I  
6 use as a joke, but it's absolutely true. It depends, it  
7 depends on the type of decision I'm trying to make. Is it  
8 going to be used, you know, to rate a product. Is it going  
9 to be used to choose a different material to compare against  
10 another material. What's the life cycle. What's the  
11 potential exposure population, the question that Bruce  
12 brought up earlier.

13 So, yeah, it shifts depending on the application,  
14 the decision.

15 CO-CHAIRPERSON GEISER: Art.

16 DR. FONG: In all those attributes the (inaudible)  
17 if it's important. But that's not how we do chemical  
18 analysis. We see what data's available. We don't say, oh,  
19 we need to have data about carcinogenicity. We go and see  
20 what data's available.

21 So while the list of attributes, to use Julie's  
22 terminology, because they all are important. And we don't  
23 like place one being more important than another.

24 How we approach it is what's the data set. Then  
25 we go from there. So it's not a matter of, you know, which

1 one's more important to us in terms of making a decision.  
2 It's what's the data sets available.

3 CO-CHAIRPERSON GEISER: Kelly.

4 DR. MORAN: First -- about ecotoxicity, that's a  
5 very big field, it covers birds and mammals and fish and  
6 lots of other things. But I think everyone's aware of that.

7 But it does always bum me out when I see this, you know,  
8 huge long list of --

9 (Parties speaking simultaneously.)

10 DR. MORAN: -- and I care about that, too. And  
11 then basically --

12 CO-CHAIRPERSON GEISER: Just -- the entire rest of  
13 the animal kingdom -- plant and animal kingdom.

14 DR. MORAN: Yeah. It worries me in the  
15 construction of all of this that we're evaluating those end  
16 points that are actually really important.

17 The big gap I heard there was environmental -- I  
18 mean those are absolutely essential to understanding  
19 anything about what's going on with the chemical. And  
20 there's a broad class of environmental -- data. There's a  
21 number of standard end points; there are a lot of --

22 MS. SPEAKER: Examples?

23 DR. MORAN: Oh, well, you know, half-life in  
24 various media, photodegradation, and yada, yada, yada. So,  
25 those are all there.

1           Two other pieces of information that I use a lot,  
2 but I really am not sure how to handle them in this context,  
3 so I'm not going to suggest you create a whole other  
4 database.

5           But I use environmental monitoring data all the  
6 time because one of the most important things that we have  
7 to ask about is cumulative. A lot of people think well, my  
8 product doesn't release a lot of copper into the  
9 environment.

10           But if you look at how many water bodies are  
11 impaired by copper, a little bit more copper could actually  
12 be quite important.

13           And so having some monitoring data is actually a  
14 really important thing. And I don't suggest that the  
15 clearinghouse we're talking about here include that, but I  
16 think it's going to be important as this process develops  
17 that there be ways that people can find out that kind of  
18 thing. And that is something I use every day. So, if I'm  
19 looking at a chemical and I'm trying to decide if it's  
20 important, I'm going to look for environmental monitoring  
21 data.

22           Now, the big caveat on that is the other thing I'm  
23 always looking for, is there a chemical analytical method  
24 that measures the environmentally relevant concentration.  
25 And by that I mean a concentration that is below the lowest

1 toxic end point in the environment.

2           For those chemicals that we're talking about here,  
3 there will not be a standard method. And that's a huge  
4 problem, too.

5           So those thing I just put out there because  
6 they're actually really important issues to understanding  
7 information around them. Although I'm not really sure how  
8 we handle them in this context.

9           So the -- data is a comment for the database; and  
10 the ecotoxicity comment more generally. But the monitoring  
11 data and the chemical analytical method piece are actually  
12 really important subsequent things. And we need to somehow  
13 recognize that as this process proceeds. Because people  
14 will be coming and looking for that kind of stuff.

15           And there's an awful lot of people who do  
16 decision-making who say, oh, well, this was never detected.

17           And you have to go back and tell them, well, you can't  
18 measure it, or you can't measure it at a concentration that  
19 is anywhere near the concentration that you really care  
20 about, so you get lots of false negatives.

21           CO-CHAIRPERSON GEISER: Thank you, Kelly. George.

22           DR. DASTON: Well, I think it's a fine list that  
23 we can take anything off of it; I mean -- you know, we think  
24 about, want to make sure are okay.

25           The one thing that I think that we need to make

1 sure we state, though, is that in order to make a comparison  
2 between compound A and compound B, which might be entirely  
3 different in the hazard traits, is their potency. And  
4 something about exposure.

5 I mean I wouldn't want to take compound A which  
6 has perhaps the potential, at concentration, to produce a  
7 dire effect and substitute it with compound B, which has a  
8 potential at, you know, ambient concentrations to effect,  
9 you know, lots of people with a single -- with a smaller  
10 kind of exposure.

11 So I think we want to make sure that that's in the  
12 database. And I'm sure that it is. But it's the kind of  
13 thing that can be missed as we start doing this enumeration  
14 of hazard qualities.

15 CO-CHAIRPERSON GEISER: Dan.

16 DR. JOHNSON: Yeah, just on the list was  
17 biomonitoring data from CDC, for instance?

18 DR. WALLIN: No, bioaccumulation but not  
19 biomonitoring.

20 DR. JOHNSON: Biomonitoring should actually, I  
21 think should actually be on there, so you actually see what  
22 exposures humans are actually getting to.

23 The other thing is a lot of those, if you call  
24 them end points, a lot of those trades or end points or so  
25 forth, actually can be both measured and predicted. And the

1 predictive part is what you use to start to fill a gap of  
2 information.

3 But you have to be very aware that whatever  
4 predictive tests you use, whether they're QSAR models,  
5 whether they're structural alerts or whatever, always  
6 contain a certain level of false-positives and false-  
7 negatives.

8 And then the tests will be different, you know,  
9 depending on what database is used to actually create the  
10 predictive model. So there will be false-positives and  
11 false-negatives.

12 And we always deal with decision-making as what's  
13 the worst situation, a false-negative or a false-positive.  
14 And with different types of compounds and other different  
15 uses, you know, one is throwing out the baby with the bath  
16 water, and the other one is saying something's safe when it  
17 actually isn't. So you have to be aware of that type of  
18 approach with predictive.

19 DR. OGUNSEITAN: As you were reviewing the set of  
20 11 questions I was thinking about chemicals that are not  
21 toxic in the traditional sense, but fall in the green  
22 chemistry.

23 I thought particularly about CFCs, and whether  
24 there is a question we could add to make people think about  
25 those categories. And persistence is the only one on that

1 list that I thought would capture that.

2 But we wouldn't even think of CFCs without water.

3 I mean we think of chlorinated hydrocarbon compounds, for  
4 example. But it's important to pay attention to those  
5 chemicals that are not toxic, but dangerous.

6 DR. MARTY: Yeah, we totally intend to use ozone  
7 depletion and global warming potential as hazard indicators.

8 If we didn't, ARB would tell me that.

9 DR. WILSON: Yeah, I mean obviously all of these  
10 are important, and I guess this sort of picks up on Dele's  
11 point that in terms of setting priorities, one consideration  
12 is transgenerational justice issues.

13 And so questions of substances that we are going  
14 to deliver into future generations really irrespect of their  
15 toxicity, in my mind, rise to the top. And those would be  
16 substances that are very bioaccumulative, very persistent,  
17 based on, you know, good measures of those properties.

18 There are some measure out there that aren't so  
19 robust. And that seems to be a task to come up with a good  
20 measure of persistence and bioaccumulation that the State of  
21 California believes is the most well protected. Those  
22 substances, if we're going to deliver into future  
23 generations, seem to be a high priority.

24 And the second being substances that affect the  
25 germ line. And so these are the carcinogens, mutagens and

1 reproductive toxicants, in terms of, you know, if we're  
2 looking at population-level effects, for which we're  
3 chargeable.

4           And I would reiterate George's point, I think  
5 Dale, also, that, you know, the questions of exposure that  
6 are not -- seem to be in support that they be included  
7 somehow in this. And those would be, you know, appear in  
8 biomonitoring studies; they're present in consumer products.  
9 They are used in uncontrolled occupational settings. For  
10 example, would be three reasonably, you know, usable  
11 measures of exposure, surrogates of exposure.

12           CO-CHAIRPERSON GEISER: Debbie.

13           CO-CHAIRPERSON RAPHAEL: Okay, I have several  
14 thoughts on this list, and I don't know, the two -- I mean I  
15 use these kind of criteria all the time, as well. There's  
16 nothing I would take off of here.

17           Just to comment on again the value is in how you  
18 -- to the user you don't want to eliminate these. I mean  
19 what we do when we do an alternatives assessment with this  
20 kind of list of criteria is we weight them differently. And  
21 that's how we internally prioritize them.

22           So we have, if we're going to buy a less toxic  
23 paint, and we're using these as our criteria, we would have  
24 pass/fail criteria, and we would have relative ranking  
25 criteria. So that we wouldn't eliminate something based on

1 its pH, but we might eliminate something if it's a  
2 carcinogen.

3           So that just gets to the point of don't eliminate  
4 anything, don't assume that one is more important. Let us,  
5 the users, make our weighting and our contextual use of that  
6 information.

7           One of the things that we've used, the other, and  
8 this gets to, I think, Ken's issue about there's so much  
9 context that goes on in this. Because something in the San  
10 Francisco Bay Area, like copper, which is what Kelly was  
11 talking about, becomes very important. Whereas in another  
12 setting copper isn't so important.

13           And one of the ways we get at that is this section  
14 303-D listing, which is -- that's what the Clean Water Act,  
15 is that -- yeah, so that's a listing of contaminants in  
16 water bodies. So that's a very useful list. It's also very  
17 local.

18           I don't know where that kind of information -- I  
19 mean that's real exposure environmental accumulation real-  
20 time data, and I don't know where that shows up there. I'm  
21 assuming you've got the toxic air contaminants idea already  
22 because you talked to ARB.

23           The final piece on this that I think I get  
24 wondering how we handle it, is what happens -- and this was  
25 something that was talked about. This side of the room has

1 such good things, I don't know who's saying what. But  
2 nothing against this side of the room.

3 (Parties speaking simultaneously.)

4 CO-CHAIRPERSON RAPHAEL: Sorry.

5 (Laughter.)

6 CO-CHAIRPERSON RAPHAEL: That came out so wrong.  
7 That came out so wrong.

8 MR. SPEAKER: Julie is --

9 CO-CHAIRPERSON RAPHAEL: She's the genius. I'm  
10 turning bright red, that came out totally wrong. Turn that  
11 camera off.

12 And this has to do with disposal. So I'm thinking  
13 of end of life. So, nomo phenyl oxalate, so when we look at  
14 NPEs, one of the things we worry about them in cleaning  
15 products is not the actual chemical, but what happens when  
16 it breaks down in the environment. Because when it breaks  
17 down in the environment the end products are more toxic than  
18 the original. I don't know how you deal with that up there,  
19 but it's really important.

20 The other thing is dioxin formation. You know,  
21 some things, as a municipality, if we're going to burn it  
22 and it creates dioxins, that becomes a problem.

23 So, again, these are other things that when we did  
24 an alternatives assessment for utility poles, you know, what  
25 is the most environmentally preferable utility pole. We

1 were doing alternatives work looking at this, we worried  
2 about dioxin formation from some of the creosotes and other  
3 things that were going to be in the poles because they do  
4 get burned.

5 So, I don't know where you put that in there, but  
6 it's really important in our alternatives assessment.

7 DR. MARTY: Okay, can I just stop there and ask  
8 you a question.

9 CO-CHAIRPERSON RAPHAEL: Yeah.

10 DR. MARTY: You mentioned the toxic air  
11 contaminants, so are you -- I'm wondering what you're  
12 getting at there. You state so as a hazard trait it should  
13 be things that are already on a list or --

14 CO-CHAIRPERSON RAPHAEL: Possibly, I don't know.  
15 I mean that's where this list versus hazard trait  
16 intersection becomes challenging. So what is the hazard  
17 trait that would capture that important list of toxic air  
18 contaminants.

19 DR. MARTY: Yeah, it depends on the --

20 CO-CHAIRPERSON RAPHAEL: So if --

21 DR. MARTY: I've been in that program for 25  
22 years. Some of them are carcinogens, some --

23 CO-CHAIRPERSON RAPHAEL: Okay, so if they're  
24 already captured then that becomes a non-issue. So,  
25 although to this other point of adding to this already huge

1 database, that it would be lovely to know which one of those  
2 are listed as toxic air contaminants and which ones are  
3 already on the 30-D list. I mean that is getting at some of  
4 the things people were saying of really linking the  
5 usability. But I just know this is already huge, so.

6 CO-CHAIRPERSON GEISER: I think, Julie, you're  
7 next.

8 CO-CHAIRPERSON RAPHAEL: No, Meg.

9 CO-CHAIRPERSON GEISER: Oh, Meg.

10 (Parties speaking simultaneously.)

11 MR. McFADDEN: You need to call on this side of  
12 the room a little bit more to even the score out.

13 DR. SCHWARZMAN: I wanted to just touch on the  
14 issue of potency that George raised. Because it's a tangled  
15 issue, and I know you're aware of how potentially tangled it  
16 can become. But just to raise the point that potency, in  
17 itself, in a way isn't a hazard trait, and isn't sort of up  
18 there on that list because its potency starts to get at how  
19 you're completing the holes in the -- or the blanks that you  
20 create in an information clearinghouse.

21 So you've said your end point or your trait of  
22 interest here, attribute, is carcinogenicity. And so then  
23 the potency is carcinogenic at what level, to whom. Right,  
24 that's the potency.

25 So then you're asking to fill in a number, which

1 is somebody's lowest observed effect level or something.  
2 And now you have to bring up the issues of how do you choose  
3 which number to put into that.

4 But all of that implies a bunch of assumptions  
5 about the end point that you're interested in has been  
6 tested for, has been tested for at the dose that creates  
7 that end point.

8 So something may be a very potent carcinogen, but  
9 not potent at all into (inaudible). But that raises -- as  
10 you think of putting some nonclassic indicators of hazard  
11 into an information clearinghouse, I think this gets  
12 trickier and trickier.

13 So, end points for which we have a lot of  
14 information that then we're just sorting through values in  
15 existing studies and weight of evidence, then that's sort of  
16 more manageable. But if we start even looking at, you know,  
17 one of the topics on here, just endocrine disruption, and  
18 then we think about potency, that gets very difficult very  
19 fast.

20 And everybody knows about the issue of low dose  
21 effect. That substance may be very very potent at low doses  
22 where they appear to have no effect at a higher dose. Or  
23 different effect at different end point shows up at a higher  
24 dose.

25 So that's maybe not so constructive to just sort

1 of like raise a bunch of stuff, but just to push back a  
2 little bit on the issue of potency being a linear, you know,  
3 trait that you can say this one is more, this one is less,  
4 across the board.

5 DR. DASTON: I actually --

6 (Parties speaking simultaneously.)

7 DR. DASTON: Yeah, just to respond. I did mean it  
8 like that. And I do believe that it is an intrinsic  
9 property just as much as physical chemistry is.

10 I mean it is the physical chemical characteristics  
11 of the chemical, per se, that relates to how it interacts,  
12 with what affinity it interacts with its receptor, or how  
13 reactive it is at what site.

14 And these are really physical chemical  
15 characteristics of the chemical that are as much of the  
16 description, the attribute of that chemical as anything else  
17 that we've talked about.

18 Now, you know, we could talk for a long time about  
19 the other points that overlay this that I think are also  
20 critically important to be brought up. I mean it does  
21 matter, you know, what the target is. It does matter what  
22 the context is. It does matter how one actually measures  
23 what that potency is.

24 And I think that, you know, that sort of  
25 granularity actually isn't needed in order to, you know,

1 really make good decisions about whether something is a good  
2 substitute or not, if, in fact, that's one of the purposes  
3 of this clearinghouse of information.

4 DR. SCHWARZMAN: I mean I think basically we're in  
5 agreement, but that just to say that potency isn't a trait  
6 like the others because it is potency at what end point,  
7 which is what you were saying. So it's not a trait at the  
8 same sort of level of granularity of some other traits.  
9 Because it's what you fill in a box of the clearinghouse  
10 with. It's the information we fill in. It's not its own  
11 category.

12 DR. DASTON: Yeah, I think we're saying the same  
13 thing. It's a descriptor that one would want just as much  
14 as one would want the other descriptors.

15 CO-CHAIRPERSON GEISER: Anne.

16 DR. WALLIN: I'll be quick. As a comment back to  
17 the previous conversation. You mentioned a couple of life  
18 cycle categories, global warming, ozone depletion. You  
19 didn't mention a few others, which I would assume would be  
20 covered, but I'll say them anyway. Acidification,  
21 nitrification, protochemical smog potential.

22 I mean I would, if you're going to pull in one or  
23 two of them, you might as well pull in sort of the standard  
24 suite that argues by life cycle assessment folks.

25 DR. SCHWARZMAN: Sure.

1 DR. MARTY: Okay, remember, we didn't create this  
2 list for the purpose of this discussion. In fact, we didn't  
3 even create this list.

4 DR. WALLIN: Right.

5 (Parties speaking simultaneously.)

6 DR. BLAKE: I was actually going back to Debbie's  
7 comment and trying to figure out how to put this into a  
8 hazard trait and maybe it doesn't belong here, or is an  
9 expansion of one of these, this list that you didn't create.

10 The other physical chemical properties. We deal a  
11 lot with the unintentional breakdown in the environment and  
12 the additional environmental and human health impacts,  
13 tricotine is the one that comes to mind.

14 And I'm thinking about the list and how that's  
15 half pesticides and half unintentional byproducts. So I'm  
16 trying to figure out how I would fit into a hazard trait the  
17 potential for unintended byproducts. And I think you can  
18 get to it from physical chemical properties. Because if you  
19 look at the structure of tricotine it's hardly a surprise  
20 that it's going to break down into dioxins and furans, when  
21 exposed to UV, which is exactly what we've created by not  
22 entirely capturing it in wastewater. It's only 95 percent  
23 captured.

24 So that's what I'm struggling with, where do we  
25 put that; somehow capture that. Is that a hazard trait, I

1 don't know, I'm just posing a potential for unintended  
2 byproduct breakdown.

3 DR. MARTY: Yeah, I think that was mentioned  
4 earlier by someone that, you know, we think that's pretty  
5 important. You can't just look at the parent compound.

6 DR. BLAKE: Sure.

7 DR. MARTY: You have to understand how it's broken  
8 down.

9 DR. BLAKE: But how do you price it and where do  
10 you draw the line.

11 DR. MARTY: Just like you have to understand how  
12 it's metabolized.

13 DR. BLAKE: Yeah, or your epigenetics.

14 CO-CHAIRPERSON GEISER: This brings up, I mean we  
15 have to understand that what we're doing is building a  
16 database -- I think what we're doing is building a database  
17 about what do we know about the scientific properties  
18 attributes of a chemical at a moment in its life cycle. And  
19 that's always an assumption there.

20 We have to understand, of course, that's a very  
21 questionable subject. Those chemicals don't just live for a  
22 moment in that life cycle. That they are a dynamic thing.  
23 Every chemical has a story. Every chemical comes from some  
24 place, and every chemical goes some place.

25 And in order to make many chemicals, some of which

1 are not particularly hazardous, requires very hazardous  
2 chemicals. And in some ways, that history if embedded in  
3 that chemical, as well, as what its breakdown products are  
4 going to be is embedded in that chemical.

5 And that creates a very complex kind of a thing to  
6 try to understand. But I think -- and I don't think we're  
7 asking our database to do that, but I do think we can't  
8 forget that chemicals have an embedded-ness of all these  
9 other contextual things, some of which are locked into that  
10 chemical as tightly as the actual physical chemical  
11 characteristic is.

12 And so somehow we might want to note that,  
13 particularly for people who are using the database. It's  
14 one thing for the data to be there as a platform for our  
15 use, it's another thing for giving guidance to people about  
16 how to think about it.

17 DR. MARTY: Yeah, if you guys have a good database  
18 where that type of information exists, that would be super,  
19 you know. Styrofoam always comes to mind, it's made out of  
20 styrene and they add benzenes. So that would be great.

21 MS. ZEISE: You know, I wonder if we should kind  
22 of think, as we move ahead, about how one might have a check  
23 for toxic, that something that degrades to something more  
24 toxic, that would then point to -- say if it degrades to a  
25 dioxin, then you could have a point to the dioxin field.

1           So we can play with that idea, kind of think about  
2 how it might work.

3           CO-CHAIRPERSON GEISER: Ann.

4           DR. BLAKE: The only trouble with that issue, I  
5 don't think there is a database, but we can tap into, you  
6 know, the one struggled with is -- surfactants. What  
7 process does it take; what kind of contamination does it  
8 leave it behind; how relevant is it. Then you bring in the  
9 exposure piece, as well.

10          But I don't know that there's one place you can  
11 get that information.

12          MS. ZEISE: But where we do know it you might want  
13 to capture in --

14          DR. BLAKE: Yeah.

15          MS. ZEISE: -- your characterization for that  
16 chemical. So we can, you know, think about how one might do  
17 that.

18          CO-CHAIRPERSON GEISER: If California stumbles on  
19 a large amount of modeling, it would be nice to --

20          (Laughter.)

21          CO-CHAIRPERSON GEISER: -- have all that --

22          DR. MARTY: Good idea, we'll put it on the list.

23          CO-CHAIRPERSON GEISER: Other comments on this?  
24 We've gone a ways trying to provide some advice on what are  
25 our priorities. We've taken a look at this list. Added a

1 bunch of hazard traits or others that might be important to  
2 think about.

3 Any remaining comments on this?

4 Okay, any questions remaining on your card?

5 DR. MARTY: Thanks for all the input. It's very  
6 useful.

7 CO-CHAIRPERSON GEISER: Fine, thank you. We hope  
8 these comments are helpful and we, of course, as a science  
9 advisory panel, also would be appreciative if you'd let us  
10 know the thing --

11 (Parties speaking simultaneously.)

12 CO-CHAIRPERSON GEISER: Oh, Mike.

13 DR. WILSON: One last thing is that if it's of use  
14 to the process that you're going through, is that we're  
15 developing this list of substances that are identified by  
16 authoritative bodies around the world. Sort of the, you  
17 know, it's the street lamp issue. But it turns out, you  
18 know, that there is no sort of compilation as yet.

19 And so we're -- working on that processing,  
20 cleaning that database and so forth. And so, you know,  
21 we'll make that available to you as a, you know, as a part  
22 of the database.

23 CO-CHAIRPERSON GEISER: Thank you, Mike.

24 So with that, I think I'm going to turn this over  
25 to Kathy to close out the day and tell us where we can find

1 the nice meal and wine.

2 MS. BARWICK: I know a little bit more now than I  
3 did at lunchtime. It turns out that if I consult my out-of-  
4 town DTSC colleagues they know where the good places to eat  
5 around here are.

6 So we might ask Yolanda. Yolanda actually  
7 directed us to a very nice Thai restaurant right down, is it  
8 Duckhorn, is that -- you just turn left, go out of the  
9 parking lot, follow it around, you'll come to another  
10 shopping center.

11 Evening is a better time to go to the Virgin  
12 Sturgeon, which Debbie and Ken went to last night. It's not  
13 a chain. There's not another one like it anywhere. It's a  
14 fun place. It floats on the Sacramento River. And to get  
15 to the restaurant you have to walk down an old plane  
16 fuselage. So, if you're interested in that, just go down  
17 highway 5 south, just before you get to town. And take a  
18 right on Garden Highway. It's a fun place to go.

19 There, of course, are lots of places in  
20 Sacramento. You're not far from Sacramento proper. And Old  
21 Sac has a lots of nice places, as well.

22 I'd like to thank all of you for being here today.

23 And I know you're all coming back tomorrow. And I want to  
24 thank staff for their excellent presentations. It was very  
25 wonderful to see all the work that they've done.

1 (Applause.)

2 MS. BARWICK: And I'm speaking on behalf, of  
3 course, of Chief Scientist Wong, as well as Director  
4 Movassaghi.

5 And we will reconvene tomorrow morning at 9:00.

6 And on behalf of Joe Smith, I will, once again,  
7 we're all very aware of our Bagley-Keene Open Meetings Act,  
8 and so we'll refrain from having those sensitive discussions  
9 about agenda items while we're enjoying ourselves.

10 Art?

11 DR. FONG: Yes, could you put me next to Julie  
12 tomorrow?

13 (Laughter.)

14 DR. FONG: This is not a commentary about George  
15 or Kelly.

16 (Laughter.)

17 DR. FONG: But I like the idea of, you know, being  
18 close to brilliance. I think some it might rub off. So, if  
19 it's not too much trouble --

20 (Parties speaking simultaneously.)

21 MS. BARWICK: Okay, thank you, and we're adjourned  
22 until tomorrow morning at 9:00. Thank you so much.

23 (Whereupon, at 4:34 p.m., the meeting was  
24 adjourned, to reconvene at 9:00 a.m., Friday,  
25 January 29, 2010, at this same location.)

## CERTIFICATE OF REPORTER

I, JOHN COTA, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Department of Toxic Substances Control Green Ribbon Science Panel Meeting; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting, nor in any way interested in the outcome of said matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 7th day of February, 2010.

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JOHN COTA, Official Reporter

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I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

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February 7, 2010