

STATE OF CALIFORNIA  
ENVIRONMENTAL PROTECTION AGENCY  
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GREEN RIBBON SCIENCE PANEL  
MEETING

VOLUME I

Cal/EPA HEADQUARTERS  
CONFERENCE ROOM 550  
1001 I STREET  
SACRAMENTO, CALIFORNIA

THURSDAY, JULY 14, 2011

9:30 A.M.

EHLERT BUSINESS GROUP

(916) 851-5976

APPEARANCESGreen Ribbon Science Panel Members

William F. Carroll, PhD, Co-Chair

Ken Geiser, PhD, Co-Chair

Ann Blake, PhD

Bruce R. Cords

Tod Delaney, PhD

Arthur T. Fong, PhD

Joseph Guth, PhD

Lauren Heine, PhD

Dale Johnson, PhD

Michael Kirschner

Richard Liroff, PhD (via Webcast)

Timothy F. Malloy, JD

Roger McFadden, PhD

Kelly Moran, PhD

Oladele A. Ogunseitan, PhD

Robert Peoples, PhD

Anne Wallin, PhD

DTSC Staff

Deborah Raphael, Director

Odette Madriago, Chief Deputy Director

Kathryn Barwick

Trina Gonzalez

Colleen Heck, Senior Staff Counsel

Kelly Kirkpatrick

Bruce La Belle

Daphne Molin

Hortensia Muñiz-Ghazi

Sushasini Patel

Evalia Rodriguez

Corey Yep

Also Present

Dawn Koepke

McHugh & Associates/Green Chemistry Alliance

Bridgett Luther

Cradle to Cradle Products Innovation Institute

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1 and out the front door. So that's what happens if we have a  
2 fire alarm.

3 So I am going to do a very quick agenda review for  
4 the meeting for today. We are going to start with some  
5 opening remarks from our Director Debbie Raphael and then  
6 we'll do some introductions.

7 And we are going to start the substantive  
8 conversation with Odette presenting information about the  
9 work of Subcommittees 1 and 2 on alternatives assessments.

10 We'll have opportunities for clarifying questions  
11 from the panel and an opportunity for public comment.

12 There will be a break sometime during the morning  
13 at the discretion of your chair and then we'll start having  
14 the Green Ribbon Science Panel discussion and advice for us.

15 We will have lunch at noon today so everybody --  
16 so that you know, we have an hour and 15 minutes planned for  
17 lunch. Then we'll come back and have more discussion about  
18 alternatives analysis.

19 Tomorrow we will do the Subcommittee 3 topic,  
20 quality assurance through alternatives assessments.

21 And before I turn this back over to our Chair this  
22 morning I am going to just say briefly what happens during  
23 the public comment period. The public is very welcome to  
24 make comments to the panel. I have some cards here. If you  
25 would write your name down on the card. And we'll go around

1 and pass cards out. Just indicate to us, one of us staff,  
2 Kelly or myself will come around. And just fill out your  
3 desired -- just put your name down there.

4 What we want to try to do before the beginning of  
5 the comment period is determine how many people wish to make  
6 comments. So that's what we would like to do. So you can  
7 do -- fill out the comment card any time.

8 And I think I've covered everything I need to; I  
9 hope.

10 CO-CHAIR CARROLL: Very good, thank you, Kathy.  
11 And at this point I would like to introduce Director Raphael  
12 for some opening remarks.

13 DIRECTOR RAPHAEL: Thank you, Chairs. Thank you,  
14 Kathy, for that introduction. And welcome, everyone, to  
15 this cozy gathering in this room. So I would like to start  
16 with saying that this is an incredibly exciting moment for  
17 me of transition from one of you to one of us.

18 Our last meeting I was silent because I was in  
19 purgatory and now I get to speak so that is very exciting  
20 for me. I have to tell you that being the director of DTSC  
21 is one of the most wonderful gifts that I could have ever  
22 received.

23 The staff are phenomenal. The people that we are  
24 talking to on that side of the room, on this side of the  
25 room, to witness their dedication is truly humbling and I

1 think we have a lot to be grateful for that there are staff  
2 who are engaged in the way they are and as dedicated to the  
3 mission to see this through as we are.

4 I also am deeply grateful to all of you. The  
5 amount of time that you have spent on these calls. You  
6 know, we have really shifted the focus and the way this  
7 panel has operated to being one of large gatherings, large  
8 brainstorming, to one of homework, you know, accountability.  
9 You know, you have an idea, put it in writing, let's debate  
10 it on these calls. And the amount of productivity and help  
11 to staff is phenomenal. So please know that your time is  
12 noted and appreciated and incredibly useful to us as we move  
13 forward.

14 I want to just talk a little bit about how I am  
15 framing the task ahead of us. And many of you might have  
16 heard this but I want us to keep these ideas in mind as we  
17 move forward. And there are people around the room sitting  
18 behind you at your backs that have been as engaged as you  
19 all are and we are as grateful to their dedication as we are  
20 to all of yours.

21 So some of them have heard this from me as well  
22 and I say it again because sometimes things that are  
23 important enough bear repeating. The way I look at the task  
24 at hand is that we are going to measure our success with  
25 three barometers, three levels of accountability, if you

1 will. They are that these regs need to be practical,  
2 meaningful and legally defensible. So as we give ideas and  
3 we debate ideas for how we are going to work on alternatives  
4 assessment today and tomorrow I want us to keep thinking  
5 about these three items.

6           Practical. We have to implement this with  
7 existing resources. It doesn't mean we won't get resources  
8 as a department later, but in the short term we are existing  
9 resources. We have a dedicated staff, we can move some  
10 people around, but we are not going to be adding an army of  
11 people. So it has to be practical for DTSC.

12           It also has to be practical for many of the people  
13 who are sitting behind you in this room in that if we give  
14 them confusing guidance on alternatives assessment and they  
15 can't figure out what to do or how to do it then what we're  
16 going to get back is gobbledy-gook and we're going to just  
17 be in a never-ending "no, that's not what we meant," "oh,  
18 you need more time, okay." So nothing happens. So it has  
19 to be practical and understandable to our target audience,  
20 which are the industries that must implement it.

21           In terms of meaningful. If all we have done is  
22 give those industries an assignment to do paperwork and  
23 nothing happens then we're wasting our time. So this has to  
24 be meaningful and it has to be meaningful not only to DTSC  
25 but to the general public. People have to understand what

1 it is we have accomplished at the end of the day.

2           And in terms of legally defensible, we have  
3 lawyers around the table, we have lawyers behind you. If at  
4 some point we get sued we need to be confident that we'll  
5 win. So we need to be confident that the boundaries of our  
6 authority are appropriate and that we can actually do what  
7 we set out.

8           So in order to meet those three bars what I have  
9 done as Director is expand the team of people really  
10 focusing on these regs. So while you have the core sitting  
11 in front of you, we have the Attorney General's Office  
12 working with us right now closely on the legally defensible.

13 I am working to get Department of Public Health and OEHHA  
14 with us in a detailed way to look at meaningful.

15           And on practical we have brought the implementing  
16 parts of DTSC into the conversation. So Trina Gonzalez here  
17 is the head of our Pollution Prevention team and it is going  
18 to be her shop that will implement this. So she has got  
19 staff, we call them the Bridge Staff. So they are working  
20 with the regs team to make sure whatever we come up here,  
21 her team understands and can implement.

22           The other piece of practical is that I have  
23 invited industry through John and Dawn behind you over there  
24 to help me invite industry to help us look at these regs  
25 through that practical lens. Can we do it? Do we

1 understand it?

2           So that's sort of the vision for moving forward.  
3 There is a strategy in meetings to hold the raffle prize to  
4 the end so that people stick around. And so my version of  
5 raffle prize will be tomorrow at the end I will announce a  
6 timeline.

7           (Laughter.)

8           DIRECTOR RAPHAEL: So those of you who are  
9 uncomfortable now might want to go take a walk and you can  
10 just come back tomorrow.

11           So we have been thinking long and hard about how  
12 we move this forward. The Governor would never have  
13 appointed me to be director if he didn't care about these  
14 regs. If he really didn't care about these regs he would  
15 have appointed somebody who is a scientist is clean-up  
16 technologies. So by putting me here it's because he wants  
17 these done. And he fully understands those three buckets  
18 that we are using and is very excited about this direction.

19           So I need to get this done, you guys want to get  
20 this done, California wants to get this done. And we will.

21           And I am extremely excited and confident because it's  
22 taking shape, it's really taking shape. And I think that  
23 everyone around this table can feel really proud for their  
24 role in it. Because without all of your brainpower it  
25 wouldn't be taking shape.

1           So with that I would like to turn it over to two  
2 of, in my world, the most important colleagues I could have,  
3 Bill Carroll and Ken Geiser. I am so grateful to their  
4 dedication on this as chairs and as truth-challengers to me.

5       You know, when I put a crazy idea out on the table they'll  
6 rein me in or they'll agree with me depending on what it is.

7           So with that, thank you again. And my role today  
8 is the receiver so if I have questions I may give them to  
9 Odette or Ken. But I am here to listen and think along with  
10 you, if not to participate in that same way. So thank you.

11           (Applause.)

12           CO-CHAIR CARROLL: Thank you, Debbie. And  
13 speaking on behalf of the panel, and I'm sure each of them  
14 will have the opportunity to say this to you, we really look  
15 forward to working with you, particularly because you have  
16 had the experience of working alongside us.

17           Kathy, do you want to clear your comment now?

18           MS. BARWICK: I knew there was something I forgot.  
19 For the public comment period we do have webcast. I think  
20 people are able to access that right now. We're having a  
21 little bit of problems with it; I have been able to get it  
22 on Firefox but not Safari. So if you are listening in try  
23 that one.

24           If you would like to make a comment from the  
25 webcast you can submit them to the green.chemistry -- what

1 is the address?

2 (Laughter.)

3 MS. BARWICK: It's green.chemistry@dtsc.ca.gov. I  
4 apologize for stumbling over that. But I will be monitoring  
5 that mailbox if you would like to submit comments there.

6 The sooner you submit them the better because  
7 sometimes we have a little lag time when we're doing the  
8 webcast. What I found out is that we'll wait for, you know,  
9 45 seconds to see if comments come in but it takes that long  
10 for you to receive the signal. So the sooner you get the in  
11 the better, thank you.

12 CO-CHAIR CARROLL: Thank you, Kathy.

13 Now I guess it's time for introductions and here  
14 is the way I'd like to do this. I would like to start with  
15 just the panel going around the table, introducing yourself  
16 and your affiliation.

17 And then Odette, I would like you, if you would  
18 please, introduce yourself and help us to make sure that we  
19 are introduced to all the relevant staff who are here. If  
20 you would do that for me, please.

21 Okay, we'll start down there. Tod, it's all  
22 yours.

23 PANEL MEMBER DELANEY: Tod Delaney with First  
24 Environment.

25 PANEL MEMBER BLAKE: Ann Blake, environmental and

1 public health consultant.

2 PANEL MEMBER FONG: Art Fong, IBM.

3 PANEL MEMBER GUTH: Joe Guth, Science and  
4 Environmental Health Network and also affiliated with the  
5 Berkeley School of Public Health and the Berkeley Center for  
6 Green Chemistry.

7 PANEL MEMBER HEINE: Lauren Heine, Clean  
8 Production Action.

9 PANEL MEMBER McFADDEN: Roger McFadden, Staples.

10 PANEL MEMBER PEOPLES: Bob Peoples, ACS Green  
11 Chemistry Institute.

12 CO-CHAIR CARROLL: Bob, is your mic actually on?  
13 It kind of isn't.

14 PANEL MEMBER PEOPLES: Okay.

15 CO-CHAIR CARROLL: Okay. You're going to have to  
16 get up to it.

17 CO-CHAIR GEISER: Ken Geiser, University of  
18 Massachusetts, Lowell and the Lowell Center for Sustainable  
19 Production. I'm the Director.

20 CO-CHAIR CARROLL: The old question, who am I and  
21 what am I doing here? Bill Carroll, Occidental Chemical  
22 Corporation.

23 PANEL MEMBER CORDS: Bruce Cords, Ecolab.

24 PANEL MEMBER JOHNSON: Dale Johnson, UC Berkeley  
25 and Emiliem, Inc.

1 PANEL MEMBER OGUNSEITAN: Dele Ogunseitan, UC  
2 Irvine.

3 PANEL MEMBER MALLOY: Good morning. I'm Tim  
4 Malloy from the UCLA School of Law and the Sustainable  
5 Technology and Policy Program.

6 PANEL MEMBER WALLIN: Anne Wallin, the Dow  
7 Chemical Company.

8 PANEL MEMBER MORAN: Kelly Moran, TDC  
9 Environmental.

10 PANEL MEMBER KIRSCHNER: Mike Kirschner, Design  
11 Chain Associates.

12 CO-CHAIR CARROLL: All right, very good. Odette,  
13 it's all yours.

14 CHIEF DEPUTY DIRECTOR MADRIAGO: Okay. And I'm  
15 Odette Madriago, Chief Deputy Director for the Department  
16 and team leader for the great group of staff that are  
17 working on these regulations. Let me see. Five of them in  
18 the back there. The five of you want to introduce  
19 yourselves?

20 MS. HECK: Colleen Heck, I'm with the Office of  
21 Legal Counsel.

22 MS. MUÑIZ-GHAZI: Hortensia Muñoz, Office of  
23 Policy.

24 MS. RODRIGUEZ: Evalia Rodriguez, I'm with  
25 Pollution Prevention and Green Technology.

1 MS. YEP: Corey Yep, I'm with the Office of  
2 Policy.

3 MS. MOLIN: Daphne Molin, P-2.

4 CHIEF DEPUTY DIRECTOR MADRIAGO: And we also have  
5 Kelly Kirkpatrick back there who has been helping us out  
6 quite a bit. She is a fellow and unfortunately we are going  
7 to be losing her in another week or so but she has been a  
8 great help to us as we have been doing research in support  
9 of the subcommittee efforts.

10 We have Trina Gonzalez who Debbie already  
11 introduced. Chief of our Pollution Prevention Program. And  
12 also over there against the windows is Bruce La Belle who  
13 heads up our lab for us. I think that covers DTSC staff in  
14 the room.

15 CO-CHAIR CARROLL: Very good, thank you, Odette.  
16 So I guess it's pretty obvious the topic for the next couple  
17 of days is alternatives assessments and we have had a number  
18 of conference calls leading up to this in order to formulate  
19 the kinds of materials we are going to be talking about.

20 What I would like to do at this point is turn it  
21 over to Ken who will kind of tee up the first part of the  
22 discussion on alternatives assessments and tiered  
23 alternatives assessments and set us up and then Odette will  
24 have comments after that.

25 I also want to say before we go any further. Art,

1 it takes a lot of guts to be rocking fluorescent yellow  
2 sneakers.

3 (Applause and whistles.)

4 PANEL MEMBER FONG: Thank you, Chair.

5 (Laughter.)

6 PANEL MEMBER FONG: I'm just trying to keep up  
7 with this green theme that we're having. And I notice that  
8 I am not the only person wearing green today so stop picking  
9 on me.

10 (Laughter.)

11 CO-CHAIR GEISER: Well thank you and welcome as  
12 well on my behalf as well, it's great to be here. I thank  
13 so many of the panel members for coming to the meeting  
14 today. It's great to have even Anne Wallin who I think came  
15 in from Zurich so thank you very much, Anne.

16 What I am going to do is just note where we are in  
17 the process and then turn this over to Odette to talk about  
18 the draft that we are going to be working from today.

19 We had, as you know, six phone calls coming up to  
20 this meeting. We divided it up into three different  
21 subtopics, three different committees, people worked hard on  
22 those. Two of those topics we're taking up today; the third  
23 topic having to do with data quality and issues regarding  
24 validation we'll take up tomorrow.

25 I just want to note that those committee

1 discussions and just maybe hit some of the highlights before  
2 I turn this over to Odette. We made a decision amongst  
3 ourselves that we would take up Subcommittee 1 and 2  
4 together today because they seemed to flow together even  
5 though we held them separately. It just felt better to see  
6 the logic of both the discussion about the actual  
7 requirements for the basic principles of the basic elements  
8 of alternatives assessments and for the idea of a tiered  
9 approach and we will do that together.

10           On the first subcommittee we basically did take a  
11 look at what the basic elements would be. We looked at the  
12 basic requirements that are in the legislation itself and we  
13 looked at whether we could prioritize those in some way. We  
14 did identify -- most of the people felt like a sequence of  
15 steps was important. We noted the need for something called  
16 necessary -- necessity as a part of that.

17           We portended to understand and have a good  
18 discussion around prescreening and the need for prescreening  
19 before we got to the actual screening process. Tim Malloy  
20 gave us a very nice set of principles to work from and the  
21 idea of consistent, transparent, rigorous and proportional  
22 and we see that in some of the writing that the Department  
23 has done since.

24           We took up the question of life cycle  
25 requirements. Noting that the legislation requires what you

1 might call a full life cycle assessment but that the  
2 language leaves it a bit open as to what that actually  
3 means. There was a general feeling that we should find ways  
4 to tailor the life cycle responsibility to the level of  
5 something such that one didn't have to do a full LCA in the  
6 way that that is being done professionally for every  
7 alternatives assessments but we do need to cover the 13  
8 elements.

9           We talked a good deal about the 13 elements. We  
10 walked about whether they could be grouped and also whether  
11 those groupings could be prioritized. You're going to see  
12 some of that in the actual draft that we have. We talked  
13 very briefly about time frames. Should the Department set  
14 time frames.

15           On the second subcommittee, the one to do with  
16 tiering, we considered various approaches to differentiate  
17 tiers having to do with things like the degree of  
18 robustness, the actual number of the 13 elements and how to  
19 prioritize them. We also talked about the number of life  
20 cycle elements to consider. Whether there could be a tier  
21 in which one simply looked at median things or whether one  
22 had to look at all of the life cycle elements.

23           We did identify that tiering had provided some  
24 benefits. That it was less costly, it could provide a less  
25 costly and quicker approach to an alternatives assessment,

1 particularly for those that appear to be relatively easy or  
2 for which firms were eager to adopt an alternative.

3           And we noted that the tiering still needed to be  
4 complete but it could be based on the availability of  
5 alternatives and possibly on how the Department was  
6 considering the actual regulatory responses.

7           We identified then an idea that perhaps the  
8 tiering could be sequenced such that the Department did one  
9 kind of review first and then later a more substantial --  
10 call for a more substantial alternatives assessments as the  
11 need would come about. And we then also talked about the  
12 idea that tiering could be associated with the way in which  
13 the grouping of the elements were done.

14           So that was kind of -- and without, as you may  
15 remember, we didn't try to bring any of that to consensus.  
16 Those were simply sort of the subjects that came up and sort  
17 of the general sense of some of this. We, of course, were  
18 provided a lot of good information and from that the  
19 Department has taken and produced the draft that Odette is  
20 now going to describe to us and walk us through, which will  
21 be the core of today's work. So I am going to turn this  
22 over to Odette at this point.

23           CHIEF DEPUTY DIRECTOR MADRIAGO: Thank you, Ken.  
24 So I'm going to start by refreshing everybody on the  
25 statute, our Health and Safety Code section that is really

1 the basis for our discussion on alternatives assessment.  
2 And that's Health and Safety Code section 25253, which  
3 requires the Department to adopt regulations to establish a  
4 process for evaluating chemical of concern in consumer  
5 products, and their potential alternatives, with the purpose  
6 of determining how best to limit exposure or to reduce the  
7 level of hazard posed by a chemical of concern.

8           There was some discussion during the subcommittees  
9 that centered on really focusing in the purpose as stated in  
10 the statute, which is why I am emphasizing that.

11           I also want to emphasize without reading through  
12 them the list of 13 factors that we have come to refer to as  
13 the (A)-(M) factors, which are listed on the front page and  
14 you may want to refer back to them from time to time since  
15 we do use that phrase "(A)-(M) factors" throughout the  
16 paper.

17           Finally, also in this section is something that we  
18 have not focused on too much before in our discussions but  
19 you will see why this becomes kind of important as we go  
20 through some of the questions we considered is that the  
21 statute directs DTSC in developing the regulations to ensure  
22 that tools are available in a form that allows for ease of  
23 use and transparency of application. It also requires DTSC  
24 to make every feasible effort to devise simplified and  
25 accessible tools that consumer product manufacturers,

1 distributors, retailers and consumers can use to make  
2 consumer product manufacturing, sales and purchasing  
3 decisions.

4           In some of the subcommittees we focused in on  
5 those words and we talked about, so what does this really  
6 mean then when we're talking about the term "life cycle  
7 assessment tools." And I'll talk a little bit more about  
8 that later but that's why, again, I'm highlighting that  
9 particular part of the statute.

10           So turning to page three I have, as you can see, a  
11 page full of opening notes or remarks that I want to make  
12 before I actually delve into the options. First of all,  
13 while we always stress that this body, both the full body  
14 and the subcommittees are not intended to be consensus-  
15 forming bodies, I would say my general observation is that  
16 there seemed to be pretty much universal support for some  
17 form of a tiered or triaged approach to the alternatives  
18 assessment process. Different people had different ideas on  
19 what that might be but I would say in general people all  
20 seemed to support the concept.

21           The other thing I want to point out is, as you  
22 know, previously when we have talked about how we might have  
23 some sort of a tiered AA process the DTSC staff have been  
24 focused on and concerned about how can we structure  
25 something like that that is consistent with the statute.

1 You know, this of course gets to the legally defensible  
2 criteria and also something that is practical and  
3 meaningful.

4           So it is just observation that I want to share  
5 with you that based upon looking at the ideas submitted by  
6 the subcommittee members and that are presented in this  
7 paper, for the most part I preliminarily -- I think they do  
8 meet the three criteria of practical, meaningful and legally  
9 defensible. I do want to add the caveat, the reservation  
10 that we reserve, you know, our prerogative, of course, to do  
11 further analysis as we go through this process to ensure  
12 that whatever pathway forward we go that it does meet those  
13 criteria.

14           So the second note that I wanted to talk about is  
15 the fact that we all know and we certainly discovered that  
16 as we have gone through this process there is still a lot of  
17 experience to be gained, particularly for DTSC, in the realm  
18 of the alternatives assessment process. And I think you  
19 have all discovered that everybody would also agree that  
20 there is no such thing as a one-size-fits-all process.

21           So given that, you know, it's my feeling that the  
22 initial regulations are going to need to be -- avoid being  
23 too specific. They need to be flexible. They need to allow  
24 for innovation and allow for customization. In the future,  
25 you know, as we gain more experience, you know, we always

1 have the ability to go back and revise the regulations.

2           So I wanted to point this out because I think this  
3 is something important to keep in mind as we talk about  
4 these concepts today. So when we are looking at some of  
5 these proposals we may all feel that in the end -- you may  
6 all think they are good ideas or at least some of you think  
7 they're good ideas. And DTSC, when we go back and look at  
8 them may want to go with one or more of these specific  
9 approaches because I don't see them as mutually exclusive.

10           But I think really probably the approach we would  
11 take, at least in the initial regulations, is to have a  
12 fairly broad set of criteria and descriptions of what we  
13 would want in an alternatives assessment. And then perhaps  
14 to the extent we do want to get specific we would say, here  
15 is one or more approaches to the alternatives assessment  
16 process that would satisfy this criteria but you are not  
17 limited to just that.

18           If you the manufacturer or the organization  
19 performing the alternatives assessment wants to propose a  
20 different approach in your work plan that's fine as long as  
21 it meets some basic criteria that we would set out in the  
22 statute. So again, it's just important to keep that in mind  
23 as we go through the discussion.

24           Then point number three, and this really kind of  
25 ties in with what I just talked about. Because of the fact

1 that this is very much a developing field everybody felt  
2 that a lot of guidance is needed and I think we would  
3 certainly agree and so there was a lot of discussion about  
4 the need for DTSC to provide detailed guidance on how to do  
5 alternatives assessments. And that is something that DTSC  
6 working with its partners certainly plans on doing.

7           But as I have emphasized as has Colleen, our  
8 attorney, on a number of occasions, please keep in mind that  
9 guidance documents are just that, they are recommendations,  
10 guidance. They are not mandates. The only standards and  
11 requirements that we can actually enforce is binding  
12 requirements of whatever we specifically put into the  
13 regulations themselves. So just, again, keep that in mind  
14 as we are just talking.

15           And so number four. And I made reference to this  
16 a little bit earlier with regard to the term "life cycle  
17 assessment tools" which is used in the statute. And so we  
18 had some discussions in subcommittees regarding what does  
19 that mean. There is no definition in the statute and there  
20 does not seem to be a commonly, universally understood or  
21 accepted term.

22           So kind of where we circled back to was the  
23 statute itself and we feel the best guidance for  
24 interpreting the term "life cycle assessment tools" is the  
25 section of the statute I just talked about a little earlier

1 where it says that DTSC should develop tools that allow for  
2 ease of use, transparency of application and that are  
3 simple, accessible tools that can be used by people in the  
4 supply chain and by consumers to make consumer product  
5 manufacturing, sales and purchasing decisions.

6           And to be a little bit more specific, what this  
7 says to me and I think it said to a lot of people when we  
8 discussed this is that life cycle assessment tools are by no  
9 means limited to some sort of, you know, mathematical --  
10 some people refer to it as a black box mechanism. It can be  
11 something much more qualitative in nature. And in fact  
12 probably some of the more qualitative or less black box  
13 approaches are going to be much more transparent and allow  
14 for much more ease of use by a broader base of people.

15           And my final caution here, as I did last time is  
16 we want to make it clear that the options that are set forth  
17 here, they are intended to be our understanding of some of  
18 the primary suggestions recommended by one or more members  
19 of the subcommittees. And here we are talking about both  
20 Subcommittees 1 and 2.

21           Again, I don't necessarily see all of these  
22 options as being mutually exclusive. Some might be but a  
23 lot can be used in combination. And I'm sure all of you as  
24 you are discussing will want to offer some variations on  
25 these. I hope you do, that's why we have them out here, so

1 you can talk from that.

2           And finally, I just want underscore that these  
3 options do not represent DTSC proposals or perspectives on  
4 these issues.

5           So with that very long opening let's turn to page  
6 four and look at the first option, which is fairly long.  
7 This is Option I-A, which I entitled just to give it a  
8 title, "Tiered" Alternatives Assessment Process.

9           And based upon the discussions I have set this out  
10 in kind of five steps, which I'll go over. And there's  
11 actually two alternatives presented here but the  
12 alternatives really but the alternatives really only diverge  
13 when it comes to Step 5, Steps 1 through 4 would be the  
14 same. So very briefly and then I'll go through these in a  
15 little bit more detail.

16           Step 1 would be an evaluation of the technical  
17 criteria for the priority product.

18           Step 2 would be identifying alternatives that  
19 would meet the technical criteria.

20           Step 3 would then be an initial screening of the  
21 potential alternative chemicals. And so this would be  
22 focusing in more on the human health and environmental  
23 concerns relative to the chemicals themselves.

24           Then Step 4 would be a qualitative assessment  
25 screen where you're looking at all of the (A)-(M) factors,

1 you're looking at exposure pathways, hazard levels, life  
2 cycle segments. To really focus in on which of those are  
3 relevant to comparing the existing priority product and  
4 chemical and the alternatives being considered.

5           So then in Step 5, Step 5 is after that initial  
6 screen has been done and there's two approaches that I think  
7 I heard presented. 5(A) would then call for the  
8 manufacturer or whoever is conducting the alternatives  
9 assessment to do a more robust comparative assessment which  
10 would rely on quantitative data where that is available.  
11 And the comparative assessment would be bound by those  
12 factors, the life cycle segments, that were identified in  
13 Step 4 as being relevant to the comparison. That's what we  
14 really want everybody to focus their efforts on.

15           Then following this comparative assessment, an  
16 alternatives assessment decision would be made. You know,  
17 which alternative we are going to go with or we think we  
18 need to stick with the existing product. And an  
19 alternatives assessment report would be submitted to DTSC  
20 detailing the process that had been conducted and the basis  
21 for the decision and data. There's a long list of things  
22 that would be in that report most likely. Following receipt  
23 of the alternatives assessment report DTSC would then  
24 determine the appropriate regulatory responses. So that's  
25 one option.

1           Another option when we get to Step 5 after going  
2 through Step 4 is that the AA report would be submitted to  
3 DTSC following Step 4, following just having conducted the  
4 qualitative assessment screen to determine which of the  
5 factors and life cycle segments are relevant to the  
6 comparison.

7           And at that point this AA report could have, take  
8 three different kind of decisions. One, you know, the  
9 manufacturer may determine based upon the Step 4 analysis  
10 that they have an alternative that they want to select and  
11 go forward with. Or they may determine that they need to  
12 keep the existing product or chemical. Or the third may be  
13 that the manufacturer says, well, we don't have enough  
14 information, we really do need to do that more robust  
15 comparative analysis before we can make a decision on which  
16 alternative to go with. So that would be in the AA report  
17 that is submitted to DTSC.

18           Then based on this report the Department would  
19 make a regulatory response determination. And part of that  
20 determination could be a multi-pronged regulatory response.

21           One prong may be requiring the more robust comparative  
22 analysis be conducted. But at the same time there might be  
23 a requirement for, I don't know, providing customer  
24 information on the existing product.

25           So if there is a requirement or if the

1 manufacturer themselves wants to do the more robust  
2 comparative assessment they would then do so, submit a final  
3 AA report to DTSC. And at that point in time, based upon  
4 the final report and the final alternatives assessment  
5 decision, the regulatory responses would be adjusted if  
6 determined necessary.

7           Okay. So I really did describe Steps 1 through 5,  
8 particularly 5, in some detail so I won't go into too much  
9 more detail but there is more detail laid out on pages five  
10 through eight. and I think maybe we should save the  
11 detailed discussion on this until we get into the -- well,  
12 maybe I'll do a little bit here but I do want to keep it  
13 brief so we can move forward.

14           So in Step 1 where we're talking about the product  
15 technical criteria. What people suggested would be look at  
16 here would be functionality, cost, availability. Looking at  
17 what is the function of the chemical of concern in meeting  
18 the product technical criteria.

19           This might also be the place where the question is  
20 asked, is the chemical of concern or some sort of substitute  
21 for the chemical necessary in the product to meet the  
22 technical criteria. If the answer is "yes" then obviously  
23 you need to proceed with an alternatives assessment. If the  
24 answer is "no" then you might look at, are there any impacts  
25 that fall into the (A)-(M) factors for just pulling the

1 chemical out of the product without any substitute. So that  
2 is Step 1.

3 Step 2 is, again, is identifying alternative  
4 chemicals or alternative product designs that, again, meet  
5 the technical criteria that had been identified for the  
6 product. This might also be where you might go out there  
7 and look, are there some known alternatives out there  
8 already.

9 And Step 3 then is you have identified alternative  
10 chemicals. So here you do a preliminary screening to screen  
11 out, you know, for lack of a better phrase, "problem  
12 chemicals" based upon the human health and the environmental  
13 hazard concerns. For example the CMRs and the PBTs.

14 And, you know, there are different approaches out  
15 there already for doing this kind of chemical screening.  
16 One obvious one that was suggested by the group is that --  
17 recommended that you should not consider an alternative  
18 chemical that is listed as a COC or a priority chemical.  
19 That's one approach.

20 Additionally there are tools out there such as  
21 Green Screen or the approach that's being developed by the  
22 State of Washington which they call the Quick Chemical  
23 Assessment Tool that's a somewhat streamlined version of  
24 Green Screen.

25 And then finally in the screening approach one

1 could consider, you know, eliminating any chemical that does  
2 not, based upon this preliminary screen, demonstrate that it  
3 is significantly safer than the chemical of concern with  
4 respect to the basis for which the chemical is listed as a  
5 chemical of concern. So that's the preliminary screen.

6           Then Step 4 is the qualitative screen. This is  
7 where the alternatives assessment really gets into looking  
8 at all 13 of the (A)-(M) factors, looking at the life cycle  
9 segments and the exposure pathways to determine which of  
10 these are relevant. And I think what's worth mentioning  
11 here is it was recommended by some folks on the subcommittee  
12 that when we are looking at life cycle segments perhaps we  
13 could streamline that concept a little bit. I think in the  
14 last version of the regulations I don't remember how many  
15 steps we identified in there but it was suggested that we  
16 simplify it by just saying, before use, during use and after  
17 use. That's one suggestion.

18           Now in terms of determining what factors or life  
19 cycle segments are relevant the recommendation is that a  
20 factor or segment is relevant if it would constitute both a  
21 significant contribution to the impact of any given  
22 alternative and it would constitute a significant  
23 differential among the alternatives being compared.

24           The qualitative assessment screen would also be  
25 the place to identify data gaps and uncertainties. Because

1 again, this screen is -- we are not doing in-depth,  
2 quantitative analysis; it is based upon existing data. But  
3 as you are looking at the factors in the life cycle segments  
4 you are undoubtedly going to identify places where there are  
5 data gaps.

6           Let's see. The other suggestion, which I think  
7 would be a good idea is that, you know, if we go this  
8 approach that the Department would provide guidance for this  
9 qualitative assessment screen and the guidance would be  
10 something along the lines of the criteria and the questions  
11 for the person conducting the AA to ask for each of the  
12 factors in each life cycle segment. Try to walk it through  
13 it. And you could provide in this guidance sort of a  
14 template that would be a combination of a checklist as well  
15 as narrative explanations.

16           I'm supposed to be done? Okay. Debbie has very  
17 helpfully given me a time check. So I actually think I have  
18 gone, thankfully gone over the part that I needed to an in-  
19 depth discussion on because I really talked about Step 5  
20 pretty thoroughly before.

21           So the next option on page nine, Option I-B. I  
22 used the term "Triaged" AA approach. I am not going to go  
23 through this in detail, I just want to tell you where it  
24 comes from. This was actually suggested by one of the  
25 subcommittee members, Kelly Moran, that we talk to Procter &

1 Gamble about their approach and so I have included that in  
2 here. There is as Attachment 3 a flow chart. And later on  
3 in the discussion Kelly has kindly offered to kind of  
4 discuss, you know, her view of this and what she thinks it  
5 might be beneficial from it.

6           So then moving to page 10, Option I-C. There were  
7 several about grouping and prioritization of the 13 (A)-(M)  
8 factors. Number (1) was just a grouping approach, which we  
9 will talk about later this afternoon. And then (2) and (3)  
10 on the bottom of page 10 and the top of page 11. These are  
11 actually grouping and prioritization.

12           The prioritization approach, if we do go that way,  
13 it ties in with the very last topic which is on page 13,  
14 Section III, that is trade-offs among the(A)-(M) factors.  
15 This was something we were not able to -- did not have time  
16 to discuss in detail in the subcommittees but it is  
17 something we would really like your thoughts on today.

18           So then turning to page 12, this is Section II,  
19 where we talked a little bit about the timeline. You know,  
20 what is a reasonable timeline? And so there are a couple of  
21 suggestions that were made and we can get into more detail  
22 later on and you may have some other thoughts.

23           And then finally on 13, Section III, the Trade-  
24 Offs Among the (A)-(M) Impacts. And this is the concept of  
25 where you're looking at two alternatives. One may be better

1 on one impact but worse on another impact compared to the  
2 other. How do you make a decision there? So that's  
3 something that we really would appreciate a robust  
4 discussion on. So with that, I'm done.

5 CO-CHAIR CARROLL: Very good, thank you, Odette.

6 And now we get to everybody's favorite part of the  
7 discussion, which is clarifying questions. I am going to  
8 ask that if you have questions to ask at this point that  
9 they truly be questions for clarification of what you have  
10 seen in front of you and that you resist the urge, as we all  
11 have, to get right into the meat of the discussion of the  
12 process. We have plenty of time for that. And of course,  
13 as Alex Trebek would say, make sure you phrase it in the  
14 form of a question.

15 (Laughter.)

16 CO-CHAIR CARROLL: So at this point are there  
17 clarifying questions that need to be addressed before we do  
18 public comment and get into the substantive discussion? Go  
19 ahead, Dale.

20 PANEL MEMBER JOHNSON: Odette, you mentioned that  
21 you could revise the regulations in the future. How easy is  
22 that process and how many times could that be done?

23 CHIEF DEPUTY DIRECTOR MADRIAGO: Well, it can be  
24 done as many times as we want to do it, there is no limit.  
25 And how easy or difficult the process is, that really

1 depends upon the complexity and the level of interest in the  
2 change we make. It can be very easy and very short or it  
3 can be rather difficult and take a lot of time.

4 CO-CHAIR CARROLL: Other questions? I see none at  
5 this point. I appreciate your forbearance and I think  
6 that's also probably your interest in getting into the meat  
7 of the discussion, which will come.

8 Then I guess at this point I'll declare it open  
9 for public comment. I have one comment card. Are there  
10 other people in the room who would like to make a public  
11 comment at this time and I don't have your card?

12 I see no hands. Kathy, do we have any comments  
13 from the web?

14 MS. BARWICK: I do not.

15 CO-CHAIR CARROLL: Okay. Then I am going to call  
16 on Dawn Koepke to make her comment. Dawn, you have three  
17 minutes.

18 MS. KOEPKE: Thank you. Hello everyone, Dawn  
19 Koepke with McHugh & Associates, one of the co-chairs along  
20 with my colleague, John Ulrich, of the Green Chemistry  
21 Alliance. A pleasure to be in front of you yet again today.

22 So as you know, the Green Chemistry Alliance has  
23 been working on this process for quite some time.

24 SOUND TECHNICIAN: Did you turn on the mic?

25 MS. KOEPKE: Sorry about that. Is it on?

1 (Microphone turned on.)

2 MS. KOEPKE: This isn't going to impact my three  
3 minutes, right?

4 (Laughter.)

5 MS. KOEPKE: So the Green Chemistry Alliance has  
6 definitely been very engaged in this process. As you all  
7 know we have been before you quite a few times.

8 We have put together two white papers, one on  
9 alternatives assessment more broadly as well as one on third  
10 party certification relative to alternatives assessments.  
11 We just finished those up this morning, that's why you have  
12 not seen them yet. But we will be getting those to DTSC  
13 probably during the lunch hour to make sure that you all  
14 have those that you can review going forward. So I'll just  
15 pull out a couple of comments relative to that.

16 When Debbie talks about -- excuse me, the Director  
17 talks about the process and the need to be meaningful, we  
18 have had a very lengthy conversation about what meaningful  
19 means. And I think one thing that we have really, you know,  
20 tried to be clear on is that from our vantage point  
21 meaningful should not mean that from everyone's bench point  
22 that all products with a chemical of concern should go  
23 through an AA or that that needs to be what meaningful means  
24 relative to this process.

25 Because many companies are already doing this work

1 as it stands now prior to this regulation so we need to be  
2 clear that, you know, a regulatory, you know, framework, a  
3 regulatory-driven approach is not the only option. That  
4 there need to be other considerations for companies that are  
5 already doing this proactively and that needs to be a  
6 consideration for companies that will be doing stuff long  
7 before these regulations are even in place. That are doing  
8 them now and that may way to do it even before their  
9 particular product rises to the top. So that's definitely  
10 something we want to be on the record about.

11           Relative to those products that would go through  
12 the alternatives assessment, we propose that when a chemical  
13 of concern is used in a consumer product above the de  
14 minimis threshold -- and we have talked a lot about that.  
15 You've heard our perspective on de minimis. It should be  
16 evaluated to determine whether there are relevant routes of  
17 exposure to the chemical of concern in the consumer product  
18 during the normal intended use, reuse, recycling and  
19 disposal of the product; and B, whether there is an exposure  
20 potential for the chemical of concern in the consumer  
21 product at a level that poses a risk to human health and/or  
22 the environment.

23           And then if the chemical of concern used at a  
24 level above the de minimis threshold is determined, and it's  
25 determined that there is exposure that may pose the

1 likelihood of harm, then the alternatives assessment must be  
2 conducted in that framework. Keeping in mind that there, in  
3 our perspective, should be this also proactive approach that  
4 is separate from the very strict regulatory process.

5           That would still, you know, be overseen by DTSC so  
6 we, you know, responsive to the needs based on the statute  
7 and the laws. But GCA believes that the regulations should  
8 provide the option for manufacturers to conduct the  
9 alternatives assessments of a consumer product containing  
10 the chemical in question. They'll ultimately openly share  
11 the information with DTSC with the confidence that this  
12 confidential business information piece that will be  
13 protected and fully enforced per the law.

14           CO-CHAIR CARROLL: Dawn, I need to ask you to wrap  
15 up, please.

16           MS. KOEPKE: Absolutely. One point that has been  
17 talked about in prior meetings and has been touched on  
18 relative to necessity of ingredients. That's something that  
19 causes us great concern. Any ingredient should be evaluated  
20 based on science and not just purely on a policy decision  
21 about what, you know, what the relevance is. Whether it's  
22 important, whether there is a need for it or not. It should  
23 be based on the science and that should be a market-driven  
24 call.

25           CO-CHAIR CARROLL: Thank you, Dawn.

1 MS. KOEPKE: And finally, we will be providing  
2 these white papers. Thank you.

3 CO-CHAIR CARROLL: I have one other request for  
4 time. I would like to call on Bridgett Luther, please.  
5 Three minutes, please.

6 MS. LUTHER: Sure. Good morning. I feel so  
7 humbled to be in front of all of you and the amazing amount  
8 of work you have done but I am particularly honored to be  
9 representing the Cradle to Cradle Products Innovation  
10 Institute. For those of you that don't know, it is based on  
11 the book *Cradle to Cradle* by William McDonough and  
12 Dr. Michael Braungart.

13 For 15 years they worked with over 100 companies  
14 and they have done alternatives assessments on hundreds of  
15 products. They have gifted their program to the Institute  
16 so that it is completely transparent and will be third-party  
17 verified. I am the former director of the Department of  
18 Conservation and I do believe that I have a fairly good  
19 understanding of the right policies pointing businesses in  
20 the right directions.

21 I think that the Cradle to Cradle elements can be  
22 applied as following: We have a tool that is ready for  
23 daylight. It is the version three of the alternatives  
24 assessment that Bill and Michael have been doing with all  
25 these companies, which I would love to give to any of you if

1 you want it. I'd rather give it to you in soft copy; as you  
2 can see it's many pages.

3           We just completed this and there are many elements  
4 that are contemplated in the panel for the green symmetries  
5 announcement. So what I have done for all of you is I have  
6 taken the summary of the Cradle to Cradle certification  
7 criteria and I have compared it to the summary of the AB  
8 1879 alternatives so that you can see very quickly where  
9 they match up. And I would love to have your feedback on  
10 where you don't think they match up because as I start  
11 training on version three this summer, and any of you are  
12 welcome to be a part of that training, I would certainly  
13 like to understand where you don't think we are doing what  
14 you think we should be doing. So we are sort of in that  
15 draft process right now.

16           I am also providing you with 50 recommended  
17 cosmetic ingredients. One of the things we left in our name  
18 was "innovation." Because as we start to do alternatives  
19 analysis we are going to find out that we don't have the  
20 materials we need very quickly. And so Michael Braungart  
21 when he was here back in June gave us a list of 50  
22 recommended cosmetic ingredients that have passed Cradle to  
23 Cradle certification criteria. So there will be no -- there  
24 will be no amount of research in new materials that will be  
25 needed as we go through this process.

1           Finally, I am providing you with a case study from  
2 Aveda. Aveda is totally committed to Cradle to Cradle  
3 principles throughout their whole company, their supply  
4 chain, their take-back programs, their emissions, their  
5 greenhouse gases and their sourcing. I think it's really  
6 important for us to understand that there are companies that  
7 have done this. Companies like Procter & Gamble, companies  
8 like Aveda, Method and others that are willing to share  
9 those successes with you.

10           And I certainly hope that you avail yourself of  
11 all of that as we go through the summer. I am based in San  
12 Francisco but I am always available.

13           And I would like to finally just say, we look  
14 forward to working with you and all the DTSC staff and I am  
15 around today if anyone has questions. And I will make these  
16 available to anyone who wants them.

17           CO-CHAIR CARROLL: Very good, thank you, Bridgett.  
18 Kathy?

19           MS. BARWICK: I understand there are some people  
20 on the webcast that are trying to access the opportunity to  
21 make comments. Once again the email address is  
22 green.chemistry@dtsc.ca.gov. So if we could just give 30 or  
23 40 seconds for people to get those in.

24           CO-CHAIR CARROLL: Fine. Let me just ask this  
25 question then. Have we cleared up the other issues with

1 respect to accessibility of the webcast?

2 MS. BARWICK: I believe so. I know some people  
3 are having some problems but I can get it and other people  
4 have been able to receive it. So hopefully everybody is  
5 able to see it and hear it.

6 CO-CHAIR CARROLL: I think it would be important  
7 for each of us with an iPad to get on the webcast so we can  
8 watch ourselves making our interventions.

9 MS. BARWICK: It's actually rather distressing.

10 (Laughter.)

11 CO-CHAIR CARROLL: Getting anything, Kathy?

12 MS. BARWICK: I am not getting anything in the  
13 green chemistry mailbox. If we do get something we will  
14 have to let you know.

15 CO-CHAIR CARROLL: Very good. We are at 10:30.  
16 We have scheduled a break and we have a couple of options.  
17 One would be to start the discussion, break in about a half  
18 an hour and take the break then and then lunch at noon or to  
19 take it now. And I guess my feeling is now seems like a  
20 better time to do so that we have an uninterrupted  
21 discussion for an hour and 15 minutes leading up to noon.  
22 So by my watch it's 10:31. I will ask Ken to call us to  
23 order again at 10:46. You are free for 15 minutes.

24 (Off the record at 10:31 a.m.)

25 (On the record at 10:46 a.m.)

1 CO-CHAIR GEISER: Okay, everybody. Thank you all  
2 for your attention to the Director and Odette and others in  
3 helping to set up the discussion for today. As I said  
4 earlier, we are really going to focus on the work of  
5 Subcommittees 1 and 2 today, we'll focus on the work of  
6 Subcommittee 3 tomorrow.

7 I am going to oversee much of the discussion here.  
8 We will work until lunch at this point and then we will  
9 work after lunch until 5:00; we're going to take a break  
10 some time in there. But this is our time to really get down  
11 to the sort of grassroots at a very low working level of the  
12 regulation and trying to provide our advice and guidance on  
13 that.

14 But before we do that I just want to say a few  
15 words at the very upper level to try to remind us kind of  
16 what it is that we are doing. 1879, the legislation,  
17 basically is an innovative piece if you look around at the  
18 other states. A few states have tried something as  
19 ambitious as this. It might be a little roughly worded,  
20 which has created quite some effort on our part to try to  
21 think about how to help with the guidance on the  
22 regulations.

23 But this legislation is really farsighted. It is  
24 an attempt to move forward a way of thinking about managing  
25 chemicals, managing hazardous chemicals, that not only moves

1 us away from some of the chemicals of high concern but also  
2 tries to move us to safer alternatives. And this is not  
3 something that has been done much in legislative or  
4 regulatory work.

5           So as we move forward I think it's important to  
6 recognize that what we are trying to craft here, and  
7 particularly in regards to alternatives assessment because  
8 there's plenty of good work done at the state level giving  
9 guidance around, characterizing chemicals and prioritizing  
10 chemicals. But there is little guidance, there's little  
11 effort done at the state level on thinking about how you  
12 actually do an assessment that kind of projects forward and  
13 tries to identify and therefore avoid further regrettable  
14 solutions but really tries to promote safer alternatives.

15           So for us that is what we are trying to really do  
16 here. We are trying to create a process, a process that  
17 firms who market products in California can do that will  
18 assure them and the state that the substitutes that they are  
19 planning to put in place are indeed safer and make sense in  
20 a meaningful way, as the Director has said, and is also  
21 practical and legally defensible.

22           I just note a couple of things and that is, this  
23 area of work is moving. Actually Odette and I attended a  
24 workshop a couple of months ago in DC where representatives  
25 from some ten different agencies came together to talk about

1 alternatives assessment and what they were or weren't doing  
2 and -- mostly what they weren't doing but what they would  
3 like to be doing. So there's interest at the federal level.

4 There's clearly no statutory authority for it but there is  
5 interest in how to think about this.

6 We just two weeks ago completed a training at  
7 Lowell bringing together some 34 people from around the  
8 country to really look at how -- it was a three-day long  
9 training on how you would do alternatives assessment based  
10 on the toxics use reduction program's learning over 20 years  
11 of doing it. I know Tim and Ann and others are working at  
12 UCLA here on a decision-making protocol on alternatives  
13 assessment. So there's lot of new stuff coming up that is  
14 really going to help shape this field.

15 We are trying to do it for a state and I just want  
16 to try to remind us of our ambition here. It's pretty big,  
17 it's pretty important. And what we come up with here in  
18 California always is a pacesetter for what many other states  
19 and firms and even countries will consider in thinking about  
20 alternatives assessment in the future. So don't be shy  
21 here, we've got a big agenda.

22 What I would like to do with the morning part here  
23 is have a general discussion about the draft that Odette has  
24 described to us. And in particular identify areas that we  
25 would like to take up this afternoon for a more thorough

1 investigation. We don't really have a prescribed set of  
2 topics for this afternoon, we wanted to leave it open to the  
3 panel, the panel members, to really identify things that you  
4 think, we really ought to focus more on this or we really  
5 need to focus more on this area.

6           So we're going to have a general discussion. I am  
7 going to be pushing us a bit to sort of identify some areas  
8 that we can kind of put on a bike rack, so to speak, for  
9 this afternoon to really take up in more depth. Odette has  
10 already identified one that she is particularly interested,  
11 which has to do with the trade-offs issue, which she feels  
12 we really didn't in our phone calls and all get to as much  
13 as we might want to. So one area that we would want to  
14 spend a little bit of time on this afternoon is the trade-  
15 offs.

16           I think also in our discussion with Bill and  
17 myself and the Director a thought of, who will be important.  
18 And that is, to take a look at these different approaches  
19 to the 13 elements. Whether the grouping, how to think  
20 about the grouping and how to think particularly about  
21 prioritization. So there's at least two areas that we would  
22 like to spend some time on this afternoon.

23           That's about my comments here. What I'd like to  
24 do at this point is open this up for a general discussion.  
25 We have seen this five step process that has been put

1 forward. Also please note discussion on things like a  
2 timeline and the trade-off issues are on the table as well.  
3 What do you think of the way the Department is shaping this?  
4 Does five steps sound right? Are these the steps you would  
5 think? Are they -- How do you think about sequencing them?  
6 And particularly with regards to 5(A)/(B). What's your  
7 recommendation in regards to which direction to go here?

8           So all three sections are in play. If you want to  
9 comment on the grouping and all, this is all open right now.  
10 We'll segment it -- segment it and set up specific times  
11 this afternoon for specific areas.

12           Again, I'd appreciate it if people would raise  
13 their card. It's a good way for me to try to keep track of  
14 people. And as you have already discovered from living with  
15 me for some time, my eyes are kind of weak. Okay, we'll  
16 start off with Tim.

17           PANEL MEMBER MALLOY: I just had a question about  
18 process. I'm a little confused about what you asked us to  
19 do. Is this working?

20           (Affirmative responses.)

21           PANEL MEMBER MALLOY: I'm confused about what you  
22 asked us to do. At first what I thought I heard you saying  
23 was, when we make our comments to kind of develop a list of  
24 the things that we think are important to talk about. But  
25 then the second part it sounded like you actually were

1 looking for our substantive thoughts on those things so I'm  
2 wondering which one of those things you would like us to do.

3 CO-CHAIR GEISER: Thank you for asking that  
4 question. What I was trying to say is, just kind of for the  
5 general discussion. If you have general comments on the  
6 whole thing and for all; what you feel comfortable about.  
7 But you might specifically say, "But I also want to talk  
8 specifically about this element" and we reserved some time  
9 this afternoon for that. And that was what I think I was  
10 trying to say, Tim, thank you. Kelly.

11 PANEL MEMBER MORAN: Thank you, Chair. Just a  
12 couple of brief things at this point. I would like, perhaps  
13 this afternoon, to have some discussion of the qualitative  
14 versus quantitative. I think that fits in. It would help  
15 me a lot to hear what some -- especially some of the folks  
16 who are doing AAs for companies are thinking about that.  
17 And also what other folks would raise as criteria. What are  
18 the trade-offs when we talk about qualitative versus  
19 quantitative. I've got some thoughts but I think I would be  
20 better informed with that.

21 And then one general thought. As I am thinking  
22 through this part of this and the structuring of it. I keep  
23 reflecting back to my professional experience in other areas  
24 where products were regulated. And the structure of these  
25 things tends to incentivize certain behaviors and dis-

1 incentivize other things that might actually be desirable  
2 for the state. So depending on how we do it we can  
3 incentivize things that are in the interest of the state or  
4 incentivize things that are not necessarily in the interest  
5 of the state. So as we are thinking through the whole  
6 structure of approach to alternatives assessment --

7 CO-CHAIR GEISER: Kelly, can I ask you what you  
8 meant by that? What do you mean?

9 PANEL MEMBER MORAN: Well, a good example of that  
10 is in some of the pesticide regulatory framework. There are  
11 structures that basically say, until we have a final set of  
12 data we don't make any decision and we allow a product to  
13 continue to be sold this whole time. And what that does is  
14 incentivize not doing a good job on the data and not getting  
15 to the decision.

16 And I don't think that's what we really want to  
17 incentivize but we need to think about what we want to  
18 incentivize. We heard some comments this morning about  
19 wanting to incentivize companies to have their internal  
20 product stewardship programs to be robust and in place  
21 already. Yet we're hearing other kinds of things like, you  
22 know, what behaviors would we want to incentivize and dis-  
23 incentivize.

24 So at each step of looking at this framework I am  
25 trying to think a lot about what behavior are we

1 incentivizing, what are we dis-incentivizing. Is that the  
2 right thing? And I'm certainly not omniscient. And that's  
3 why I wanted to raise that now because I wanted to encourage  
4 other folks to be kind of generally thinking about those  
5 ideas as we have our discussion today. So thank you, Chair.

6 CO-CHAIR GEISER: Thank you. And Lauren.

7 PANEL MEMBER HEINE: This is mostly a question. I  
8 am trying to understand the context for Option 1(B) and I am  
9 wondering when Kelly is going to explain it. I am not sure  
10 if it's something that supplements 1(A) or if it's -- So I'm  
11 interested in some of the context before we start the  
12 discussion.

13 CO-CHAIR GEISER: So you would like us this  
14 afternoon -- is that just a clarification or do you want to  
15 discuss 1(C)?

16 PANEL MEMBER HEINE: It's 1(B) and I am interested  
17 in understanding a little more of the context for it. Is  
18 it, is it something that should be in an appendix or is this  
19 actually -- we didn't really go through it. Or is it an  
20 actual alternative we should be considering.

21 CO-CHAIR GEISER: Let's hold on that and come back  
22 to that. Good. So, Bob.

23 PANEL MEMBER PEOPLES: Thank you, Chair. Is this  
24 thing working? Can you hear anything?

25 (Discussion about microphone.)

1           PANEL MEMBER PEOPLES: Okay, eat the mic, all  
2 right. So the first thing I would like to do is to say, for  
3 somebody that tries to get the pieces put together from a  
4 conceptual point of view, I actually feel I agree with your  
5 comment earlier this morning, Director, about, we're making  
6 progress. Because for the first time I actually feel like  
7 the synthesis is coming together. You know, at the  
8 beginning we had nothing and then we had a bunch of parts,  
9 just like a jigsaw puzzle. We dumped them on the table,  
10 they were face down and we didn't have the box cutter,  
11 right.

12           (Laughter.)

13           PANEL MEMBER PEOPLES: Now I feel like we've got  
14 the edge pieces and the frame is getting in and we're  
15 starting to assemble the deal. So I congratulate you for  
16 the synthesis that is taking place on something that is  
17 incredibly challenging from an intellectual perspective yet  
18 critically important.

19           So to some of the observations here. First of all  
20 on the -- in your Notes section, Odette, you referred to the  
21 LCA tools generally so this is where I made my first note.  
22 To me, when you talk about LCAs it's a powerful tool but the  
23 issue of clearly elaborating boundary conditions is  
24 critically essential to understanding the value and the  
25 impact of the LCA. So as much as the tool that you choose

1 to use is clear articulation, transparently of the boundary  
2 conditions, is really essential.

3           The second item here is under Option 1(A) the term  
4 "significantly safer" is used and it's not the first time  
5 it's been used. And to me, that's an element of ambiguity  
6 that, you know. It may be helpful if we spend some time  
7 talking about as we get into the details a little bit later,  
8 Ken, to provide the guidance necessary for the practitioners  
9 to reduce this to practice.

10           Under Option 1(B) we used the term "green  
11 chemist." Now, you know.

12           CO-CHAIR GEISER: All right, Bob.

13           PANEL MEMBER PEOPLES: I may be turning red  
14 instead of green right now but, you know the fact of the  
15 matter is, it's a term -- the term "green chemistry" gets  
16 used a lot, "sustainable chemistry" gets used a lot but we  
17 don't really have a definition of a "green chemist." So I  
18 think we'll need to speak to that at some particular point  
19 in time. You know, the aspirational objective of the whole  
20 world of green chemistry is to stop saying "green." It's  
21 just -- or chemistry is green chemistry. Until we get there  
22 we'll have to bring the folks to that. I think we need some  
23 clarification around that one as well.

24           And I think I'll hold at this point with those  
25 comments.

1 CO-CHAIR GEISER: Bruce.

2 PANEL MEMBER CORDS: Just a couple of questions on  
3 something that you might want to talk more about this  
4 afternoon. When I first saw the list of the (A)-(M) factors  
5 there's a couple of them -- I was wondering how the factors  
6 were --

7 But anyway, it seems to me that some of them could  
8 be answered by a simple, by a simple yes or no. If you say,  
9 economic impact, you say, is this prohibitive to the company  
10 to make this change, then yes or no. If yes, then you have  
11 to explain it, if no, you proceed. Is it cost-prohibitive  
12 to the user, yes or no? If it's yes you have to explain.  
13 But a lot of these -- and the same probably goes for  
14 products. It could also be just a yes or no. I just think  
15 we should spend some time with it.

16 CO-CHAIR GEISER: Ann.

17 PANEL MEMBER BLAKE: Thank you. I think I'd like  
18 to add something for discussion this afternoon. On page  
19 three, the note that Odette brought up in her discussion  
20 this morning. It might be useful for us to put some thought  
21 into how DTSC can navigate and how we can help DTSC navigate  
22 this idea of providing appropriate guidance.

23 And I, you know, understand as a former DTSCer,  
24 the fear of underground regulations. But we do desperately  
25 need to provide some sort of guidance. And that may be an

1 iterative process as we go on and get more experience with  
2 alternatives assessments. But perhaps it might be time to  
3 start thinking about how we navigate guidance without being  
4 prescriptive.

5 CO-CHAIR GEISER: Tim.

6 PANEL MEMBER MALLOY: Thank you. I had just a  
7 couple of general comments and I wanted to add some things  
8 to your bike rack for this afternoon.

9 One general comment is on the notes, Note (4). I  
10 just want to -- I agree with this notion that the statute  
11 requires ease of use and transparency of application. I  
12 just want to make two points about that.

13 One is, I don't think we should mistake  
14 transparency with simplicity. So just because something is  
15 supposed to be transparent doesn't mean that it, that it's  
16 inappropriate for it to reflect the complexity of the  
17 underlying situation. It just means that somebody who is  
18 knowledgeable about that particular issue would be able to  
19 understand how you got to the point that you got to. So I  
20 think we should be careful not to kind of undermine the  
21 rigor of the process in an effort to make it simple.

22 And along that same point, the second part where  
23 it talks about, well, all these tools have to be simple and  
24 accessible to folks like manufacturers, distributors,  
25 retailers and consumers. I don't think you should be

1 reading the statute to say that the particular tools that  
2 are used for an alternatives assessment have to be  
3 accessible and understandable to the basic consumer.

4 I don't think that's what the statute was trying  
5 to get it. Instead I read it as saying that there should be  
6 a suite of tools available for different purposes and  
7 different people. So the tool that a business might use for  
8 doing an alternatives assessment may not be the same tool  
9 that the Department would develop for a consumer who is  
10 trying to make a judgment about what kind of product to use.

11 That was kind of the general comment on the notes.

12 The other is I just wanted to, I think, agree with  
13 Bob. I really like where this has been going. I think what  
14 we are seeing here is kind of the identification of a  
15 process. I see these initial steps as being kind of problem  
16 formulation where you're identifying what are your technical  
17 requirements, what are the alternatives that ought to be  
18 involved, what are the relevant factors along which you make  
19 comparative assessment? That's all problem formulation and  
20 I think it's useful to really set that off explicitly as a  
21 separate part of the framework. So I am very optimistic  
22 that we are moving in a really good direction there.

23 The areas, though, that I'd like to kind to put on  
24 the bike rack for this afternoon that I find to be very  
25 important are, number one, I get a feel or tone in here that

1 data generation, the obligation to generate data is no  
2 longer viewed as an integral part of this process. There's  
3 numerous references to using what is the available data and  
4 make addressing data gaps, so on and so forth, and moving  
5 away from any kind of an attempt to require folks upstream  
6 of the manufacturer to produce information that would be  
7 relevant. I don't know if that's the case or not but I  
8 think that's an important thing to talk about.

9 I also would like very much to talk about the  
10 initial screening concept of alternatives. On page five  
11 there's different possible screening approaches. I think  
12 there's a lot to be said about those so I'd like to see  
13 that, some time for that.

14 The qualitative assessment screen on page six.  
15 I'd like to talk about that, in particular the notion of it  
16 being a screen versus an end point. And I think there's a  
17 mixture of concepts there that could use some further  
18 articulation.

19 The other thing, I think this relates to something  
20 Kelly said is, I am not sure what it means to say that  
21 something is qualitative versus quantitative. I mean, I  
22 know what those terms mean. I guess what I am unsure about  
23 is what's -- on what basis or what are the triggers for  
24 using qualitative data versus quantitative data?

25 For example, the Procter & Gamble thing seems to

1 trigger -- based on volume of use in California you use  
2 quantitative versus qualitative. The screening lays out  
3 another reason. And I would like us to have a conversation  
4 about, you know, the trade-offs that you make when you move  
5 from qualitative to quantitative data, I think that's very  
6 important.

7           And then the last thing I'd really like to see us  
8 spend some significant time on, which to me seems from a  
9 regulatory standpoint to be the issue in terms of success to  
10 the program and meaningfulness of the outcome, and that is  
11 this trade-offs, both in terms of what are the methods, what  
12 is the role of the Department versus private entities. And  
13 also I would like to talk about this notion. You know, when  
14 you say that you aren't waiting or you aren't making, you  
15 are not explicitly trading off, I think we have to be aware  
16 of the fact that we are always implicitly trading off,  
17 right. So if you don't establish a priority you are  
18 weighting everything equally.

19           So it's not as if you are not making those  
20 judgements. You are starting with a default essentially of  
21 equality. And if you are going to do that I think you  
22 should really talk -- be aware of the implications of having  
23 equal weighting versus some type of explicit weighting or  
24 tradeoff. So those are the things I would like to see us  
25 talk about today. Thank you.

1 CO-CHAIR GEISER: Thank you. Art?

2 PANEL MEMBER FONG: Thank you, Chair. I also want  
3 to add my congratulations to the Department for the just  
4 amazing work that they have done so far. Speaking as part  
5 of industry, at least my industry, we are just really  
6 impressed by what you have done.

7 In terms of, you know, getting into the meat of  
8 further discussion for this afternoon, just a couple of  
9 points. One is the qualitative versus the quantitative  
10 issues. When I was reading through this it seems like you  
11 are almost suggesting a step-wise approach going with  
12 qualitative then quantitative.

13 And I am not sure if that's a best or  
14 scientifically defensible way of doing it because if you are  
15 relying on quantitative information to make decisions, then  
16 in terms of, you know, industry or the regulated community,  
17 it goes into the point that Tim emphasized earlier about  
18 uncertainty. You know, when you talk about qualitative a  
19 lot of times, you know, it doesn't have the certainty that  
20 the quantitative aspects would have. So I would like to see  
21 some further discussion on that this afternoon.

22 And another thing is on page five about chemical  
23 necessity. I would like to get some discussion about who  
24 would make the decision about something is actually  
25 necessary in a product. Would it be DTSC or would it be the

1 manufacturers? Because something that, for example -- you  
2 know, from the wording that is in here so far, something  
3 that might improve the performance of a product, is that  
4 necessary? Because that may not actually affect the  
5 function of the product. So I'm thinking some, you know,  
6 discussion on clarity on that is fairly important. And I  
7 have some other points but I'll stop here. Thank you very  
8 much, Chair.

9 CO-CHAIR GEISER: Dele.

10 PANEL MEMBER OGUNSEITAN: Thank you. I share the  
11 enthusiasm of my colleagues that this is taking shape. I am  
12 not frustrated that the options presented in Step 5 are  
13 independent and probably we could do away with them if we  
14 strengthened Step 4. And that goes to the discussion about  
15 what qualitative means and whether or not we could actually  
16 do a comprehensive assessment at that point and make a  
17 policy decision.

18 CO-CHAIR GEISER: Well let me just tell you where  
19 I -- I'm not going to -- we can continue the general  
20 discussion. These are things that I'm hearing you would  
21 like to take up. One has to do with the grouping, the  
22 prioritization and grouping of the 13 elements. The second  
23 seems to have to do with the tradeoffs, method, weighting  
24 area. The third has to do with qualitative versus  
25 quantitative, what we mean by that.

1           There is a question about clarification of this  
2 Section I-B which has to do with, for instance, what is a  
3 green chemist. There's a couple of words that seem to be  
4 worthy of spending a little time on, "significantly safer"  
5 and necessity -- I've lost the word -- "necessariness."

6           (Laughter.)

7           CO-CHAIR GEISER: There is some interest in data  
8 generation. You know, is this really relying simply on  
9 existing data? And there was a discussion around what the  
10 initial screening, that is the screening on page five.

11           So opening this up again, general comments. And  
12 by the way, those comments about whether you liked the whole  
13 thing were very useful, that's real useful. And also  
14 anything else you want us to specifically focus on during  
15 the rest of the day. Joe.

16           PANEL MEMBER GUTH: You know, I also agree there's  
17 been a lot of development from these ideas, it's very  
18 interesting. If we are trying to lay out now issues that we  
19 want to talk about I guess I would have some fairly more  
20 specific, mostly along the lines of questions about what is  
21 meant by some things in Step 1, Step 2, Step 3 and Step 4, I  
22 guess. So I don't know whether we want to go through them  
23 all or are you seeing --

24           CO-CHAIR GEISER: Joe, are these actually  
25 clarifications? If they are just clarifications we can do

1 that now. Or if you have, if you're trying to --

2 PANEL MEMBER GUTH: No, I --

3 CO-CHAIR GEISER: Go ahead.

4 PANEL MEMBER GUTH: I'm sorry. Well, I guess it's  
5 questions about the implications, about what it means. So  
6 I'm not sure it's just a clarification. A little more  
7 substantive than that probably. So I am not sure whether --  
8 is the plan this afternoon we're going to go through this or  
9 are you now outlining all the, all the things we're going to  
10 talk about. And I just wanted to not have those lost  
11 because I didn't have them there.

12 CO-CHAIR GEISER: What we're doing is gathering  
13 some areas that we want to focus on but maybe that we want  
14 the start the afternoon, or maybe even fairly soon, by  
15 starting to go through the five steps. So maybe that might  
16 be the way to do this. And then anything we didn't pick up  
17 we'll pick up in the substantive areas that have been  
18 identified. Anne, go ahead.

19 PANEL MEMBER WALLIN: I would too like to commend  
20 the staff about the progress that they have made. Having  
21 been part of these calls I am truly amazed that you took a  
22 lot of random and disparate ideas and actually baked them  
23 into a cake. So a lot of kudos on that.

24 I am finding the differences, either I'm missing  
25 the point or maybe this is true that the differences between

1 I-A and I-B are pretty nuanced. They actually seem quite  
2 similar to me. And one talks a lot more about what the task  
3 is and I-B talks a lot more about who does it. And then  
4 ultimately to have a work process you're going to have to  
5 define both of those regardless of which one we use.

6 I do have some concerns with I-C and the  
7 prioritization of factors. I am just not sure that's going  
8 to work as well as you might think on paper. For example,  
9 there are factors that are going to be interdependent. And  
10 so as much as you try and tease them out into groups I just  
11 don't think it's going to be that clean.

12 For example, function may have an impact on things  
13 like air emissions or water quality impacts because one may  
14 not function as effectively or as efficiently. So if you  
15 end up having to use twice as much that impact on air  
16 emissions or some of these other factors, I'm not sure how  
17 that is going to show up if you try and compartmentalize  
18 them into groups.

19 I do agree that we need to talk about tradeoffs  
20 and I would echo with Tim, we've got to talk about  
21 weightings. As much as we want to try and distance  
22 ourselves from those very value-laden decisions they are  
23 inherent, whether you make it a conscious decision or not.

24 The other thing I think, and I'll save more detail  
25 on this until this afternoon, but I would ask people to

1 think about this issue of qualitative to quantitative isn't  
2 really a binary/digital sort of concept, it's a continuum.  
3 And you can have qualitative information that may be a  
4 number, that number has got varying accuracy and precision.

5 It may or may not be that representative of your specific  
6 situation on toward quantitative information that we might  
7 characterize as more robust.

8 This is something, again, I think the Department  
9 can leverage their LCA experts a lot in because it's  
10 something that is very much part of an LCA expert's work in  
11 terms of how they deal with information and trying again to  
12 focus on which information is going to actually have an  
13 impact on their conclusions and therefore worthy of a more  
14 quantitative look and effort versus information that isn't  
15 going to be material to their conclusions. Thank you.

16 CO-CHAIR GEISER: Thank you, Anne. Dale and then  
17 Bob.

18 PANEL MEMBER JOHNSON: Yes. On the Step 5 Option  
19 A/Option B. I'm really trying to get my hands around the  
20 difference between those two options. It kind of appears,  
21 you know, just in the first time I looked at it and looking  
22 at it again, that the real difference is the resources from  
23 DTSC applied to Option A or applied to Option B. Is that  
24 kind of what you were thinking? It's more resource  
25 intensive for Option B.

1 CHIEF DEPUTY DIRECTOR MADRIAGO: Actually no, I  
2 don't think so.

3 PANEL MEMBER JOHNSON: No?

4 CHIEF DEPUTY DIRECTOR MADRIAGO: So let me try to  
5 clarify it as I heard it from the group and then some of you  
6 may want to jump in. So option B is really, it's kind of  
7 similar to the tiered AA approach that was actually  
8 suggested by what Ann, Kelly and Ken worked on last year.  
9 That's in here as an attachment.

10 Under this concept we get to, you do a preliminary  
11 screening. And I know you all want to talk about, you know,  
12 the qualitative screening, what that really is. But there  
13 would be a preliminary screening AA done and identifying the  
14 factors that are really relevant to a comparison if an  
15 additional comparison is needed.

16 At that point the work that's been done would be  
17 submitted to the Department and the Department would  
18 determine, based upon that information, the regulatory  
19 responses that are appropriate. And in many cases it's  
20 probably going to be two, two or more regulatory responses.

21 One of the regulatory responses would be, yes, go  
22 back and do the more robust comparative assessment on these  
23 particular factors and life cycle segments. And while  
24 you're doing that, in order to address the concerns posed by  
25 the priority product continuing to be on the market, also do

1 something to address that. It could be labeling, it could  
2 be providing the consumer information, that type of thing.

3 And so then there would be this -- after the  
4 Department has looked at it and assigned a regulatory  
5 response then there would be the more robust AA done. And  
6 following that there would be an adjustment as needed to the  
7 regulatory responses. So that is 5(B).

8 5(A) differs in that there is no interim DTSC  
9 involvement. So after the qualitative screening in Step 4  
10 is done, nothing is submitted to DTSC at that point. The  
11 manufacturer proceeds with the more robust comparative  
12 analysis on those factors that have been identified as  
13 relevant. So completely does that, makes the AA decision,  
14 prepares the AA report and submits it to DTSC. And at that  
15 point DTSC will do -- will constitute, you know, the final  
16 regulatory responses.

17 So I hope that clarifies it. I don't know if  
18 somebody else in the room may want to say something.

19 PANEL MEMBER JOHNSON: So then the -- so where  
20 then under Option (A) is a timeline?

21 CHIEF DEPUTY DIRECTOR MADRIBAGO: Well, I didn't,  
22 in terms of looking at the Option I, we didn't talk about  
23 timelines. That's really talked about more under Section  
24 II. And as you see, some of the options we talked about --  
25 let me refresh myself, let's just go to that page. Page 12.

1 PANEL MEMBER JOHNSON: Page 12.

2 CHIEF DEPUTY DIRECTOR MADRIAGO: Yes. So this is  
3 sort of a separate, separate discussion. So you see II-A  
4 which just says the timeline would be worked out between  
5 DTSC and the manufacturer.

6 II-B, DTSC would assign the timeline for the AA  
7 based upon the complexity shown in the work plan, with a  
8 provision for allowing for extensions. And there are some  
9 factors here that were suggested by some subcommittee  
10 members.

11 Option II-C was, it was suggested by at least one  
12 member that there be a standardized timeline for all  
13 alternatives assessments for a specific product type without  
14 regard to the complexity of the proposed AA.

15 And then Option II-D does get a little bit into I  
16 think what you're asking here. So this would contemplate  
17 that in the case of Option 5(B) that you could have a  
18 standardized timeline for completing Steps 1, 2, 3 and 4.  
19 Probably it would still maybe be appropriate to make that  
20 specific to a product category.

21 But then for the last part where you're -- so  
22 you've submitted, you know, the results of Steps 1, 2, 3 and  
23 4 to the Department. And then based upon that DTSC would  
24 specify a more, what I call a customized timeline for the  
25 more robust comparative analysis. I don't know if you guys

1 may want to talk about timelines this afternoon.

2 CO-CHAIR GEISER: Yes, we can pick this up again.

3 PANEL MEMBER JOHNSON: Thanks.

4 CO-CHAIR GEISER: Bob.

5 PANEL MEMBER PEOPLES: Thank you, Chair. When I  
6 think about putting together these types of analyses I reach  
7 a point in my mind where I begin to look at the  
8 implications. And based on my experience in the development  
9 of the standard that we're working on right now, one of  
10 things we did in the process of developing the standard was  
11 to kick up the pilot. Where we had some volunteers that  
12 actually went through it and they provided invaluable  
13 feedback as to what worked, what didn't, what made sense,  
14 how much had to be invested, what the efficiency of the  
15 process was. And to a certain extent what the impact was  
16 going to be. Is this really meaningful or is this a waste  
17 of time and do we really need to do this.

18 So, you know, I'd suggest that the framework is  
19 coming together to the point now where you could consider  
20 conducting some kind of a pilot like this and look at the  
21 alternatives that are being suggested and see if that  
22 couldn't provide some guidance to come to closure.

23 CO-CHAIR GEISER: Thank you, Bob, that's a very  
24 useful idea. And I have Ann and Anne both?

25 PANEL MEMBER WALLIN: No, I'm sorry, mine was --

1 CO-CHAIR GEISER: Okay. All right, then Anne then  
2 Lauren.

3 PANEL MEMBER BLAKE: So the Ann without the E.

4 CO-CHAIR GEISER: Yes.

5 PANEL MEMBER BLAKE: We're sort of following on  
6 Bob's idea here to clarify a little bit, at least the way I  
7 think about Options 5(A) and 5(B). The way I see it playing  
8 out is sort of the pilot idea approach.

9 I would see 5(B) being this sort of qualitative  
10 thing where you start looking at alternatives and there's a  
11 clear alternative already on the market and so it's an  
12 obvious switch to make. Or a clear bad actor so it's some  
13 regulatory response with a combination of regulatory  
14 responses that Odette was talking about.

15 Whereas Option 5(A) would call for the more robust  
16 alternatives assessment when there is a less-clear  
17 alternative or, you know, there is not a distinction among  
18 available alternatives that makes the switch obvious to a  
19 better option available on the market.

20 CO-CHAIR GEISER: I'm guessing that many of us are  
21 putting up our cards because we want to talk about 5. Let  
22 me just check. Are there other comments besides wanting to  
23 talk about 5 at this point? Lauren do you want to talk  
24 about something else? I'm trying to get us so that we have  
25 a schedule and then I think we're going to start with 1, 2,

1 3, 4, 5 and go right through them. So, Lauren.

2 PANEL MEMBER HEINE: This certainly pertains to 5  
3 but also in general. As we talk about section five, seeing  
4 that there is a need for some guidance as to -- for  
5 manufacturers as to when they satisfy the criteria of  
6 finding an appropriate alternative. Because whether you go  
7 with 5(A) or 5(B) or 5(A) with an option for 5(B), you are  
8 still going to want to have some sense as to is this a  
9 viable alternative and have I met the goal of replacing a  
10 chemical of concern with a safer alternative. So I would  
11 like to propose that there be some guidance as to when have  
12 you successfully met the spirit of this process.

13 CO-CHAIR GEISER: Great, all right. So I think I  
14 will take Kelly and then I'm just going to make sure there's  
15 no other issues that haven't come on to the table and then  
16 we'll start to proceed through the steps.

17 PANEL MEMBER MORAN: And I just wanted to make a  
18 quick clarification on 5(A) versus 5(B). One of the key  
19 concepts for me and the difference between the two is that I  
20 believe 5(A) is the robust assessment. Everyone would have  
21 to do that full, robust comparative assessment if you go  
22 5(A). In 5(B) everyone wouldn't have to do that. And so  
23 that is a pretty major distinction when you are thinking  
24 about private expenditures.

25 CO-CHAIR GEISER: Okay, I think we've got a lot on

1 the table for sort of setting this discussion up. Here is  
2 my suggestion. There has been some question on the  
3 clarification of what this Section I-B is, which has to do  
4 with the Green Chemist and all. I think it might be good to  
5 clarify that first. And then what we will do is begin a  
6 process which we will only get a ways into before lunch,  
7 which would be going step by step through this. And then  
8 after we have done that I'll come back to the points that  
9 have been raised in this discussion to see if we want  
10 further discussion of any of those specific areas. Does  
11 that make sense to people?

12 CO-CHAIR CARROLL: Chair, forgive me for  
13 intervening. I can see that there is a value in discussing  
14 each of these steps in Option I. But the other thing that  
15 people may want to do is to take you all the way through the  
16 process and so you might, might leave that open as an  
17 option. If you wanted to walk through and say, here is the  
18 way I would approach this using parts of Option I-A and I-B  
19 and I-C. That's another approach that you might want to  
20 consider.

21 CO-CHAIR GEISER: Thank you, Co-Chair. That's why  
22 we do this together. So if that plan sounds okay with you  
23 all I think we will --

24 (Affirmative responses.)

25 CHIEF DEPUTY DIRECTOR MADRIAGO: I would just want

1 to remind people, if you are going to have Kelly talk about  
2 I-B, that Attachment number 3 has a flow chart that you may  
3 want to make reference to.

4 CO-CHAIR GEISER: Yes, 1(B) came as a surprise  
5 even to me when it was in here so why don't we ask Kelly to  
6 say a few words about it. This is just something that Kelly  
7 had suggested we put into this. Kelly.

8 PANEL MEMBER MORAN: Most people looked at this  
9 and thought that George Daston had suggested it. My  
10 apologies to George who is not here to speak on behalf of  
11 P&G.

12 But back in the 1990s actually was when I first  
13 got to know folks at P&G and actually met with them and went  
14 to their facility and talked to them specifically about how  
15 they reviewed ingredients in their products. I was  
16 interested at that point in water quality effects of those  
17 ingredients. And I was very impressed at the approach that  
18 they took to see how they went through that. And this chart  
19 reflects a specific approach that they suggested that has  
20 the same, embodies some of the same idea that impressed me  
21 so much.

22 And what impressed me so much was that they would  
23 do a screen -- if they were going to reformulate a product,  
24 they were going to bring in a new ingredient, they would  
25 screen that ingredient if they identified a particular area

1 of concern, for example, a water quality concern. Then at  
2 that point they would stop and say, what is the value of  
3 this ingredient in this product? Is this something that we  
4 want to spend more money investigating? Is it worth it in  
5 terms of the other things that are out there? Is this  
6 something we want to invest in?

7           If the answer was "no" then they would go back and  
8 work with a different ingredient. If the answer was "yes"  
9 then they would invest further and go to the next level of  
10 detail and perhaps do some toxicity testing to fill data  
11 gaps and so forth. And again they would look at it and say  
12 either, it's okay, or if we still have questions and  
13 concerns they would say, do we want to invest further in  
14 this ingredient and in studying it more? And they would  
15 actually go through modeling steps and they even did model  
16 creek steps.

17           Each one of those steps, if they took the  
18 ingredient down the line, involved a greater degree of  
19 financial investment. At each step they asked themselves  
20 the question, what is the importance of this ingredient to  
21 our product line, to our client base, to our product  
22 function and so forth? Is it worth the financial investment  
23 that we will need to make to answer these questions yes or  
24 no. So that's the part that I thought was most important in  
25 terms of our thinking here.

1           So what you see here in the outline, it talks  
2 about a quantitative screen and then going through and  
3 looking at the impacts and perhaps with the qualitative and  
4 then maybe kicking it over a more quantitative. But the  
5 first trigger is what the volume is. You could put a lot of  
6 different things in there for that. But the key that I  
7 really wanted to bring forward to this group is that concept  
8 of that there is an interrelationship between the potential  
9 risk hazards, the problems, exposure issues and so forth  
10 with the product and the investment that a company would  
11 need to make.

12           And that providing a process that would, that  
13 would basically embody this kind of decision-making process  
14 where at each step the company is saying, do I want to spend  
15 more money on this ingredient or do I really want to go  
16 somewhere else, seems like a reasonable structure. It seems  
17 like it makes management sense and there's a company that is  
18 actually using that successfully in their product line.

19           CO-CHAIR GEISER: Thank you, Kelly. So that kind  
20 of explains it. It might have appeared that I-B is supposed  
21 to be a complete alternative to I-A, which I don't think it  
22 was. It's just sort of another interesting thing to look at  
23 and maybe draw some learning from.

24           PANEL MEMBER MORAN: And I guess I'd encourage us  
25 in thinking about the I-B to be thinking about how does that

1 play out in the Steps 4 and 5 in A. Because to me that goes  
2 at the qualitative versus quantitative and also some of the  
3 data generation questions that have been coming up. That  
4 this is all related.

5 CO-CHAIR GEISER: Okay. What I'd like to do is  
6 start then to go through the sequence. But I want to check,  
7 about three cards just went up and I want to make sure if I  
8 start with I and begin that march am I depriving you of what  
9 you want to say? Lauren first.

10 PANEL MEMBER HEINE: I think they were ahead.

11 PANEL MEMBER OGUNSEITAN: It's in response to  
12 the --

13 CO-CHAIR GEISER: It is, okay, okay. Let's just  
14 go ahead.

15 PANEL MEMBER OGUNSEITAN: When I heard the Note  
16 (2), this is on page three, that other approaches to be  
17 proposed -- may be accepted provided they meet DTSC  
18 criteria. And that's the context I was looking at these  
19 with when we heard about the other approaches that the  
20 Cradle to Cradle is using, the Green Chemistry Alliance. So  
21 something to think about what this -- how would we know,  
22 given all the work done on this approach, that another  
23 approach is not biased or better or leaving something out.  
24 And selecting those basic criteria because they're important  
25 if the company proposed a very different approach?

1 CO-CHAIR GEISER: I actually am going to turn to  
2 Odette and ask her if she can clarify that point because you  
3 raised exactly where it confused me as well. And that is,  
4 we have worked very hard to create this 1, 2, 3, 4, 5 and  
5 all, and then you kind of appear to say, and if you have got  
6 some other process that would be fine too. Can you give us  
7 clarification on your thinking on what that would provide?

8 CHIEF DEPUTY DIRECTOR MADRIAGO: Certainly. And I  
9 don't, I don't have suggestions in terms of what those  
10 criteria might be and you all may want to talk about them.  
11 But the reason I put that in there is that yes, you all have  
12 done a lot of work, you know, kind of providing us with the  
13 ideas that formed this Step 1, 2, 3, 4, 5 as well as some of  
14 the ancillary discussions.

15 And so it might well be that, you know, we end up  
16 deciding this makes a lot of sense. Let's put it in the  
17 regulations to tell people that we think this is very  
18 workable. If you follow this process we clearly think the  
19 -- getting to Lauren's point, that you would satisfy what we  
20 are looking for.

21 On the other hand, you know, I have also heard at  
22 least some of you as well as other people say, there isn't a  
23 one size fits all approach to alternatives assessment. So,  
24 you know, I'm thinking we need to be flexible to allow, if  
25 we do put something specific in the regulations that says,

1 we're telling you this would satisfy if you do it, but still  
2 give the flexibility for people to propose some other  
3 approach. But I think what we will have to do is we would  
4 have to articulate in the regulations at least some kind of  
5 basic criteria that we would be using to judge other  
6 proposed approaches. Does that help?

7 CO-CHAIR GEISER: I think that helps me. So I  
8 have Tim and then Lauren.

9 PANEL MEMBER MALLOY: Thank you. Yeah, I just had  
10 a couple reactions to the Procter and Gamble thing in  
11 general, the specifics of it. I see it as really just one  
12 way of doing the kind of tiered approach. It's one version  
13 of it.

14 What it drives home to me though is this notion  
15 that in designing these things I think it's important to  
16 kind of keep in mind that this is a public health frame  
17 which we're in and not a business frame. And I look at this  
18 and this to me uses the tonnage used as the trigger for what  
19 you do. What appears to be a less-rigorous qualitative  
20 assessment, at least on some of the factors, and a more  
21 rigorous quantitative assessment.

22 And that tonnage used, while it's -- you know, the  
23 notes said, low volume needs, less resource use and less  
24 impact. We all know that's not really true, it really  
25 depends on the particular, you know, the particular

1 material. A low volume of some materials you have a lot of  
2 concern about.

3           This tonnage thing I think reflects how important  
4 the product is to the company, not any kind of inherent  
5 hazard associated with the material. And that's the  
6 difference between the business frame and the public health  
7 frame. This might be a perfectly appropriate framework to  
8 use but you have got to be careful about what the triggers  
9 are that you are using for moving from one side to the  
10 other. Which to me really drives home the importance of  
11 articulating what you mean when you say qualitative versus  
12 quantitative.

13           And then the last point on this, relating to  
14 Dele's point and your point. That this just really reminds  
15 me of permitting. Particularly like air quality permitting  
16 for use source review where you have got to look at a number  
17 of alternatives for best available control technology or  
18 whatever. And it seems to me what is done in most of those  
19 situations is there is a default, a fairly well-defined  
20 default approach that includes a scoping that allows you to  
21 take the default approach and customize it to your facility.

22           And then there is the second part of that which  
23 says, hey look, if the default approach isn't going to work  
24 for you, you can propose something else. But that's subject  
25 to review and approval before you go out and do it, as

1 opposed to having kind of a mish-mosh of things coming in  
2 after the fact.

3           And I just think if you are thinking about having  
4 a variety of different approaches, and we ought to define  
5 what we mean by "approach," that there needs to be something  
6 that guarantees a level of rigorous consistency across those  
7 and attention to the notion that small differences in  
8 methodology can make big differences in outcome. And that's  
9 where I think that needs to have a close look before  
10 somebody goes ahead and develops the results of that. Thank  
11 you.

12           CO-CHAIR GEISER: Thank you, Tim. Lauren.

13           PANEL MEMBER HEINE: Thank you. Looking at the  
14 P&G flow chart it really struck me that -- well first of all  
15 let me say I am thrilled with the progress of these  
16 regulations and I am also very pleased that you have engaged  
17 industry in the pragmatic side of it. Because as I look at  
18 this I think risk assessment is very important from the  
19 regulatory perspective. You don't want to be regulating  
20 chemicals that nobody is using in any quantity, right? But  
21 from the product design perspective you go through a  
22 different exercise.

23           And I think what we are really trying to do is  
24 create a coupling here between what the regulator can do and  
25 then what the product designer can do. And they are not the

1 same. And so I think it makes a lot of sense to use hazard  
2 assessment from the product design perspective because you  
3 as a very small manufacturer, you could use a highly  
4 hazardous material with low risk because you don't make a  
5 lot of it. But if you are a very large company like P&G,  
6 risk might be a paradigm for you because you are the  
7 dominant product in the marketplace. An example of that  
8 would be the use of alkylphenol ethoxylates in laundry  
9 detergent. It doesn't make sense. I've heard P&G say they  
10 don't use them.

11 So I think one thing we need to keep in mind as we  
12 go forward is what are we trying to drive from the product  
13 design side? Because if we wait until a chemical becomes a  
14 problem that needs to be regulated, that's too late. We  
15 want people making better decisions up front so that we  
16 don't get to the point where those chemicals need to be  
17 regulated. So you are sometimes asked to make decisions on  
18 things that might not be a risk at a very low concentration.

19 And I think it's important to keep that in mind. Part of  
20 this exercise is understanding the audience of product  
21 designers and manufacturers versus the regulators. And  
22 somewhere we need to find a way to couple that.

23 CO-CHAIR GEISER: That's an excellent point,  
24 Lauren, very good.

25 Just a comment. Some of our mics are picking up

1 very well and others are, you are kind of stuck with mics  
2 that aren't quite as good. Kathy just indicated for all us  
3 to try to speak closer to the mic.

4 MS. BARWICK: Especially these here.

5 PANEL MEMBER JOHNSON: I just want to touch on the  
6 point that everybody has been talking about a little bit and  
7 it's throughout the document here and that's the difference  
8 between a guidance and a regulation. And I think this  
9 becomes pretty important because the guidance documents in  
10 many respects have a lot of utility because they can be, you  
11 know, they can specify something, they can give criteria,  
12 they can give certain types of procedures that are  
13 acceptable and used. They don't fall into the category of  
14 actually being in force in regulations.

15 And the nice thing about them also is they can be  
16 changed without changing a regulation. So you can give a  
17 revision of a guidance and it can be based on the fact that  
18 science is changing, everything is changing over time and  
19 the tools are changing.

20 But you can refer back to the regulations as being  
21 very specific in terms of kind of a -- I'm not going to  
22 define what the regulations would say but they don't have to  
23 go into the specifics of a guidance document. So I think,  
24 you know, we've got to think about that a little bit. It  
25 may be very advantageous to this whole thing to be able to

1 think of some of these things in terms of guidance documents  
2 rather than regulations.

3 CO-CHAIR GEISER: Thank you. All right, so we  
4 have just a little bit, we have about 25 minutes. Why don't  
5 we just start with the sequence, the 1, 2, 3, 4 up to 5.  
6 We'll start with 1. But keep in mind Bill's comment that  
7 you might find that you need to talk about the whole thing  
8 or the relationship between what you had to say about  
9 Section I, Step 1 by talking about what it means for Step 4  
10 or something like that. So don't feel bound in the steps  
11 but let's start at least keeping the logic of the  
12 conversation focused on the steps themselves.

13 One thing to also note and that is, I don't think  
14 there is any intention that the steps are sort of lock-step.  
15 That we all understand that there's an iterative or a back  
16 and forth or whatever. I don't think we have to say much  
17 about that, I think that's pretty much always been the  
18 spirit of this.

19 But let's just sort of start with the idea that we  
20 have five steps, Odette's gone through this a couple of  
21 times, starting with the technical criteria then the  
22 identification of alternatives and then some screening to  
23 get to the fifth step. Let's start with Step 1. And Joe, I  
24 know, had some comments along the line, he wanted to pick up  
25 some things specific to some of these steps, so maybe I'll

1 turn to Joe first on this.

2 PANEL MEMBER GUTH: Okay, thank you. You know,  
3 I'm really learning a lot about alternatives assessment  
4 going through this. But I guess the questions that come to  
5 my mind in reading through Step 1. I'm trying to think  
6 about what it means to identify a technical criteria.

7 You know, if that is -- and maybe this is the  
8 question. If that is done very specifically and narrowly  
9 you can end up with a criterion that can only be satisfied  
10 by a chemical of concern, right? I mean, maybe it's lead in  
11 paint and the technical criteria is the color of a precise  
12 spectrum. There is no other way to do it. So I guess it's  
13 a question. How broadly, you know, we're defining that.  
14 Because you can end up just with, you know, an outcome-  
15 determinative process.

16 And then, and then I think, you know, going to the  
17 third part. If you think about removing the COC from the  
18 product. I guess the implication there to me is whether it  
19 could be a different product that also works that doesn't  
20 contain the COC accomplishes the goal of the COC in some  
21 other way, some other design, so it could be designed  
22 differently.

23 And then how to -- then what are we, what are we  
24 comparing then? We have a product that contains a COC, one  
25 that doesn't contain a COC but it could contain other

1 chemicals. So you end up with a fairly broad alternatives  
2 analysis. It's not just a COC versus a counterpart but it's  
3 the product that contains the COC versus the product that  
4 doesn't. And that could be pretty involved, I guess.

5 So I guess that's a, that's a question. How is  
6 this supposed to work?

7 CO-CHAIR GEISER: Was there any implication that  
8 there was an answer to be --

9 PANEL MEMBER GUTH: Well no, I'm sorry. No, I'm  
10 so new to this that I don't know.

11 CO-CHAIR GEISER: All right. Other comments on --  
12 beginning at least with Step 1. And I see Kelly and then  
13 Tim and Dele then Dale.

14 PANEL MEMBER MORAN: And I'll be quick. First in  
15 response to what Joe just said. I actually thought about  
16 some of that too. And I keep thinking that the solution to  
17 that is for the Department and -- they might want some  
18 advice from us as to how do you define what is a reasonable  
19 range of alternatives.

20 So it doesn't go completely at that but I have  
21 actually seen that kind of thing happen before where you  
22 just define the specifications so narrowly you preclude any  
23 alternative. And one way around that might be to lay out  
24 some reasonable range of alternatives, even if you thought  
25 about -- ensure that things other than just one chemical for

1 another, which is often not a reasonable alternative are  
2 considered. Because sometimes it is a whole new formulation  
3 or perhaps even a different part or some approach to the  
4 function of that product.

5           But I actually wanted to comment on what if the  
6 chemical is necessary or not. I was surprised by the  
7 industry comments today and I am very glad that they shared  
8 those thoughts with us. Because I had been looking at that  
9 as a kind of short-circuit for this process. If you are  
10 using something that is perhaps a tint that contains a  
11 chemical of concern and you really don't need to color your  
12 product, you could pull it out.

13           I think it would be fantastic for the regulations  
14 to offer a short circuit to the process where you wouldn't  
15 have to spend all the other money just to say, I'm taking  
16 this coloring out of my product. So I had envisioned this  
17 as being something that would allow a manufacturer to avoid  
18 all of those other things. And for that makes a lot of  
19 sense to ask that as a threshold question and provide  
20 avoidance. And not to -- what I hear and am sympathetic to  
21 the idea, that DTSC would be making -- the state would be  
22 making decisions about product function, because I am very  
23 concerned about that.

24           CO-CHAIR GEISER: Thank you. I think it was Tim  
25 next.

1           PANEL MEMBER MALLOY: Thank you. I want to say I  
2 agree with Joe's point. I think in terms of Step 1, and I'm  
3 going to mention Step 2 because I have to for my comment to  
4 make sense, for it to be useful. You know, the work that we  
5 have done, and particularly this work we did on the two case  
6 studies of lead solder and garment care.

7           It appears that just about every product or  
8 chemical in a product, when you go out and actually look in  
9 the literature, the technical literature, the engineering  
10 literature, it's amazing but most products actually have  
11 fairly well-defined kind of understood measures of  
12 functionality. So for lead solder it's like wetability,  
13 tensile strength and stuff like that. Dry cleaning has got  
14 like spotting and like a cleaning factor that is measured  
15 through a particular test and so on and so forth. So I  
16 think actually there's going to be a lot of sector-specific,  
17 pretty publicly available measures of functionality which I  
18 think can be drawn upon.

19           I think the issue that Joe raises Kelly raises is  
20 important. And that's why -- I think it's important to  
21 remember that this should be a comparative analysis, not a  
22 kind of getting over the bar for identifying potential  
23 alternatives in the sense that I don't think this should be  
24 set up such that a strict identification of a point estimate  
25 of a measure of function has to be met for an alternative to

1 get into the process.

2           Rather, you should -- remember, you're probably  
3 going to be making tradeoffs in terms of how well something  
4 works versus how safe it is or how costly it is. So along  
5 those lines I would suggest like in Step 2, that you don't  
6 screen out alternatives just because they don't rise to the  
7 same level on the measure of functionality as the existing  
8 chemical. But rather you're keeping those that are within a  
9 reasonable range of performance. You know, that aren't kind  
10 of completely off the scale such that they wouldn't be  
11 useful at all.

12           So you are going to have some that perform a  
13 little bit better than the existing chemical on some  
14 functionality measures and perform a little bit worse on  
15 others and so on and so forth. I think that's going to be  
16 what you're seeing as the general case as opposed to a  
17 situation where there is going to be a clear alternative in  
18 that way.

19           And on Kelly's point about the necessary. If you  
20 could actually just look and say, you know what, we don't  
21 really this chemical now that we think about it, let's just  
22 take it out. I think that makes a whole lot of sense. I  
23 have heard people tell stories about that in actual  
24 industrial situations where when they were pushed to talk  
25 about it and think about it the engineer said, it doesn't

1 really do much and they just took it out. So that's really  
2 not that unusual and I think people should be incentivized  
3 to maybe that give that up if it avoids, you know, the need  
4 to go through this process.

5           But you want to be careful that they are not  
6 changing other things. And it might not just be that you  
7 are taking something out and substituting something worse  
8 but you could be changing something else about your product  
9 that has other unintended consequences. So there has to be  
10 some, I think, review of the impact but certainly not the  
11 level of a full-blown alternatives assessment. Thanks.

12           CO-CHAIR GEISER: Dele.

13           PANEL MEMBER OGUNSEITAN: I have a problem with  
14 ending with "necessary." Necessary for what? So if it is  
15 for the function then we have to specify because some things  
16 may be necessary to keep the cost in and that may not be  
17 sufficient to justify moving on to Step 2 or not.

18           Unfortunately, mercury in compact fluorescent  
19 light bulbs are not included in these regulations but that  
20 is one product where for functionality it is necessary but  
21 we also don't have an alternative. But it's clear that that  
22 would immediately move the product on to other assessments.

23           So I just want us to think clearly about this  
24 necessity of the COC in the product because it has to be  
25 defined by what we identify as the technical criteria since

1 we include cost and availability and those things in these  
2 criteria.

3 CO-CHAIR GEISER: Dale and then Michael.

4 PANEL MEMBER JOHNSON: Okay. I am just trying to  
5 see how this works, Step 1. So I am flipping back and forth  
6 between this, you know, page 5 and then this color diagram  
7 here, which is this part right here. So on --

8 CHIEF DEPUTY DIRECTOR MADRIAGO: Let me clarify.

9 PANEL MEMBER JOHNSON: Yes.

10 CHIEF DEPUTY DIRECTOR MADRIAGO: They are not  
11 meant to be, you know, exact matches.

12 PANEL MEMBER JOHNSON: Right, right. That's why  
13 I'm trying to fuse them together, to see what, you know, how  
14 this thing might work. So Step 1, so really here DTSC  
15 issues the list of chemicals of concern. And then that  
16 triggers this kind of voluntary approach that is going to go  
17 on in all of the various industries. So then people are  
18 going to identify whether or not a product has a chemical of  
19 concern in it, has more than one or has various other types  
20 of things. And at that stage as they're doing the Step 1 it  
21 is still within the company. So the people, you know, from  
22 an industry standpoint are developing this information to  
23 match the list.

24 Now on the chart we ask the question, should this  
25 Tier 1 be voluntary or mandatory? And it seems that if that

1 was the case, if it's mandatory or voluntary, that probably  
2 has to be in the regulation that says that you're either  
3 going to do this or, you know, it has to be done right now.

4 This still at this stage exists with, exists within the  
5 company and is not reported as such.

6 So that's kind of where I'm, you know, a little --  
7 I don't quite understand where Step 1, you know, emerges out  
8 of the company into DTSC or into some kind of a public  
9 category. And then also understanding there's some kind of  
10 financial business information that's involved with it. So  
11 maybe if you could just comment on that a little bit, on how  
12 this would actually work.

13 CHIEF DEPUTY DIRECTOR MADRIAGO: And you're  
14 talking about Step 1 in the narrative, okay, as opposed to  
15 the chart.

16 PANEL MEMBER JOHNSON: Step 1.

17 CHIEF DEPUTY DIRECTOR MADRIAGO: Because you  
18 can't, you know, actually match those up exactly.

19 PANEL MEMBER JOHNSON: Yes.

20 CHIEF DEPUTY DIRECTOR MADRIAGO: Well Step 1 as  
21 well as 2 and 3 and 4, those would be done in turn by the  
22 manufacturer or some entity on behalf of the manufacturer.  
23 And at the end of Step 4 or Step 5, depending on which of  
24 the five options you go with, at that point the AA report  
25 would be submitted to the Department.

1           There would be I guess, and you know it's not  
2 clearly delineated in here because I was trying to keep this  
3 simple and focused. But, you know, probably prior to doing,  
4 starting Step 1 or maybe somewhere in-between here there  
5 would be an alternative assessment work plan submitted to  
6 the Department that would lay out either the approach to  
7 doing Step 1, 2, 3, 4, 5 or an alternative approach. So I  
8 don't know if I'm answering your question.

9           PANEL MEMBER JOHNSON: I'm just trying to figure  
10 out how it works.

11           CO-CHAIR GEISER: Dale, let me try to explain a  
12 little bit, and correct me if I'm wrong, Odette. But the  
13 color diagram, this diagram that appears like this.

14           PANEL MEMBER JOHNSON: Yes.

15           CO-CHAIR GEISER: This is a diagram that was put  
16 together by Kelly, myself and Ann, I believe some year and a  
17 half, two years ago. We were very proud to see it included  
18 at this point. In my mind it is not tailored to the steps  
19 here. Odette's doing a nice job of trying to place it but  
20 it's later if it was. But there wasn't an intention. I  
21 don't think you should struggle to try to bring these  
22 together.

23           DIRECTOR RAPHAEL: Dale, I want to jump in to just  
24 explain because you were -- I think the thing that I'm  
25 hearing you asking is, this list gets published and then

1 companies will have the choice to act on it voluntarily.  
2 they see this list of chemicals of concern, what do they do?

3 When does alternatives assessment, when do those steps  
4 happen. They don't happen until that list is matched with  
5 products, right. Because if you remember that flow chart.

6 So just because you're on that list of chemicals  
7 of concern doesn't mean there is any mandate for you to do  
8 alternatives assessment. You may decide to do that on your  
9 own, in which case it's all internal.

10 But once it's matched to a product and you have  
11 got that marriage and the mandate then happens that anybody  
12 who makes a product with that chemical of concern in it  
13 needs to do this, then you kick in and that then becomes the  
14 interaction with DTSC. So I'm not sure if that helps or  
15 confuses it.

16 CHIEF DEPUTY DIRECTOR MADRIAGO: And I think the  
17 reason there is some confusion is because actually in the  
18 flow chart there was a concept that even if your product  
19 hadn't been listed yet that if you removed or replaced a  
20 chemical that you would have to do what's described as a  
21 Tier 1 assessment, potentially.

22 PANEL MEMBER JOHNSON: So then -- so you match the  
23 chemical of concern with the product, all right, so it stays  
24 internally within the company. You match that. And is that  
25 then, then that is revealed at that point? So the chemical

1 in the product is revealed to DTSC? Is that the way, is  
2 that they way you are thinking of it or not?

3 CHIEF DEPUTY DIRECTOR MADRIAGO: Well, I would --  
4 to answer that question I would have to go back to the  
5 versions from last year because that's not really something  
6 that we have discussed this year.

7 At one point I think there was something in the  
8 regulations that once we -- well there were several things.

9 We could do a data call-in asking companies to identify any  
10 products that they had on the market in California that  
11 contained the chemical of concern, that's one concept. You  
12 know, there was I think another procedure where once we  
13 listed products, priority products, you know, people being  
14 required to notify us of their products that fell in those  
15 categories.

16 But that's really not something that we have  
17 talked about this year so I don't know, you know, if you  
18 want to go down that path today or not.

19 CO-CHAIR GEISER: And let me again say,  
20 particularly if you are trying to line these up. Don't go  
21 through -- I would actually recommend don't line them up.  
22 That document is a very useful document if you're thinking  
23 about a tiered approach.

24 I have got several people's cards up and I'm going  
25 to -- let's see, I've got Michael and then Roger, Lauren and

1 Kelly. Is it clarification?

2 PANEL MEMBER MORAN: Yeah. I really just want to  
3 clarify how this relates to the topic and why I asked for it  
4 to be part of the packet for today. It'll only take a  
5 moment.

6 CO-CHAIR GEISER: Okay. But try to keep these  
7 things separate because we could get really confused by  
8 trying to merge them.

9 PANEL MEMBER MORAN: Okay. So really briefly, I  
10 asked for this to be included because the part that starts  
11 in the orange and so forth, what is called a Tier 2A, is  
12 really the part we are talking about. So this is a flow  
13 chart that kind of reflects the concept of, I think -- I  
14 can't remember if it's 5(A) or (B). But that part.

15 The first part here is something that may or may  
16 not be something that DTSC and the Committee would want to  
17 discuss and it was more about voluntary action and  
18 recognizing that and so forth. So just don't -- fold the  
19 paper and don't think about it. Then it might be more  
20 helpful.

21 (Laughter.)

22 CO-CHAIR GEISER: Thank you, Kelly, thank you very  
23 much. That's great.

24 Okay, I'm watching the time here a little bit and  
25 we do have to be careful because we told the staff upstairs

1 that we would break at noon. So I am going to try to ask  
2 the three of you to be quick. If I am robbing you of  
3 something I can also pick it right up after lunch. Michael.

4 PANEL MEMBER KIRSCHNER: Okay, I'll be real quick.

5 I just wanted to address Joe's point. And I'm glad that  
6 Tim brought up lead solder because that's kind of an example  
7 of this technical criteria. The issue is the level of --  
8 where is the functionality you are trying to achieve? With  
9 lead and solder it is not with the lead, it's with the  
10 eutectic that's achieved with lead and tin. When you put  
11 them together you get a material that melts at a low  
12 temperature and attaches to different metals, to other  
13 metals together in a conductive manner.

14 To replace that you have to look at the  
15 functionality at a higher system level. What are you really  
16 trying to achieve? You are trying to achieve a mechanical,  
17 electrically conductive joint. That's the technical goal.  
18 How you achieve that is almost, you know. There's actually  
19 very few metals that you could use practically to achieve  
20 that. The industry chose for some odd reason, tin-silver-  
21 copper. So trying to pick one of those chemicals out and  
22 saying, what is its function, may not be the right question.

23 I just wanted to try to reinforce that.

24 You have to ask the question or identify perhaps  
25 the system functionality that you're trying to achieve. Not

1 necessarily the functionality of the specific chemical. Its  
2 role in that functionality might be an issue but it's  
3 really, it could be the system. That's it.

4 CO-CHAIR GEISER: Right. There's a hierarchy of  
5 possible places you could ask about functionality.

6 PANEL MEMBER KIRSCHNER: Right.

7 CO-CHAIR GEISER: Thank you, Mike. Roger and then  
8 Lauren.

9 PANEL MEMBER McFADDEN: Thank you. Thank you,  
10 Chair. I would add my compliments to DTSC and to the entire  
11 group. You're doing extraordinary work and thank you very  
12 much for the hard work in bringing this whole thing  
13 together.

14 When we look at assessments, and we do that as  
15 well in our business, all businesses around this table and  
16 around this room here. We often do ask the question, is it  
17 necessary? And when the response from our suppliers is  
18 "yes" we actually have a follow-up question before we move  
19 to the next one. And it is, is it necessary at the level  
20 you have it in there?

21 So if we just quickly move from it's not -- you  
22 know, it is necessary, to the next step, you're missing a  
23 part where we might get some benefit. And that is, that  
24 what if we could lower the amount of that substance to a  
25 lower degree and still have the performance that's there?

1 That would be my comment.

2 CO-CHAIR GEISER: Good point, good point. Lauren.

3 PANEL MEMBER HEINE: Thank you. I just wanted to  
4 note. I agree with Tim about the criteria for the function  
5 of an ingredient in a product is not always that difficult.  
6 And I'd like to point to EPA's Design for the Environment  
7 program as a good model for that. They have two programs,  
8 one is the Safer Product Labeling program and the other are  
9 the partnerships that look at alternatives for flame  
10 retardants and things like that.

11 And with the safer products they break down --  
12 looking at say cleaning products such as solvents and  
13 chelating agents and working with industry to define those  
14 criteria and it is really not too problematic. You might  
15 need to actually bring in some focus groups to get clarity  
16 around that.

17 And the same with the partnerships. They bring in  
18 stakeholders and define the functionality, for example, of a  
19 flame retardant or the BPA and thermal paper piece. And as  
20 a group you could actually find the functionality and maybe  
21 even layer that. Is there a drop in replacement? If not  
22 let's look at, let's draw a bigger circle around what  
23 functionality means.

24 So I think that one sort of pragmatic approach  
25 might be -- I hear your concern for that and I think one

1 solution might be to engage an external advisory group to  
2 clearly define those functions. Because it is feasible, as  
3 Tim said.

4 CO-CHAIR GEISER: All right, thank you, Lauren.

5 So we've gotten into things here more deeply. We  
6 started into Section 1 and I think we'll just take our break  
7 at this point for lunch. So please be thinking about all  
8 this. Remember our Bagley-Keene responsibilities in what we  
9 can talk about. And so that closes the discussion here.  
10 Kathy would like to make a comment.

11 MS. BARWICK: I actually now have several  
12 comments. First of all I would like to recognize that your  
13 colleague, Richard Dennison had planned to be here and his  
14 plane was canceled at the last minute. He was put on  
15 standby and that wasn't working out so I just wanted to let  
16 you know that, that he had planned to be here.

17 And also your colleague Rich Liroff is  
18 participating from his office. I wasn't here when the  
19 notice went out so it kind of slipped my mind. So I'll be  
20 working during lunch time to make sure we understand a  
21 process by which we can advance his comments as we receive  
22 them here during the conversation.

23 I understand for those listening on the webcast.  
24 We acknowledge we are having some problems with the sound.  
25 We are going to try to improve the sound during the break so

1 we are doing the best we can.

2           And for the panelists that are joining us for  
3 lunch on the 25th Floor. Just to let you know, the easiest  
4 way to get there from here is to go all the way back down to  
5 the lobby and then go to the middle bank of elevators right  
6 by the security desk right to your right and then go up from  
7 there. Otherwise you wind up in a maze.

8           (Laughter.)

9           MS. BARWICK: So that's all I have to say and  
10 thank you.

11           CO-CHAIR GEISER: We'll return here, back here at  
12 1:15.

13           (Off the record at 12:06 p.m.  
14 for a lunch break.)

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1 afternoon I'd like to have the opportunity to talk about  
2 Steps 4 and 5 as well and with the same kind of  
3 consideration. Thank you, Chair.

4 CO-CHAIR GEISER: I'll take my prerogative there  
5 as well and just say a comment or two on my own. One of the  
6 things that we have -- when we think about substitution and  
7 around alternatives and how you think about looking for  
8 alternatives is -- and refers to where we -- with Michael's  
9 last comment, and that is that there's a hierarchy that one  
10 tries to go through in searching. And the first level is  
11 chemical for chemical substitution and looking at whether  
12 there is. And I appreciate Bill's point that often it's not  
13 a drop-in, easy substitute. It almost never is something  
14 that simple.

15 But looking at chemical for chemical kind of  
16 relationships but then functionally rising up in our -- if  
17 you start to look, if you can't find enough alternatives at  
18 that level you move to what we would call a materials level.

19 Changing the material in an assembled product or something  
20 in order to change the chemical. And if one can't find  
21 enough alternatives at that level you move up to a product  
22 level and start to look at a redesign of a product itself to  
23 figure out whether there is a way to redesign the product,  
24 which opens up more opportunities for functions.

25 And then finally, even going higher, is there some

1 other way to get that task done or enter that market with a  
2 product such that you don't even need the chemical. So what  
3 we try to teach is that there's sort of four levels that  
4 open up different opportunities for alternatives themselves.

5           And one thing that hasn't gotten mentioned but I  
6 want to raise it because it really cost a lot when we tried  
7 it. And that is, we often say that the first thing to think  
8 about is the performance. Because as I think you said, if  
9 it doesn't work it doesn't work. The hazards and the  
10 characteristics that you are trying to get away from are  
11 kind of the next thing to make sure of that.

12           The thing that is less salient is cost because  
13 cost can often be managed from situations, manipulated by  
14 deals and by other kind of negotiations and things or prices  
15 change over time and things like that; whereas performance  
16 doesn't change.

17           But there's another one which gets raised to us  
18 which is availability. And it's the availability of the  
19 alternative that -- one of the reasons some alternatives are  
20 preferred is they are such a stable distributor, such a  
21 stable supplier and the fact that it's going to be there for  
22 a long period of time is another piece to it as well. So  
23 just another variable to throw in.

24           Okay, so we have on our agenda we have Michael and  
25 then Dele and Joe. Michael.

1           PANEL MEMBER KIRSCHNER: Thank you, Chair. I just  
2 wanted to agree with Bill when Bill was talking about the  
3 chemical industry. I work with product industries with  
4 article industries, electronics. And my background and  
5 experience in identifying alternatives at the part level is  
6 analogous, it's almost precisely what you said, Bill.

7           You are looking to replace, or at your options  
8 when you're designing something you can achieve a function  
9 in one part perhaps. Or maybe it takes a suite of parts if  
10 you choose another alternative. Or maybe it takes, you  
11 know, somewhere in-between, you know, two to five parts to  
12 achieve a specific functionality. But there is always --  
13 and I'm sorry, cat lovers, many ways to skin a cat, you  
14 know. Not that I have done that lately.

15           (Laughter.)

16           PANEL MEMBER KIRSCHNER: But you can, you can  
17 solve problems in a number of ways and that's what  
18 engineering is about is problem solving. And when you  
19 arrive at a situation where you suddenly have a substance  
20 that has to go, that's going to change the system that that  
21 substance was part of. It's never going to be as you all  
22 have already noted, a simple drop-in replacement.

23           I just wanted to agree that it's looked at first  
24 for functionality. Then if you have multiple options then  
25 you go to the next level, can we deal with -- what's the

1 cost going to be in volume, what's the availability going to  
2 be. Can they produce it at the rate we want it? You know,  
3 all the technical and business issues. Those are what  
4 industry is already really good at and they know how to do  
5 that. And if we can create an analog for the environmental  
6 and health issues, I think those look parametric. So that  
7 you can start to trade those off as well and understand how  
8 to trade those off.

9           And then we'll put it into that same system. And  
10 there is already a system in industry, for manufacturers to  
11 go through and do this for technical and business reasons.  
12 So we are just trying to do the same thing for environmental  
13 and kind of bring those up to the same level of importance  
14 as what this is. So manufacturers -- what I'm trying to say  
15 is manufacturers already know how to do this but in a  
16 different set of parameters.

17           CO-CHAIR GEISER: Thank you, Michael. Dele.

18           PANEL MEMBER OGUNSEITAN: Thank you. You know,  
19 the comment about hierarchy got me thinking about what the  
20 remorse is about products of concern. When we have  
21 competition in the market there many different product  
22 designs that perform the same function and maybe one or two  
23 uses a chemical of concern.

24           If there are no alternatives to those chemical of  
25 concern -- I hate to do this again but I am going back to

1 the mercury in the CFLs. So mercury is essential, it's  
2 necessary for CFLs. But the function of producing light is  
3 not, really does not need to have CFLs.

4           So in that kind of situation how will the  
5 regulations be weighted to encourage, I guess, finding  
6 alternatives to mercury without actually crushing that  
7 market and give us another product that we may not know as  
8 much about. And that concerns me and leads me to Step 2,  
9 identify just the -- are there already known alternatives?  
10 Yes, there are alternatives to the product but not to the  
11 chemical.

12           CO-CHAIR GEISER: Thank you, Dele. I'm going to  
13 leave that. I know you are placing it out there as a  
14 question but I think you are making a strong point. So we  
15 have Joe.

16           PANEL MEMBER GUTH: Well just to pick up on this.  
17 I was struck by both comments by the Co-Chair and the other  
18 Co-Chair and that is that, I mean, if we are not going to  
19 have -- if it's rare to have drop-in substitutes then are  
20 you really going to be considering alternatives that may not  
21 involve the chemical?

22           Then I was a little curious, Ken, of whether in  
23 your hierarchy then are you comparing sort of the function  
24 with the chemical and then the alternative function without  
25 the chemical so that it's contained the attributes of a

1 product that are performing that function or do you end up  
2 inevitably comparing products against each other? The whole  
3 products because so many things can change.

4           And so if that is where we are going to end up  
5 most of the time, comparing products against each other.  
6 Often it can be very complicated. There could be a lot of  
7 chemicals. I guess you have to compare the whole suite of  
8 chemicals of one product versus another to do an  
9 alternatives analysis that is driven by the presence of one  
10 COC in one of them. So if that's where you end up. I mean,  
11 that's starting to sound a little daunting. And maybe at  
12 this, maybe what it says at this stage we should be thinking  
13 about some simple products to start with.

14           CO-CHAIR GEISER: Good point, good point. So  
15 we're going to have Tim, Kelly and Lauren.

16           PANEL MEMBER MALLOY: Thank you. We're talking  
17 about Step 3 now, yes? Two or three?

18           CO-CHAIR GEISER: Yes, we're in -- yes.

19           PANEL MEMBER MALLOY: Okay. So only 3. I just  
20 want to make sure I'm in the right spot. I wanted to  
21 reflect on a couple of things that have been said. With the  
22 hierarchy, Ken, that you set out, the way I understood you  
23 saying it was, first you look to substitute. And if you  
24 can't find a safer substitute then you look to kind of  
25 moderation or modification of the use of the chemical of

1 concern. So it's kind of a step-wise hierarchy.

2           And I am not sure -- I know that that's typically  
3 the way folks think about it and, you know, it's built into  
4 a number of conventional people use. But it strikes me that  
5 it ought to be, we might not want to be so hierarchical  
6 about it because, you know, one could imagine that there  
7 might not be -- this goes to Bill's point a little bit.  
8 There may not be a substitute for the particular chemical of  
9 concern but you could moderate you know, how it's used so  
10 it's linked up with some other chemical that reduces its  
11 hazard or its possibility of exposure where you can use less  
12 of it and so on and so forth. Such that that alternative  
13 would be overall safer than the second step of the  
14 substitute.

15           So it seems to me -- you know, I guess you get the  
16 point that I'm making which is, it may not be that you want  
17 to just look for substitutes first and then moderation if  
18 you can't find a substitute but rather look at them all at  
19 once. So I would encourage us to be thinking about that.

20           The other question I had here is on screening when  
21 cost and availability. The other way to think about that in  
22 terms of why you wouldn't knock things out so quickly on  
23 availability or cost is that this is a regulatory program.  
24 So I would think the agency is going to have to go with a  
25 phase-in the use of an alternative. So if one of the

1 limitations is kind of lack of availability or some problem  
2 with the distribution network or so on and so forth, if by  
3 having a phase-in of that alternative that allows the  
4 building of capacity for those types of things.

5           And the same goes with cost, you know. The cost  
6 will shift. But also this is a regulatory program which  
7 means, you know, maybe the government ought to be thinking  
8 that if there's additional costs associated with a  
9 particular alternative, from a social welfare standpoint the  
10 government could step up to subsidize that alternative if  
11 the public health benefits of that are strong enough, right.

12       So there's lots of reasons beyond the ones that Bill  
13 suggested, I think, for not being too quick to screen things  
14 out.

15           And the last thing I have is more of a question.  
16 I understand on Step 3 the screening. So screening out  
17 chemicals that are listed as COCs or a priority chemical. I  
18 agree with Bill, I don't think that's an appropriate  
19 screening to use for the reasons he suggested.

20           But the one about application of the Quick  
21 Chemical Assessment Tool, I wasn't quite sure how that would  
22 work. I look at that tool and I'm familiar with how Green  
23 Screen works, if I've got it right where, you know, it's  
24 kind of like an alert. Hey, this is a carcinogen so you  
25 might want to look for something else that isn't a

1 carcinogen. Is that what this Quick Chemical Assessment  
2 Tool would do? You would basically line it up, see what the  
3 hazard traits are associated with your alternative and then  
4 kind of, you know. I don't know what would be the --  
5 intuitively move one out if it looks like it's got too many  
6 check marks? How would you use it?

7 CHIEF DEPUTY DIRECTOR MADRIAGO: Yes, it's  
8 actually very similar in approach to Green Screen. It's a  
9 more streamlined approach and so it actually acknowledges  
10 that. There's more uncertainties built into it. So, you  
11 know, one possibility might be that you do that for a first  
12 step to kind of narrow down what you're looking at and then  
13 you could do, you know, a more in-depth analysis with Green  
14 Screen. These are just, you know, examples of things.

15 PANEL MEMBER MALLOY: Okay. Well thank you, that  
16 was helpful clarification.

17 CO-CHAIR GEISER: Thank you, Tim. Kelly.

18 PANEL MEMBER MORAN: Thank you, Chair. I just  
19 have a couple of thoughts here building off of some of the  
20 previous things that were said. One thing is that I think  
21 it may help us in our discussion, we keep circling around  
22 what alternatives should be considered an alternatives  
23 assessment. And for regulation development purposes it  
24 suggests to me that it may be helpful for DTSC to separate  
25 out the definition of a reasonable range of alternatives

1 that would be included in an alternatives assessment from  
2 some of these processes. Because I think otherwise it would  
3 kind of get stuck. So there may be a need to define what's  
4 a reasonable range and I think that definition isn't a  
5 simple thing because that's what we're hearing here.

6           And then the other thing is that when I look at  
7 the screening out in Step 3 I am seeing two different  
8 things. I'm seeing stuff a company does, which is what Bill  
9 I think did a very nice job of summarizing really well.  
10 That's a great example and I have seen other examples where  
11 one is looking at a change in product and looking at the  
12 whole formulation. As we heard Joe mention, it could be a  
13 lot of different chemicals because it's really a different  
14 approach to making that product. So it does make it kind of  
15 daunting.

16           I would put -- distinguish what the company does  
17 to start examining alternatives from which alternatives are  
18 required to be carried through whenever an alternatives  
19 assessment is done by the state. So for me that's important  
20 because I would not think that it is necessary to require  
21 the expenditure of funds completing an alternatives  
22 assessment for something that a company isn't really going  
23 to want to use. But at what level do we want to make them  
24 think about certain things is what makes us define  
25 reasonable range.

1 I'm not sure I'm expressing that quite clearly but  
2 I guess what I am getting at is that I think that nothing in  
3 this regulation should preclude or limit the kinds of things  
4 that a company does. So as Bill mentioned, they might very  
5 well wish to learn from a substitute that would involve  
6 another chemical of concern in doing their research, but I  
7 don't think that a law should require the full expenditure  
8 of an AA for everything that might be out there that's a  
9 potential.

10 CO-CHAIR GEISER: So just a comment to help  
11 structure this a little bit. In Step 2 we're trying to find  
12 a range of alternatives, to expand the number of  
13 alternatives being looked at but in Step 3 we are trying to  
14 reduce the number of alternatives being looked at. So just  
15 along that line, there's a balance going on here between 2  
16 and 3. I think Bill was right, we have to think of these  
17 together. Lauren.

18 PANEL MEMBER HEINE: I've got a lot of thoughts  
19 going through my head right now but I want to make a  
20 distinction between screening chemicals and screening out  
21 chemicals. Screening the hazards associated with chemicals  
22 is a very important step, whether it leads to finding an  
23 alternative or screening out a potential alternative. And  
24 it may be that we can set some criteria under which you  
25 would always screen those chemicals out or maybe you would

1 only sometimes screen certain chemicals out for different  
2 applications.

3           For example -- well, the Green Screen method has a  
4 suite of hazard end points and each hazard is evaluated to  
5 high, medium or low. The QCAT is a subset, the Quick  
6 Chemical Assessment for Tim's benefit, is a subset of that,  
7 it's not all the end points but it helps you make sort of a  
8 quicker judgment.

9           And so I could imagine a case where a chemical  
10 might -- that someone might screen out -- it might screen  
11 really well but it's irritating to the eye. That chemical  
12 won't make a good eye wash, even though it might have a very  
13 good overall benchmark score. So it's not going to be  
14 functionally useful for a manufacturer.

15           But I think one of the really important things  
16 that needs to come out of here are the design criteria.  
17 Mike talked about elevating these criteria to the level that  
18 performance is at and Bill talked about engaging your  
19 suppliers.

20           And what I have seen over and over again, once you  
21 are really clear about the design criteria you want, the  
22 chemical manufacturers can make a lot of things. I mean,  
23 not everything and I'm not -- I don't mean to imply it's  
24 easy but often, say a polymer manufacturer will be using a  
25 particular plasticizer or oxidant because they always have.

1 And when you put out criteria that says, gee, we want one  
2 that is rapidly degradable they think, oh, well, we're using  
3 this one because it's convenient but we have others we can  
4 use as well.

5 So just the idea of laying out the criteria that  
6 are important is going to be very useful in terms of driving  
7 the innovation that I think this legislation is intending to  
8 drive, which is the development of new chemicals as well as  
9 evaluating the old ones.

10 CO-CHAIR GEISER: Thank you, Lauren. Bill.

11 CO-CHAIR CARROLL: Thank you, Chair. And sorry  
12 for two interventions in short order but there are a couple  
13 of other things that I wanted to kind of get on the table  
14 for consideration and that sort of go along with the same  
15 area.

16 First of all, Lauren's most recent comment, the  
17 last two comments. This is kind of what Six Sigma was about  
18 in not designing in functionality that the customer doesn't  
19 need. And so it's a matter of getting to the point of  
20 understanding that that functionality and giving the  
21 customer what he or she wants with reliability but not over-  
22 designed for the task. So it seems to me that that's  
23 something to also consider.

24 Part of, I think, the difficulty of the discussion  
25 at this point is that we are hampered by the hypothetical

1 nature of this. There is an entire, obviously, world of  
2 products that could ultimately be products of concern. And  
3 without knowing what we are talking about exactly then we  
4 sort of wind up either using analogies that either aren't  
5 appropriate or they are ones that we are most familiar with,  
6 which may or may not have any relevance to what will  
7 actually happen when the time comes.

8           And so it makes it a lot more difficult to talk  
9 about the interplay of these steps because I think you will  
10 find that when you have exact case to talk about then you  
11 will find that there are approaches in here that you would  
12 not have anticipated but are going to be necessary because  
13 of the way the material is made or used or what the  
14 marketplace looks like. So you are going to kind of cut to  
15 fit when you get to that.

16           The other thing, and I'm not sure I am going to  
17 say this very well. But when you start thinking about the  
18 hierarchy as Ken expressed it. When you are talking about,  
19 let's say you are in a position of being a supplier of a  
20 material that has become a chemical of concern in a product  
21 of concern. What you are first going to think about is what  
22 can I do if I am going to be losing this business? What is  
23 it that I can do to develop a substitute.

24           And what you probably are not going to do is think  
25 about what are the zillion other ways that that function

1 might be, might be served. Because I can't do that. What  
2 is my plant used for? You know, many of you know but the  
3 businesses that Occidental is in people say, well why don't  
4 you just do something else. We don't like the products that  
5 you make. And the answer is, because my pots and pans make  
6 some very specific things and they don't make other things.

7 And so as a result, if you are a manufacturer making that  
8 material your first thought is going to be, what can I do to  
9 stay in this business. Not, you know, what could I think of  
10 that is not my business that could also do the same  
11 function.

12 That leads logically to the next consideration and  
13 that is, there will be winners and losers in this process.  
14 And there will be stakeholders who are commercial  
15 stakeholders who see an opportunity and find themselves in a  
16 competitive advantage. And thus when you're starting to  
17 talk about alternatives assessments --

18 I said this on our Subcommittee 3 calls and we'll  
19 talk more about this. I don't think you're talking about  
20 one alternatives assessment. I think you are talking about  
21 a potential for a multiplicity of alternatives assessments,  
22 even using the same data delivered by different stakeholders  
23 with different points of view ranging from commercial to NGO  
24 to government.

25 I can imagine that any situation could wind up

1 with a number of alternatives assessments brought forward to  
2 address exactly the same question. And I think that's one  
3 of the places -- perhaps we're going to talk about 4 or 5  
4 tomorrow, that you find that this problem becomes actually  
5 somewhat larger than what we have talked about up to this  
6 point. Thank you, Chair.

7 CO-CHAIR GEISER: Joe then Anne.

8 PANEL MEMBER GUTH: I just want to make a very  
9 short point because I am sort of moving to Step 3 and I  
10 think it takes up on something that Lauren was just saying.

11 This is on the initial screening of alternative chemicals.

12 You know, as I look at these, I take it we're  
13 thinking about setting up some rules, you know, and  
14 regulation for these rules. Sort of introducing principles  
15 that the alternatives analysis, you know, shall follow or  
16 something. And I guess I would really worry about these. I  
17 mean, sometimes they might be appropriate but other times  
18 they may not be.

19 For example, the first rule: "Screen out any  
20 chemicals that are listed as a COC or a Priority Chemical."  
21 Well, you know, one COC might be safer than another safer  
22 COC or might be easier to manage or control. It might be a  
23 better choice even though it's a COC. So I guess I would  
24 worry about all of these kinds of, you know, fixed rules.  
25 Because it is just very easy to imagine situations where

1 that won't work and we really don't want to have, you know,  
2 government-mandated, regrettable substitutions in the  
3 application of rules like this..

4 CO-CHAIR GEISER: Thank you, Joe. Anne.

5 PANEL MEMBER WALLIN: We've talked a little bit  
6 both this morning and today about this need for guidance or  
7 a definition on range of alternatives to be considered. And  
8 the more I think about this the more critical I think it is.  
9 Because as a manufacturer or producer trying to do an  
10 alternatives assessment have a certain expertise and  
11 knowledge. If we look at Ken's hierarchy you can get to a  
12 point where your alternatives are well outside your ability  
13 to look at this and I'll give you a couple of examples that  
14 may help.

15 If we have a chemical of concern in a window  
16 washing fluid, I as a producer of window washing fluid can  
17 relatively easily look at alternatives to formulate a better  
18 window washing fluid. But if you get back to Ken's  
19 hierarchy about function or task, the task is a clean  
20 window. So one of the alternatives could be a coating on  
21 that window that keeps it from getting dirty in the first  
22 place. That very likely is well outside my expertise.

23 If I am an aluminum can manufacturer I probably  
24 don't know a lot about how to put together a multi-layer  
25 pouch to do the same thing that an aluminum can might do.

1 So I think it's very, very critical as you put this forward  
2 that you keep the scope within what that manufacturer can do  
3 a reasonable quality job on. And if you really want to look  
4 at things more along that top hierarchy that Ken had, what's  
5 the task or the function we are going to try to achieve?

6 I would urge the Department to think about maybe  
7 engaging in a much more collaborative, multi-industry kind  
8 of process. This is what we want. We have this chemical of  
9 concern in this product and we really want to look at how we  
10 can provide that function or service in terms of all the  
11 alternatives and let people bring their ideas then to you  
12 versus something that is mandated for a producer to do. If  
13 that makes sense. Thank you.

14 CO-CHAIR GEISER: Anne, it does and it raises a  
15 very interesting way to think about it. Yes, the little  
16 hierarchy I was playing out changes. And I think in  
17 response to Bill's point as well and that is, where you are  
18 in the production chain or whatever determines how you think  
19 about alternatives. We tend to think about alternatives  
20 that you have economic interest in and that can't be -- as  
21 you say, if you're a window cleaning operation you don't  
22 think about how to get windows clean in some way that's  
23 beyond your chemical thing. But somebody who is also  
24 selling a product that has that chemical of concern might  
25 also -- might think of it differently.

1           So it may be that the Department is going to have  
2 to respect the fact that alternatives assessments may look  
3 different from different manufacturers depending on where  
4 they are in their range of possible alternatives they  
5 actually can consider because of their business model. And  
6 I think is very much the case.

7           But you raise this very interesting idea that  
8 maybe the Department might want to encourage some things  
9 that are a little more collective. Have a couple of  
10 different kinds of firms getting together to think about  
11 alternatives more together. I have not heard that idea and  
12 it's an interesting one in its own right. I might be  
13 interesting to hear other people mention that.

14           CHIEF DEPUTY DIRECTOR MADRIAGO: Anne, could you  
15 be a little, flesh that idea out a little bit more in terms  
16 of how you see it working.

17           PANEL MEMBER WALLIN: Not really.

18           (Laughter.)

19           PANEL MEMBER WALLIN: Because it's kind of a new  
20 thought. But I think creating some sort of collective where  
21 people came together or a government challenged goes out  
22 that says, we'd really like a better way to perform this  
23 function, and try and get people to come forward with their  
24 ideas, their technologies.

25           I think you've got some of that in some of the

1 round tables that Bob has in the Green Chemistry Institute.  
2 You'll see that come out in sometimes government research  
3 funding where, you know, they'll put out a grand challenge  
4 to a particular technical problem where you seem to have a  
5 gap. So I would look at some of those mechanisms.

6 I am just urging you that when you go to define  
7 this range of alternatives that people should consider that  
8 we try and keep that within the scope that they have really  
9 got the knowledge to be able to deliver on. Versus what  
10 might be some of the more interesting innovative things that  
11 I think you'd want to handle differently that would look at  
12 this more from a service perspective than from a product  
13 perspective.

14 CO-CHAIR GEISER: You can also -- just a point to  
15 that. It also has a lot to do with how you define the  
16 function of the chemical. Because again, here you are and  
17 what should you be doing.

18 I have Michael, Bob, Lauren and Tim. Oh, and  
19 Kelly, sorry. Kelly.

20 PANEL MEMBER KIRSCHNER: I just wanted to make a  
21 couple of comments based on what Lauren had said and also  
22 something Kelly had said before. But between Steps 2 and 3  
23 there's actually another step and that's where manufacturers  
24 screen out based on some of the other, some of the (A)-(M)  
25 criteria, the functional cost criteria.

1           And that kind of gets to Bill's point about  
2 infrastructure. You know, whether you have the  
3 infrastructure to make the stuff, whether it's available,  
4 that sort of thing. So what's left, you know. I would  
5 think if something looks financially and functionally  
6 feasible that then they will go to the environmental  
7 screening.

8           So I think you're going to have to be clear on  
9 process. The regulation has to describe the process. And  
10 if you want to get down into those nuts and bolts of whether  
11 the manufacturer -- you know, what they screen out when and  
12 how, I don't think you want to go there. You've got to be  
13 very careful about that. Because in Step 3 you're really  
14 talking only about the environmental and human health  
15 aspects.

16           And also Lauren's point about driving innovation.

17       And Kelly said earlier today about providing the right  
18 incentive. I think there is great potential to drive  
19 innovation with this. Ultimately I think it needs to be  
20 written so we do fewer and fewer alternatives assessments  
21 and the guidance is there so that manufacturers make the  
22 right decision once when they design the product. And we  
23 don't end up having to replace something that's already in  
24 production.

25           So I am not saying that I want this to be onerous.

1 You know, you don't want to make this onerous. But  
2 ultimately the goal is to, I think, write yourself out of a  
3 job in a way.

4 CO-CHAIR GEISER: Michael, let me ask you a  
5 question that plays a little bit off of Anne's point. And  
6 that is, somewhere in the discussions we have occasionally  
7 heard the idea that the alternatives assessments should be  
8 made public or there should be some repository of  
9 alternatives assessments such that firms that find  
10 themselves suddenly in need of an alternatives assessment  
11 might actually simply adopt somebody else's alternatives  
12 assessment or at least look at it as a quick model to help  
13 them do a much more rapid one. Is that in line with what  
14 you were talking about?

15 PANEL MEMBER KIRSCHNER: I'm really torn about  
16 that because I think in a lot of cases -- every manufacturer  
17 I look at has different issues and challenges. Different  
18 supply chains, different markets, different product  
19 composition. The alternatives assessments that are  
20 published and out there may give them, may give somebody an  
21 idea but it won't solve their problem. There are just too  
22 many variables.

23 And it has to be, I think, specific to the  
24 manufacturer's product and their situation and their supply  
25 base. Not everybody is going to react like Apple did, for

1 instance, to being tasked with removing brominated flame  
2 retardants from plastic enclosures and go to aluminum. So  
3 that's just a difference, different strokes for different  
4 folks.

5 CO-CHAIR GEISER: Thank you, thank you. Bob.

6 PANEL MEMBER PEOPLES: Thank you, Chair. I am  
7 going to make a statement and it's not going to come out as  
8 well as it could be crafted so I apologize for that but my  
9 intent is noble.

10 CO-CHAIR GEISER: We always respect you.

11 (Laughter.)

12 PANEL MEMBER PEOPLES: I think that if you think  
13 about the objective of legislation and the charter to the  
14 DTSC to write the regulations to implement, the goal is to  
15 dramatically reduce or eliminate chemicals of concern from  
16 the environment and do that over some point in time, right?

17 So what happens if you go through the assessment  
18 and there's, quote, "no acceptable alternative" for whatever  
19 the reason may be. To me it goes back to the point that  
20 Anne just made which I think is a really good one. We are  
21 looking for ways to change the rules of the game. So put  
22 you out of your comfort zone. Maybe getting to an  
23 assessment that says there is no acceptable alternative  
24 pushes you outside your comfort zone because that answer  
25 should be not acceptable to us, right?

1           That negative outcome can be turned around to  
2 become a positive incentive to drive the innovation process  
3 to the point Michael made and to Anne's point, you know.  
4 Find a way to convene, catalyze in a pre-competitive  
5 fashion. And that's where things like the round tables that  
6 we sponsor come into being. Where you say, here is a  
7 challenge we face, folks. We are not going to solve it  
8 tomorrow but can we work together and collaborate to create  
9 an environment where we come up with an alternative that is  
10 acceptable and in a reasonable period of time.

11           And oh by the way, it's easy to do that exercise  
12 intellectually, relatively speaking. It still takes money  
13 to fund the work to do that. So we need to think about the  
14 mechanism by which that can happen as well.

15           And I was trying to flip through my pages and I  
16 can't find it right now but I believe there was something in  
17 the summary documents that you all put together that spoke  
18 to a green chemistry incentive or something like that. If I  
19 find it I'll come back and tell you about that.

20           But again. And then maybe the last thought here  
21 is I recall from the days when I was in the industrial  
22 world, we went through these exercises which we called "put  
23 yourself out of business." And the whole goal was to say,  
24 you know, we do have all the sum capital in the ground and  
25 we have been doing it like this for a long time. Our pots

1 and pans, to Bill's point.

2 But suppose somebody else comes in and comes up  
3 with the alternative that puts us out of business. How can  
4 we do this ourselves so we capture the advantage in the  
5 marketplace and we don't lose the business because somebody  
6 else beats us to it?

7 CO-CHAIR GEISER: Good point, good framing as  
8 well. So I have -- Lauren, did you have your card up?

9 PANEL MEMBER HEINE: No, it's over here.

10 CO-CHAIR GEISER: Okay. Then it would be Tim and  
11 Kelly.

12 PANEL MEMBER MALLOY: Thank you. I agree, that  
13 was a good point that Anne raised. I think it's also  
14 reflected in Dele's point about the light bulb with the  
15 mercury. You know, light comes from lots of different  
16 places.

17 I think the issue that we're facing here in some  
18 point arises from the choice that DTSC has made in the  
19 structure which is a manufacturer by manufacturer permitting  
20 approach to this as opposed to a sector-based approach where  
21 the agency looks at a particular chemical in use and asks  
22 what are the alternatives to this. Broadly speaking, which  
23 would allow kind of a centralized look at substitution,  
24 different approaches like the screen, you know, the film on  
25 the window as opposed to the window cleaner.

1           But, I mean, given the world in which we live in,  
2 the practicalities of it, it seems like DTSC is not going to  
3 be in the position to do kind of centralized decision-making  
4 so we're kind of left with the constraint that we have to  
5 live with, I think. But I think, you know, it's appropriate  
6 to remember that the way the statute is written the  
7 alternatives assessment is, at least from my viewpoint, is  
8 an input to regulatory response. It's not necessarily a  
9 direct linkage to the regulatory response.

10           So one could imagine, as Bill pointed out, that  
11 you have a number of alternatives analyses or assessments  
12 submitted by a number of manufacturers for one particular  
13 kind of product with a chemical of concern in it. And that  
14 also submitted may be an alternatives assessment by the  
15 producer of that film that would go over the window as  
16 opposed to the spray. And all of those ought to be used as  
17 inputs to a regulatory response by the Department.

18           So it may be appropriate in the regs to limit the  
19 scope of the manufacturer's obligation in terms of not  
20 having to look at outside of their particular, you know,  
21 expertise. And we see a similar thing in -- I'll go back to  
22 the Clean Air Act permitting where when you're looking at  
23 best available control technology a number of these programs  
24 have provisions in them that say, you don't have to look at  
25 anything that would be a basic equipment change, right. So

1 there is kind of a precedence for saying, we're going to put  
2 a boundary around the alternatives that you look at so as to  
3 keep you within the technical expertise that you have.

4           But I still think you could develop the  
5 regulations to kind of take account of this notion of  
6 creative destruction that's in the literature on innovation.

7     The notion that, you know, you create a system that  
8 encourages people to come up with alternatives. So if I  
9 come up with a better way of developing a window cleaner,  
10 and I do an alternatives assessment on the same basis that  
11 the window cleaner manufacturers do and it turns out that  
12 this is safer, then the Department ought to look at all of  
13 those alternatives analyses and then come out with a  
14 regulatory response which may be a phase out of window  
15 cleaners. To move folks towards the screen where it may be  
16 a limit on the use of window cleaners or it may be a green  
17 chemistry challenge, so on and so forth.

18           So I don't see that as -- I don't see the  
19 possibility of multiplicity of alternatives analyses as  
20 necessarily a bad thing. I actually see it as the way the  
21 structure is going as an almost inevitable thing, the way  
22 Bill does. But I think it could be, it could be --

23           If the goal is, as Bob says, is we want to  
24 challenge people and we want to move outside of using  
25 chemicals of concern, then I think it's actually not a

1 problem but an opportunity if you're sensitive enough in  
2 terms of how you apply those regulatory responses, taking  
3 into account the need to, in a sense, give enough of a  
4 phase-in that, you know, we are not completely disrupting  
5 kind of the manufacturing base in terms of people not being  
6 able to recover, you know, reasonable expectations of their  
7 investment and so on and so forth. So you want to take that  
8 into account.

9           So I think that it was a great point that you made  
10 and I think it's something that could be built into the  
11 regulations more broadly as a positive aspect.

12           CO-CHAIR GEISER: So I am hearing several people  
13 talk about this is -- as a potential motivator for  
14 innovation at one level or another, in an interesting way.

15           PANEL MEMBER PEOPLES: Ken, can I just make a  
16 quick observation? I think we just heard something that  
17 really could be revolutionary. And that is, I never heard  
18 anybody talking about the positives associated with  
19 regulations.

20           (Laughter.)

21           CO-CHAIR GEISER: Okay, I've got Kelly and Lauren  
22 and Art. And I also want to begin to shift us to looking at  
23 Steps 4 and 5 too. So those of you who have something to  
24 say about 4 and 5 may want to start to think about things  
25 that you want to add as well. So Kelly.

1           PANEL MEMBER MORAN: I just have two really brief  
2 things that came to me and that I really appreciated what  
3 Anne said in the following discussion.

4           And one is, I am not -- I have seen that the  
5 definition of reasonable range of alternatives is intimately  
6 linked with where the Department requires the alternatives  
7 assessment to be done in the supply chain and how that is  
8 going to come out. And I am not exactly sure how that is  
9 going to come out because that's another part of the  
10 regulations.

11           So it seems that it's hard to have much more of a  
12 conversation about reasonable range of alternatives until  
13 the Department gets to the point in its regulatory  
14 development that it's starting to define who is doing the  
15 alternatives assessment. Because there could be lots of  
16 different folks doing stuff or it could be one particular  
17 stop in that supply chain that does it and we'd come up with  
18 really different answers.

19           The second thing is that Tim was just mentioning  
20 the idea that the Department would be -- he was sort of  
21 assuming, I think, the Department will be getting all its  
22 information about alternatives from alternatives  
23 assessments. And I am actually not sure that that's true or  
24 even desirable.

25           Because the window cleaner example is a really

1 good one for me. The person who is manufacturing the window  
2 coating may not need to go through the process of doing an  
3 alternatives assessment. And it wouldn't be appropriate to  
4 put that burden on them or require them to do it necessarily  
5 if they are in the business of window coatings and not  
6 window cleaners and they aren't touching the chemical of  
7 concern. They aren't going to fall within the regulatory  
8 burden.

9           Which suggests to me another idea that probably  
10 needs to be thought about and I think you have already  
11 started thinking about it, which is that how is the  
12 Department going to obtain information to inform its  
13 decision-making about the AAs and the regulatory responses  
14 and so forth? There probably needs to be a place in there  
15 where the person who makes the window coating that's an  
16 alternative to the window cleaner is able to share that  
17 information with DTSC, but in a form such that for people  
18 who are making it, and more importantly using the window  
19 cleaners, had the opportunity to come in and say, well, you  
20 know, this might work in some situations but not others.

21           So it's a little bit complicated to how that's  
22 done but I personally wouldn't assume that the best way for  
23 the Department to get information about alternatives,  
24 especially kind of step improvement type alternatives or  
25 very different alternatives, would be through the AAs alone.

1 Thank you, Chair.

2 CO-CHAIR GEISER: Thank you, Kelly. I have  
3 Lauren, Art, Roger and Bruce. So Lauren.

4 PANEL MEMBER HEINE: I just want to say something  
5 quickly. Another example in response to Anne's comments, in  
6 the Netherlands there is a process called the Dutch Chain  
7 Approach where people from throughout the supply chain are  
8 pulled together to work together on collaborative problem  
9 solving around whether it's toxics or waste issues.

10 But I was thinking about what is the timing of  
11 that? Does that happen once you determine there are no  
12 alternatives for something or is it really part of the  
13 alternatives assessment process? But the idea of government  
14 playing a role as convener driving innovation, whether it's  
15 through design challenges or collaborative working groups,  
16 is interesting. But again, the question of when would the  
17 government step in to add the convener.

18 CO-CHAIR GEISER: Art.

19 PANEL MEMBER FONG: Thank you, Chair. I just want  
20 to follow up on the point that Tim was making in terms of, I  
21 guess maybe I didn't understand one point you were saying.  
22 You said that -- okay, let's say alternatives assessment on  
23 the relative merits of, let's say window cleaners versus  
24 window coating, and that somehow DTSC would then decide  
25 which is the best choice and then come up with a regulatory

1 response to that. That sounds to me like, it's kind of like  
2 DTSC dictate on consumer choice. So how would that work in  
3 the regulations? Or did I just misunderstand what you were  
4 saying?

5 PANEL MEMBER MALLOY: Should I answer that?

6 CO-CHAIR GEISER: Sure.

7 PANEL MEMBER MALLOY: So to clarify it. First of  
8 all, I agree with Kelly. I am not necessarily assuming a  
9 reading is going to come to that. But one could imagine a  
10 situation where somebody has got an alternative technology  
11 that isn't covered by the manufacturer of window cleaner,  
12 who would develop an alternatives assessment and submit to  
13 the Department comparing their alternative to the window  
14 cleaner and making an argument to the Department that based  
15 on that, that that's where the limited exposure or reduced  
16 hazard would put restrictions on the use of a window  
17 cleaner, right?

18 And if you look at the regulatory responses that  
19 the Department is supposed to take after reviewing  
20 alternatives analysis, I mean, there's a -- these are  
21 basically a list of things that limit consumer choice,  
22 right? So I am not, I am not making them up. I mean, it  
23 says -- so number 4 is imposing restriction on the use of a  
24 chemical of concern on a consumer product. Number 5 is  
25 prohibiting the use of a chemical of concern in a consumer

1 product. Number 6, imposing requirements that control  
2 access to the chemical of concern in a consumer product.

3           So what I am envisioning is, if the Department  
4 looks at the completion of the alternatives analysis and  
5 determines that given the availability of this alternative,  
6 the hazards associated with the use of a window cleaner --  
7 and I don't know if window cleaners is the right example  
8 here. But the hazards associated with the use of them are  
9 so high that there is going to be a restriction on their  
10 use.

11           That is not completely outrageous or even  
12 revolutionary in any sense. Because if you look at, you  
13 know, the standards that are supposed to be applied under  
14 TSCA for review of a chemical, if they were ever actually  
15 applied. If you were to look at the review that you're  
16 supposed to apply looking at pesticides in California if  
17 they were applied. It says you balance the benefits of a  
18 product against the risks of the product, taking into  
19 account the availability of alternatives. So I think this  
20 is just a reflection of that principle that if there is an  
21 alternative that exists that the Department can put  
22 restrictions on the use of the chemical.

23           Now the restriction they might put on it would be  
24 to say, you can only use window cleaners that bring the  
25 hazard down to a level that's equivalent to that that would

1 be associated with the use of the screen. And then that  
2 puts the pressure on the manufacturer if they can meet that  
3 performance standard or not. So it doesn't have to be a  
4 ban. But certainly I think a ban or a phase-out of the  
5 chemical is clearly implied in the statute.

6 PANEL MEMBER FONG: Yes, I agree with you. But I  
7 was reading that what you just mentioned as limiting the  
8 chemical itself and not the product. I think that's a  
9 difference so let's take -- and like you I don't know  
10 anything about window cleaners. If you have ever been in my  
11 car you know that I have never used a window cleaner.

12 (Laughter.)

13 PANEL MEMBER FONG: But if I were -- again, if I  
14 were a window cleaner manufacturer that I, in fact, have  
15 taken out the chemical of concern from my product, then I  
16 don't see the -- the several criteria that you just  
17 mentioned, why that would affect me.

18 PANEL MEMBER MALLOY: I am not suggesting that it  
19 would so. I'm kind of using a shorthand for what we're  
20 talking about. I'm assuming you've got a situation where  
21 somebody has produced a window cleaner and they have done an  
22 alternatives assessment. And the implication would be they  
23 can't, they wouldn't take, they can't the chemical of  
24 concern out. Because if they could their alternatives  
25 assessment would have removed that. You know, as a result

1 of that process you'd have it without.

2           So I am working off of a baseline that assumes  
3 that the manufacturer cannot increase the safety of the  
4 product by making any further changes to the chemical of  
5 concern, right. So functionally what that means is the  
6 Department would say, you must remove the chemical of  
7 concern from your product. And the implication of that  
8 would be, well, you can't make the product without the  
9 chemical of concern so that's functionally a phase-out of  
10 that product. That's how it would play out so it wouldn't  
11 necessarily come -- I'm sorry, I didn't mean to take up all  
12 this time.

13           CO-CHAIR GEISER: I think you were doing a fine  
14 job. I was certainly encouraging it, yes. Art, do you have  
15 any more comment, not more discussion?

16           PANEL MEMBER FONG: I better not, thank you.

17           (Laughter.)

18           CO-CHAIR GEISER: All right, then I have Roger.

19           PANEL MEMBER McFADDEN: Thank you, Chair. By the  
20 way, Art, I have formulated cleaning products, glass  
21 cleaning products, as well others in this room, we might get  
22 together and get you a lifetime supply if you were nice.

23           (Laughter.)

24           PANEL MEMBER FONG: It would just sit in my garage  
25 with all the other --

1 (Laughter.)

2 PANEL MEMBER McFADDEN: So you need the coating  
3 then.

4 PANEL MEMBER FONG: Yes.

5 PANEL MEMBER McFADDEN: Okay. I'm going to use a  
6 quote. I like to use quotes because this quote really  
7 resonates I think with businesses and it goes something like  
8 this. Those saying it can't be done are passed every day by  
9 those doing.

10 And I would like to tell you exactly who this  
11 company was that we worked with but I can't because of  
12 confidential reasons. But we recently asked one of our  
13 suppliers to eliminate the chemical of concern from a  
14 product they sold us, which was quite large in volume. They  
15 said it can't be done. That's the first part, those who say  
16 it can't be done are being passed by those doing. So we  
17 said, okay. So explain to us why you can't do it; they did.

18 In the meantime we contacted a couple of suppliers  
19 who had been wanting to do business with us and they  
20 actually had a product, functionally the same, that didn't  
21 have that particular ingredient in it. And they offered us  
22 that product at a cost neutral basis. Our merchants talked  
23 to that original supplier and explained that to them.  
24 Within 30 days the thing they couldn't do all of a sudden  
25 became doable.

1           So I just offer that up to keep in mind that  
2 that's the real world. We often start out saying we can't  
3 do things when we don't want to change. Because that's just  
4 what we do as humans, just used to that. It may be true  
5 that we can't so I don't want to be suggesting that  
6 everything we say we can't do is doable, I'm not suggesting  
7 something that crazy.

8           But I'm suggesting that if that stops us then we  
9 don't ever get to where Bob wants us to go and others around  
10 this table want to go and this regulation was all about in  
11 the first place. It was to try to move us to what? Safer.

12          It doesn't mean that what we make now is unsafe, it means  
13 that we are interested in finding ways to make things safer.

14          I think if we just keep, you know, if you just keep  
15 challenging yourself with that, that will get you where you  
16 want to be. Thanks.

17                 CO-CHAIR GEISER: Roger, thank you for the nice  
18 transition because I am trying to get us to that other end  
19 of that. So for those of you who are still on page 5, let's  
20 go to page 6 even as we are going on. Just put it in front  
21 of you and it may encourage you to discuss that.

22                 I had Bruce and Dale. Bruce.

23                 PANEL MEMBER CORDS: I think I am going to say  
24 what Art didn't want to say. I think, you know, what I'm a  
25 little bit concerned about, while it fine for the regulation

1 to drive innovation, what I don't think we want is  
2 government deciding what the best solution to an end-user  
3 product or task. Because what I think I heard Tim say, and  
4 maybe I'm misinterpreting, is that if I am a window cleaner,  
5 which I am.

6 (Laughter.)

7 PANEL MEMBER CORDS: And a chemical of concern is  
8 identified, I go through the process and I identify and I  
9 come up with a product that no longer contains the COC. And  
10 then somebody else comes up with a window coating which is  
11 fine. The marketplace has to decide which one of those is  
12 better. I would not expect the state of California to now  
13 start ranking what's the best and most efficient way to keep  
14 a window clean. So that's a little bit of my concern.

15 CO-CHAIR GEISER: Okay, thank you, thank you,  
16 Bruce. Dale.

17 PANEL MEMBER JOHNSON: Well I happen to be a green  
18 window washer because I only use rain.

19 (Laughter.)

20 PANEL MEMBER JOHNSON: So I just want to mention  
21 -- so I'm segueing into Step 4 here.

22 CO-CHAIR GEISER: Thank you.

23 PANEL MEMBER JOHNSON: So it's kind of the  
24 definition of human health hazard at this point. Because  
25 the reality of it is you never can really assess the impact

1 on human health until there is long-term human exposure.  
2 And so when you identify a chemical of concern that relates  
3 to that and it's either some biomonitoring data, there's  
4 long-term toxic effects of whatever they happen to be,  
5 that's for that chemical. Anything else then that comes on  
6 alternative chemicals or new chemicals in that area tends to  
7 extrapolations coming from either the chemical structure of  
8 the chemical of concern or animal or in vitro data that  
9 relates to that. So just that we're clear on that from a,  
10 you know, in some cases for a alternative to say that  
11 there's less impact on human health, that usually is not  
12 established at that point.

13 CO-CHAIR GEISER: Okay, hopefully people are  
14 moving on here. The only reason I am pushing that is that I  
15 am watching our time and I want to make sure we spend good  
16 time on 4 and 5. We have had a good discussion about this  
17 range of alternatives.

18 So now I have Dele, Ann and Kelly.

19 PANEL MEMBER MORAN: How about Michael?

20 CO-CHAIR GEISER: I'm sorry, Michael. Dele.

21 PANEL MEMBER OGUNSEITAN: Yes, thank you. I have  
22 been looking to see if I can detect a difference between  
23 Steps 4 and 5. It seems to me the word, the preferred word  
24 for Step 4 will be something that is preliminary rather than  
25 policy. Because it also says at the bottom of Step 4 "but

1 quantitative data could also be included if readily  
2 available." I think there is an assumption in this Step 4  
3 that qualitative assessment is easier, cheaper or faster  
4 than quantitative assessment. And if you could just do that  
5 quickly and produce a report that DTSC could make a policy  
6 recommendation on.

7 I think interpretation of what might be correct to  
8 say qualitative assessment will be very, very difficult. So  
9 I am thinking we should discuss whether or not to make this  
10 Step 4 either a qualitative preliminary assessment or make  
11 it more comprehensive and end there, which would probably be  
12 a better approach.

13 CO-CHAIR GEISER: Thank you, Dele. I think you're  
14 bringing up a point that got raised before lunch as well, a  
15 little bit about this issue about where is the right way to  
16 talk about qualitative versus quantitative. And those of  
17 you who wanted to speak to that may want to find a time here  
18 to do that.

19 So Dele and then there is Ann and then Bill. And  
20 Michael, I'm sorry. Michael.

21 PANEL MEMBER BLAKE: So if I may I am going to  
22 borrow Bob's disclaimer here and say that I am making a  
23 noble attempt to try and bring together all of our  
24 discussions from the previous piece and I'm going to go back  
25 to Step 3 briefly. Because what Dele just brought up has

1 made that step a little more confusing to me.

2           If we call Step 4 a preliminary screen then I am  
3 not sure I understand the distinction between Step 3 and  
4 Step 4 because Step 3 felt like a preliminary screen to me.

5       So I want to go back and think about all those things that  
6 have said, you know. We're trying to provide some structure  
7 but not to rigid a structure. We're dealing with the  
8 hypotheticals, which are making this hard to talk about.

9           So I want to go back and just ramp up in some sort  
10 of synthesis what we have decided Step 3 might be. And I  
11 would like to propose that these are -- that what might be  
12 laid out in Step 3 is here's the factors that you need to  
13 consider as appropriate, because this is going to vary so  
14 much by case by case. Different drivers, different criteria  
15 are going to drive a decision in different cases of use.

16           So, you know, if you've got the window cleaner  
17 versus the -- you know, or just the two case studies that  
18 Tim and I in our work at UCLA has created. The decision in  
19 lead solder is a very different decision from garment  
20 cleaning alternatives. You know, different things have  
21 driven that decision, different parts of the life cycle. So  
22 before I keep scrambling here.

23           It seems as though this initial screening to me,  
24 our discussions seem to keep -- focus around keeping things  
25 in so that we could evaluate the tradeoff, which is what

1 we're trying to do. Tradeoffs, which is what we are trying  
2 to do in Step 4, start to do in Step 4. So I think I'm  
3 getting a little lost in what's the preliminary step here.

4 Are we still trying to keep things in in the  
5 initial screening? What are the factors that we need to  
6 consider for potentially kicking stuff out? Maybe there are  
7 things in Step 3 which, you know, have become so clear that  
8 we can't do anything with them, they shouldn't go forward in  
9 the alternatives assessment, maybe not. So I don't know if  
10 that helped clarify but, again, a noble attempt, if I may.

11 CO-CHAIR GEISER: I think it was a way to try to  
12 clarify it. Michael.

13 PANEL MEMBER KIRSCHNER: Let me try to, try to  
14 make a suggestion here. Step 4 to me should be, a  
15 justification. At this point you have already done an  
16 assessment. As a manufacturer you have a good idea, most  
17 likely you have an idea of what the way forward is. In this  
18 step you write up something to DTSC, tell them -- tell you  
19 -- what you've done, what conclusions you've come to, why  
20 you've come to those conclusions. You can use qualitative  
21 data, you can use quantitative data. Justify why you should  
22 or should not continue with a more extensive and in-depth  
23 assessment. And that's it. At that point DTSC -- that  
24 would make Step 5, DTSC deciding whether to accept the  
25 manufacturer's proposal or tell them no, go back and do

1 something else. A suggestion.

2 CO-CHAIR GEISER: No, I think you are, you're  
3 bringing up, as others are, this question about the  
4 relationship between 4 and 5. I think you're right. Bill.

5 CO-CHAIR CARROLL: Thank you, Chair. And I think  
6 I want to take off a little bit on what Mike said because my  
7 comment goes the same way. First of all I look at these  
8 steps as kind of guidelines and not necessarily, you know,  
9 bases that you absolutely have to touch.

10 And in the same fashion as we have talked about  
11 much of the difference between Option I-A, we spent a lot of  
12 time on that, or I-B and to some extent I-C, I suspect there  
13 are many roads to Rome. The idea is to get to an end point  
14 where you can present a cogent case based on the 13  
15 dimensions that are in the statute as to how two  
16 alternatives compare. And there may be very different ways  
17 of getting at that and I don't think that DTSC wants to  
18 specify exactly how you go about doing that for a number of  
19 reasons. It's the outcome that's important here.

20 In terms of Steps 4 and 5, I think to read them as  
21 exactly as being qualitative or quantitative, in a way the  
22 same way that Dele sees that. I see 4 as being an  
23 opportunity to save yourself a lot of time and expense if  
24 you have a no-brainer here. It's sort of the same thing as  
25 stopping the drug trial because everybody is doing so much

1 better. You know, it's not necessary to go to the end, we  
2 can bring this to an early conclusion.

3           What that means is, if you get a person doing the  
4 AA and you believe you have one of those situations, then  
5 you bring it forward to DTSC. In essence you turn your  
6 paper in and say you're done with the exam. Then it's up to  
7 DTSC to say, yes this is an acceptable paper or no.

8           Now I don't think there should be an infinite set  
9 of loops here. I think you should be in a position to, in  
10 essence, bring this to a short conclusion if your data  
11 justifies it, if you have, in fact, a no-brainer. My gut  
12 tells me there are very few no-brainers out there but I am  
13 going to allow that there might be some.

14           But in most cases what is going to happen after  
15 Step 4 is not exactly step 5(A) but to me the first part of  
16 5(B). That sort of becomes the place that you go. And  
17 you're either done and now we start talking about remedies,  
18 or you get sent back to 5(A) and then you talk about  
19 remedies. But the thing that I want to say is, I don't  
20 think we should be talking about remedies until the (A)  
21 crosses us over. I am not in favor of what was proposed  
22 here, the idea at some intermediate point that you start  
23 with remedies before you have all the data in. I think the  
24 remedy comes after the process is over, not in the middle of  
25 it. Thank you, Chair.

1 CO-CHAIR GEISER: Thank you, Bill. I have Kelly,  
2 Lauren and then Tim. Kelly.

3 PANEL MEMBER MORAN: Thank you, Chair. Just a few  
4 more thoughts here, building off of what Ann said and going  
5 back to Step 3. I am actually seeing Step 3 as where the  
6 reasonable range of alternatives is defined, even though  
7 it's called the initial screening of chemicals. That being  
8 -- although I recognize what Bill says that we're kind of  
9 laying out a process and a flow chart for these words, the  
10 staff team here is obliged to create a regulatory framework  
11 out of it. So I was trying to figure what's really  
12 happening for the regulatory process there. So in my mind I  
13 have crossed out initial screening of alternative chemicals  
14 and written in, "define the reasonable range alternatives  
15 for the AA" on that step.

16 And then 4 and 5 I am kind of seeing as collapsing  
17 but not entirely. The thing -- What Bill said is exactly  
18 right. The nugget that I'd want to keep from 4 is that it  
19 is basically the equivalent of the CEQA focusing out of  
20 particular topic areas. So in other words, that it doesn't  
21 take a lot of information to tell us that there is no  
22 meaningful difference among these alternatives or all the  
23 alternatives have negligible effects in a particular topic  
24 area, so there's really not much need to address them in any  
25 detail.

1           So I guess I don't see that as a completely  
2 separate step from Step 5. And I would discourage the  
3 requirement for preparing two separate documents to do that  
4 because that's just kind of more paperwork. I think it will  
5 work better if it was all in one set of thought processes.

6           I am still very stuck at the level of detail and  
7 quantification. I'm looking forward to more discussion  
8 there.

9           I do not feel comfortable with the idea of 5(A)  
10 and requiring every manufacturer for every alternative and  
11 every topic are to do a robust comparative, quantitative  
12 assessment. That just seems like a non-starter.

13           And I do differ from Bill in that I think it is  
14 important for the Department to be able to -- before a  
15 focused follow-up assessment on some specific area that  
16 might require generation of new data, for example, I think  
17 it's important for the state to be able to impose some  
18 regulatory measures after that initial assessment.

19           And I think that's important for two reasons. One  
20 is that I think the state has, there is a public interest in  
21 things like product labeling, product stewardship and some  
22 of those other intermediate measures that one might take  
23 while addressing the harder thing.

24           And more importantly is the thing I brought up  
25 this morning which is that my experience in other regulatory

1 schemes is that if regulatory action is delayed until after  
2 all of the study and assessment and so forth you wind up  
3 with paralysis by analysis. You incentivize the wrong  
4 behavior. You incentivize taking a long, long time studying  
5 something before doing anything.

6 We want to create the reverse. We want Roger  
7 McFadden's scenario. We want to incentivize somebody to  
8 say, here is the solution. I'm going to deal with this  
9 really -- a big pressure to do it and try really hard to  
10 come up with the solution. And only if I can't just say,  
11 okay, I'm going to invest the money in following up and so  
12 forth. And if I really can't then the state should be able  
13 to be convinced of that.

14 And then, let's see.

15 CHIEF DEPUTY DIRECTOR MADRIAGO: Kelly, can I ask  
16 you a clarifying question?

17 PANEL MEMBER MORAN: Absolutely.

18 CHIEF DEPUTY DIRECTOR MADRIAGO: You said the  
19 Department should be able to impose regulatory responses  
20 after the initial assessment. So since we're kind of  
21 talking about what is the initial assessment could you  
22 clarify for me what you meant?

23 PANEL MEMBER MORAN: And that's where I am stuck  
24 about --

25 CHIEF DEPUTY DIRECTOR MADRIAGO: Okay.

1           PANEL MEMBER MORAN: -- how quantitative it is.  
2     So I think in my mind I would bring together Steps 4 and 5  
3     as one step instead of two. I would allow the focusing out.  
4     And what I am not clear about, the focusing on certain  
5     issues and just more brief but substantial evidence  
6     documentation on the other topics. But what is not clear to  
7     me is exactly what level of detail should be required from  
8     everyone on the areas that are focused on. So that's this  
9     quantitative versus qualitative and how quantitative.

10           And then the last thing I'll say in this -- does  
11     that answer your question?

12           CHIEF DEPUTY DIRECTOR MADRIAGO: Not, not really.  
13     I am still -- because we are talking about melding 4 and 5  
14     together. I am still a little unclear about where you are  
15     suggesting in that process that you would want to see  
16     regulatory responses imposed.

17           PANEL MEMBER MORAN: So what I'd want to see the 4  
18     and 5 melded version to be would be something that would not  
19     be an onerous document, that would not in terms of labor  
20     intensiveness or time. But that would have sufficient  
21     information that if it were an easier decision that the  
22     alternative we selected and gone for --

23           And that's what I meant about I'm struggling with  
24     the quantitative versus qualitative. But I would not want  
25     to -- I don't recommend that that step include things like

1 substantial generation of new data at that point. That I  
2 would think that that would be better put in a follow-up  
3 assessment. So yeah, I am struggling with that and I'm sure  
4 this is why I was asking the rest of the group about  
5 qualitative versus quantitative. Because that's, I think,  
6 really at the heart of what comes in this phase versus the  
7 other phase.

8           And there was one last thing. I'll pass the  
9 floor, thank you.

10           CO-CHAIR GEISER: Thank you, Kelly. I'm sort of  
11 hearing people -- I've heard this in different ways. People  
12 sort of saying, I'm just going to throw it out so people can  
13 test it, that this qualitative versus quantitative thing is  
14 moot. That it doesn't make sense. It's really preliminary  
15 versus more sophisticated. Some might be quantitative, some  
16 might be qualitative. It doesn't help us to try to define  
17 these things. If people differ from that they might add  
18 that to their comments. I have Lauren and then Tim.

19           PANEL MEMBER HEINE: I think we're, I feel like  
20 we're unraveling a little bit. This well-conceived  
21 framework is unraveling a little bit here.

22           I see Step 3 as aligning really well with Option  
23 I-B where it says, in identifying alternatives for a COC the  
24 first step should be to make sure the alternative is  
25 preferred from the human health and environmental hazard

1 point of view. Just the chemical, no life cycle  
2 considerations. That's what Step 3 is.

3 And then Step 4 is, if those chemicals that pass  
4 the next step then go on to Step 4, which is when you start  
5 to consider all of those other life cycle options. So  
6 you're trying to -- again, that sort of goes against I think  
7 what you were saying, Bill, which is you wouldn't throw out  
8 any options based on hazard, right?

9 CO-CHAIR CARROLL: Not initially, Lauren, not  
10 initially.

11 PANEL MEMBER HEINE: I think this is say you --

12 CO-CHAIR CARROLL: I don't think it does.

13 PANEL MEMBER HEINE: You don't?

14 CO-CHAIR CARROLL: No, I disagree.

15 PANEL MEMBER HEINE: I think 3 starts with --

16 CO-CHAIR CARROLL: I want to go back to my  
17 intervention. What I said is, initially nothing is off the  
18 table because I may learn something from it. Then there  
19 comes a point where I found a number of things that worked  
20 and I applied exactly that screening that says, okay, now  
21 what's doable from the perspective of cost and environment  
22 and human health? What's reasonably usable now that I have  
23 looked at the wide screen. Now I'm going to have to winnow  
24 this down to what's reasonably doable. So if that's Step 3,  
25 fine. If it's not, that's fine too.

1 PANEL MEMBER HEINE: Okay.

2 CO-CHAIR CARROLL: But that was my logic flow.

3 PANEL MEMBER HEINE: Okay, good. All right, thank  
4 you for that clarification. And then Step 4. I think in  
5 practice and through some of the work I have done we have  
6 sort of, we've talked about quantitative and qualitative  
7 that are sort of back of the envelope and then there's the  
8 sort of wild guess and then there's the does it bother you  
9 or does it not bother you.

10 And I think there's a lot of factors in (A)-(M)  
11 that are completely almost arbitrary in the sense of -- for  
12 one person it may involve a lot of transportation and  
13 another person it may not -- an alternative may not involve  
14 transportation. It almost comes down to, does it bother you  
15 or not. Is it a problem for you, not whether it is a  
16 problem for the environment necessarily.

17 I think we don't have a lot of the data that we  
18 need to do some of these life cycle comparisons and it  
19 really comes down to if you think two things are equivalent  
20 in your mind then they zero out and you -- maybe you don't  
21 look at -- there's a lot of assumptions that are going to go  
22 into that piece I think here.

23 I don't think that's necessarily a bad thing and I  
24 think we're doing well by focusing first on the chemicals  
25 based on their hazard. And then the other attributes,

1 that's going to be really tricky because if we require  
2 absolute data for all of those life cycle attributes our  
3 hands will be tied. So it almost comes down to, do we find  
4 it to be a problem for this particular scenario or not.

5 CO-CHAIR GEISER: Thank you, Lauren. So I have  
6 Tim and Dele.

7 PANEL MEMBER MALLOY: Thank you. I have four and  
8 a half points that I want to make on this step. I want to  
9 start off by saying I'm in this unusual, I'm not sure how I  
10 feel about it, position of agreeing with most of the things  
11 Bill Carroll has said.

12 (Laughter.)

13 CO-CHAIR CARROLL: It can happen.

14 PANEL MEMBER PEOPLES: Is that the half reason?

15 PANEL MEMBER MALLOY: So on Step 4, here is what I  
16 like about Step 4. I think it makes sense as a further  
17 piece of the problem structuring or formulation in that if  
18 you look at that second sub-bullet item it talks about  
19 identifying the factors that are relevant with the  
20 comparison. And that makes a lot of sense to me because --

21 I think this goes a little bit maybe to what  
22 Lauren said. For a variety of reasons it may be that in  
23 your particular case one of these (A)-(M) factors just  
24 doesn't really matter. So you are not going to go out and  
25 try to collect data on it if it doesn't matter at all or

1 it's not likely to have an impact, so on and so forth. so  
2 not to get into the details of it but the criteria should be  
3 for rejecting a factor. But I think that's a necessary part  
4 of it and it makes sense as a next to like kind of hone in  
5 whatever factors you are going to do in your comparative  
6 analysis.

7 I also like the idea that you should have some  
8 kind of a mechanism for dealing with the so-called no-  
9 brainer. I think the problem comes in defining what no-  
10 brainer means and articulating your justification for that.

11 So I take that what it means is, it's a no-brainer if you  
12 really don't need to look at a bunch of factors, or if there  
13 is one factor that so drives everything that you can attend  
14 less to those other factors.

15 But for me, I don't know that you actually need a  
16 separate step to do that. If part of your problem  
17 structuring process is to scope out and frame which factors  
18 have to be looked at and to justify that as part of your  
19 AA, well then you're justifying that as part of your AA.  
20 And if it turns out that when you do your problem  
21 structuring really is this going to be a close call or  
22 there's many factors that are implicated so you're going to  
23 have to look at all of them, then that will be a more  
24 complicated AA than a less-complicated AA. It's kind of a  
25 continuum rather than a cutoff.

1           So it's not clear to me why you would have it as a  
2 separate step as much as you would just kind of allow the  
3 person to customize the scope of their alternatives analysis  
4 and if there is a work plan part of it, as Odette's referred  
5 to and was in the prior discussions. Somebody submits a  
6 work plan, that justification would be in the work plan. So  
7 okay, now we know what the scope of the AA would be. I  
8 don't think we need kind of this binary robust or non-robust  
9 one. So that's where I come out on the no-brainer. I like  
10 the ideas, I'm not sure I like the structure of it.

11           The next thing I wanted to just say about the --

12           CHIEF DEPUTY DIRECTOR MADRIAGO: Tim, can I ask a  
13 clarifying question?

14           PANEL MEMBER MALLOY: Yes, sure.

15           CHIEF DEPUTY DIRECTOR MADRIAGO: Are you  
16 suggesting that the bullet where we are focusing down on  
17 what factors we are going to look at more specifically, that  
18 that be done before the work plan is submitted to DTSC?

19           PANEL MEMBER MALLOY: Oh yes I would, yeah.

20           CHIEF DEPUTY DIRECTOR MADRIAGO: Okay.

21           PANEL MEMBER MALLOY: And then I guess the other  
22 point I would make -- oh, I want to just mention. I do  
23 agree with you, Ken, that the qualitative/quantitative thing  
24 isn't really an issue. I think it's still an issue but I  
25 don't think it's an issue here.

1           The other point I want to -- I was really  
2 concerned about two things in here. One is there is  
3 another, there is another item that says, identify data gaps  
4 and uncertainties, and I have written after that, and then  
5 what. Which leads to my point of, there is nothing in here  
6 or even in the step 5 robust assessment that suggests that  
7 testing would ever be done. It talks about in 5, using  
8 existing literature and test results. And where such data  
9 is not available in-depth qualitative analysis could be  
10 substituted.

11           And I take that to mean that there would be no  
12 obligation for somebody for an important factor to actually  
13 go out and do testing. I guess I don't understand why that  
14 would be the case. I think that, you know, maybe you don't  
15 require it in every instance. Maybe not small companies or  
16 whatever. But, you know, I am not really too concerned,  
17 Art, I am not trying to pick on you, but I am not too  
18 concerned that IBM might have to go out and do some testing  
19 in order to finish out the alternatives analysis.

20           I think that would be a part of the cost of the  
21 product and the consumer ought to bear that. If it is too  
22 much for the consumer to bear then society in general ought  
23 to bear it. But we should sever notions of how much it  
24 costs to do testing from whether you should do testing. And  
25 instead kind of think of that as a distributional question.

1           And then I guess the other thing is on data gaps  
2 and uncertainties. To the extent that we decide not to do  
3 testing or there is no testing method available or whatever,  
4 that the work plan and the regulations themselves should  
5 clearly identify what is going to be the convention for  
6 dealing with data gaps and uncertainties. Is there going to  
7 be use of a midpoint, use of some distribution, use of a  
8 worst case assumption, so on and so forth.

9           That needs to be kind of laid out because those  
10 choices can make real differences in the outcome. You don't  
11 want people in a position of being uncertain what to do  
12 there. Or even worse, gaming the system by using a  
13 convention to push the decision towards the alternative that  
14 they prefer rather than the one that is, from a public  
15 health standpoint is the most appropriate one. Thank you.

16           CO-CHAIR GEISER: Dele then Dale and then I'm  
17 going to try to direct this one more time.

18           PANEL MEMBER OGUNSEITAN: Thanks. Both Kelly and  
19 Tim I think -- It's very brief. What I now see as the use  
20 of Step 4 is what can we possibly decide, based on all of  
21 the data that is existing? Beyond that is what Step 5 is,  
22 which is maybe an infinite time-wise collecting original  
23 need data to fill the gaps.

24           I think it is not about whether it's qualitative  
25 or quantitative. It's giving all of the factors that are

1 relevant, giving all of the information we have in the  
2 literature and DTSC will make a decision. And maybe beyond  
3 that we don't need to move forward, I am not sure.

4 CO-CHAIR GEISER: Thank you, Dele. Dale.

5 PANEL MEMBER JOHNSON: Well, Step 4 and Step 5.  
6 so I'm looking at Step 4 as a way to get into Step 5. So  
7 for instance when you look at that bullet point, identify  
8 data gaps and uncertainties. Those are for the alternates,  
9 you know. It's not for the chemical of concern, it's for  
10 those that you are addressing as an alternative.

11 And so if that was the case that would drop that -  
12 - if you're looking at a decision tree that will drop it  
13 into a different category where you would say you probably  
14 do need to fill those data gaps. And then the company could  
15 have a decision there, do they want to fill those data gaps  
16 or do they want to go with something that's more reasonable  
17 and that type of thing. So if you look at that, that thing  
18 would drop it into a different category.

19 And then I see Step 4, which has a lot of good  
20 stuff in it, I see that rolling directly into 5(B). The  
21 5(B) then should be a little bit shorter so that it really  
22 identifies the possibility of -- you know, to use the term  
23 no-brainer. But actually you could get to a point where you  
24 could come through, submit this thing and there wouldn't be  
25 a lot of extra work because it, you know, could be a no-

1 brainer.

2           So 4 -- Again, 4. And where there's data gaps it  
3 drops it into a different category to say that you probably  
4 have to develop some new information. Your choice, you can  
5 do that, but you're not going to get past, you know. You  
6 have to get this thing with those data gaps.

7           Five then gets it into more of a no-brainer. If  
8 it drops out of that then it goes into what I would call a  
9 Step 6, which is now Step 5(A). And that's the more robust  
10 analysis. So what you're really giving then the  
11 manufacturer, you're giving them the opportunity to get it  
12 to a point where it could be reasonable. Where you could  
13 actually get something and get, you know, get a replacement  
14 in there that makes sense and it could work. Otherwise  
15 you're going to have to go into a much more robust type of  
16 analysis.

17           CO-CHAIR GEISER: Thank you, Dale. That was  
18 exactly where I wanted us to go next was to really face --  
19 Kelly has said she sees no need for 5(A). You're sort of  
20 saying that there is an opportunity to roll directly into  
21 5(B). The only piece -- I'm curious to hear if anybody  
22 feels like 5(A) still makes sense? But the only other piece  
23 that 5(B) is offering is the fact that the Department has a  
24 decision point before moving into the second part of 5(B).  
25 So I would like you to just save your thoughts on that and

1 we'll try to wrap up this little run through the five steps.

2 And Bill.

3 CO-CHAIR CARROLL: Thank you, Chair. Frankly I'm  
4 a little confused. Because I am reading 5(A) and I don't  
5 for a moment see 5(A) as being an infinite process where you  
6 go out and fill data gaps. That was my point initially was  
7 I saw the difference between 4 and 5 as being one is the  
8 opportunity for a preliminary screen on whatever basis. And  
9 maybe Tim's basis of a limited number of variables. That or  
10 data that you have at that single digit accuracy is enough  
11 to tell you what the answer is without going out and getting  
12 six figure accuracy. That's what I saw in 4.

13 Five is essentially what happens if 4 isn't  
14 sufficient. If 4 isn't sufficient and you need six figure  
15 accuracy, okay, well then I have to go out and not  
16 necessarily generate new data, but I've got to dig it out of  
17 the literature in a better fashion.

18 And this idea of generating new data gets to  
19 another interesting question and that is, whose  
20 responsibility is it? If I'm making a chemical of concern I  
21 am responsible for data for the chemical that I make. If I  
22 am required to go out and come up with alternatives and one  
23 of the alternatives I don't make and it has an incomplete  
24 data set, whose responsibility is it to generate that data?  
25 Is it mine? From my perspective, no data, no market. If

1 you don't have, if you don't have that information then I  
2 can't see it as a legitimate alternative. What that means  
3 is perhaps someone else is interested in going out and  
4 generating the data.

5           If you're worried about a time line I can tell you  
6 that if you are going out to get, you know, human health and  
7 environment data that's going to be, that's going to be  
8 meaningful here, there's a time line. And particularly if  
9 you're concerned, Kelly, about, you know, an infinite time  
10 line on stuff. Do not talk about generating new data  
11 because it can take a while.

12           So from my perspective, Chair, I don't see how we  
13 have marginalized 5(A). I think 5(A) is a natural outcome  
14 of something that requires careful study rather than  
15 preliminary study. Thank you.

16           CO-CHAIR GEISER: Bill, I'm just going to push  
17 that a little bit. 5(A) looks very much like 5(B) the  
18 second part. The difference is, does the Department have a  
19 discretionary moment there or not? In other words, do you  
20 see the firm, the manufacturer going from a 4 to a 5(A)?

21           CO-CHAIR CARROLL: And I guess the answer is yes  
22 and I want to be clear about the reason why. I think that  
23 the imposition of a remedy before you have what amounts to  
24 5(A) is not the right way to go. And the reason is, because  
25 it depends on getting to the point of being able to make

1 some kind of decision about what remedy is appropriate.

2           Let's take a couple of cases. Let's take a case  
3 where it's a very simple case. You go through Step 4. You  
4 find that there is a robust, available alternative that is  
5 significantly less impactful than the chemical of concern.  
6 At that point you can say, there is no need for me to go  
7 back through all 13 of these variables and look up data that  
8 is far more exact. This is a very easy decision to make;  
9 turn the paper in. And if the Department agrees then it's  
10 time for a remedy.

11           On the other hand, if you don't have that, what I  
12 called a no-brainer. And maybe that's an incorrect term.  
13 If you don't have something that is a clear decision, or if  
14 the clear decision to be made after 4 is, this is a close  
15 call, which is another clear decision that might come out of  
16 4, then how can you impose a remedy before you have gone  
17 through Step 5 to actually determine whether it is in fact  
18 that close a call. And how do you know what remedy to  
19 impose if in fact you have two alternatives that are barely  
20 different from one another?

21           So that's why it seems to me that you at least  
22 want to get to the end of the analysis to know what is, in  
23 fact, an appropriate remedy for the situation you're talking  
24 about with the alternatives that exist. In the end, you  
25 know, whether a remedy is required at all. So that's kind

1 of the logic flow I was thinking.

2 PANEL MEMBER JOHNSON: What do you see 5(B) as?

3 CO-CHAIR CARROLL: I guess what I did, you know,  
4 based on my notes is I went from 4 to 5(B) to 5(A) and then  
5 maybe back to the second part of 5(B). Because in the end  
6 what you're --

7 PANEL MEMBER JOHNSON: Yeah.

8 CO-CHAIR CARROLL: Look, here is my flow,  
9 regardless of what the steps are. You have a preliminary  
10 step. If you can make an early decision without having to  
11 go to the expense and detail of a full AA, take that  
12 opportunity. And if whoever is making the decision agrees  
13 then you're done.

14 On the other if that doesn't work then you have to  
15 go to a 4, more robust, analysis. And when you get done  
16 with that you go to remedy. At one point or another -- in  
17 the end you're going to remedy but the question is, can it  
18 be done earlier at low expense or later at greater expense.

19 Which frankly I think gets to the reason we asked  
20 the question about a tiered AA in the first place. That's  
21 kind of the way I see the process regardless of how it's  
22 laid out in these steps. At least that's the way I see it.

23 CO-CHAIR GEISER: Thank you, Bill. So I have Tim,  
24 Michael, Lauren and Kelly. Unless we can push it really far  
25 we want to take a break. Let's see what we can get with

1 that level, that number of people. So the next person would  
2 be Tim.

3 PANEL MEMBER MALLOY: Thank you. I just wanted to  
4 respond to your question, which is whether 5(A) has any  
5 continuing significance. I strongly feel that 5(A) is  
6 probably the most significant of these options for 5(A) and  
7 5(B).

8 Four I continue to -- they necessitate -- it's  
9 kind of a smoke and mirrors thing because wrapped up in this  
10 qualitative assessment screen is some notion that there is  
11 going to be this set of cases that are really easy to deal  
12 with in a short amount of time and you can easily pick an  
13 alternative. Until that's kind of laid out what that  
14 actually means, 4 doesn't really have much substantive  
15 content to me. And I continue to fail to see why it's  
16 necessary to have it as a separate step.

17 If it's so obvious then I would imagine one could  
18 submit both a work plan and a completed alternatives  
19 assessment and the Department could decide what to do with  
20 that, reject and then require something more. So I continue  
21 to see 4 as ultimately in the long run be kind of a small  
22 player in this. And it's odd that we would spend so much  
23 time in setting up a separate process for it when it could  
24 be kind of folded into the other one.

25 5(B), the problem I have with 5(B) is there's a

1 lot of verbiage there that's really not necessary. Because  
2 if you look at it, you know, under 5(B) the first part,  
3 those last two bullet items, you know. You could submit  
4 something where you would select an alternative, or you  
5 decide not to replace it with an alternative, or you decide  
6 to conduct a more robust alternative. For those last two,  
7 automatically just trigger a more robust alternative, right?  
8 Right, which is 5(A). So the only thing 5(B) applies to is  
9 a situation where you do whatever a qualitative screening  
10 thing is and select an alternative.

11 I guess when it comes down to it I don't really  
12 see kind of what the added oomph is to the, that's a  
13 technical legal term, oomph.

14 (Laughter.)

15 PANEL MEMBER MALLOY: What the added oomph to this  
16 is from, you know, creating all these layers and whatnot.  
17 And why not just let this be kind of an organic process  
18 where people submit things according to the scope that they  
19 want and the Department responds to them. And if you  
20 adopted my view of it then you wouldn't have like this idea  
21 of interim response actions because the Department would  
22 either accept that selective alternative from the truncated  
23 one or it wouldn't.

24 And if it doesn't, you know, the idea, you know.  
25 Issuing a regulatory response, that's going to take a lot of

1 time and resources to do when you have already decided that  
2 this isn't the route that we want to go. So I am not sure  
3 you even have that temporal problem, you know, that temporal  
4 advantage by issuing the regulatory action.

5 CHIEF DEPUTY DIRECTOR MADRIAGO: Let me -- this is  
6 not an idea the Department is putting out there but I think  
7 there is a little bit of confusion maybe about the  
8 possibility of the types of regulatory responses that could  
9 be issued. Because I heard Bill's comment, which is a very  
10 valid one, how can you impose a regulatory response if you  
11 don't know what the alternative selection is? Very true.

12 But one option that, you know, I am asking all of  
13 you to comment on is if you did go with an approach  
14 something along the lines of 5(B), that initial regulatory  
15 response decision could be with respect to keeping the  
16 existing product on the market while a more in-depth study  
17 is done on alternatives. So I just wanted to be clear about  
18 that.

19 PANEL MEMBER MALLOY: Isn't that going to be the  
20 default anyway, that if you don't take action on an  
21 alternative it is going to stay on the market?

22 CO-CHAIR GEISER: At least that's the point to be  
23 nailed down. So Michael. Getting interesting.

24 PANEL MEMBER KIRSCHNER: So if we come to a point  
25 where in this Step 4 we produce a report that's qualitative/

1 quantitative whatever, the manufacturer is going to say one  
2 of three things. They are going to withdraw the product;  
3 they have an alternative, here is what it is, take it or  
4 leave it; and, we want to do further study. In the first  
5 case the product is off the market, there is no action, is  
6 my expectation. Right? No regulatory action?

7           In the second case where the manufacturer says,  
8 here is an alternative. DTSC needs to make a decision about  
9 whether to accept the manufacturer's work or say yes or no.

10       If you say no you have to respond with what you'd like them  
11 to do or work with them to come up with some sort of  
12 decision or action plan. I think at that point that could  
13 entail an interim regulatory action, as Kelly says, labeling  
14 or something like that. Whatever the right action is for  
15 the situation.

16           And for this third situation where the  
17 manufacturer says more study is needed, the manufacturer has  
18 to provide a timeline for that. And that will -- that along  
19 with the particular COC and product situation will drive  
20 DTSC's decision about whether or not to impose interim  
21 action, I would think.

22           So I do see a place for an interim action. I do  
23 see a place also for a robust, you know, 5(A) option as  
24 well. It's clearly a last gasp. And it should include  
25 collection of, generation of new data if that's deemed

1 necessary. And as far as who is responsible for it, if the  
2 manufacturer says that that's the route they want to go down  
3 then I would say they are. If they don't manufacture that  
4 chemical they have to work with their supplier to do it.

5 CO-CHAIR GEISER: Michael, my question would be,  
6 do you see a 5(A), do you see that a firm might move from  
7 what we call a 4 to a 5(A) without a recommendation by the  
8 Department to do that or do you see that the Department  
9 would call for a 5(A)?

10 PANEL MEMBER KIRSCHNER: I think a manufacturer  
11 could readily say, well we have an alternative here but it  
12 needs more information. So I think a manufacturer could  
13 self-impose that.

14 CO-CHAIR GEISER: Thank you. So I have Bob,  
15 Lauren then Kelly and then a break. Bob.

16 PANEL MEMBER PEOPLES: Thank you, Chair. The  
17 first observation is the more significant, I think, of the  
18 two. And that is, as I read these I looked at them as  
19 alternative proposals, not sequential steps in the sequence.  
20 And to some extent I think I was confused and I think others  
21 may be, you know, conflating those two. So I viewed this  
22 thing as Step 4 was a preliminary assessment that gets done.

23 I kind of ignored the last paragraph that says you  
24 submit it. You know, you go through the work plan, you  
25 complete the preliminary assessment. If there's a no-

1 brainer in there you go over to 5(B), that was sort of my  
2 selection for the choice for the next step. And that's the  
3 formal submission where you get a ruling. And that ruling  
4 could be the no-brainer and you're done or it can be, you've  
5 got to go through a more detailed analysis, okay.

6           So I dropped 5(A) in my thinking as something that  
7 we would get into because elements of 5(B) incorporated  
8 5(A). It was redundant in my opinion. So that's a  
9 statement for, hopefully, maybe a little clarity in the  
10 sequence going forward.

11           The second observation to me, which, you know, I  
12 said maybe less significant but it troubles me a little bit  
13 because the language in Step 4 under the second bullet says  
14 a factor is relevant if it would constitute both a  
15 significant contribution and significant differential. And  
16 I think there is a huge amount of wiggle room in those terms  
17 because they are not defined and I don't know, you know. I  
18 don't know what we can do to help clarify those. But I  
19 think if it's not clarified or exemplified in such a way  
20 there's too much ambiguity there.

21           CO-CHAIR GEISER: Thank you, Bob. Lauren.

22           PANEL MEMBER HEINE: I think Bob's first point  
23 spoke more clearly than I am about to speak. I would like  
24 to reiterate what he said. But I think of, I'd like to  
25 think of Step 4(A) and 4(B) where Step 4 as its currently to

1 Step 4(A) and Step 5(A) as its currently is 4(B).

2 Because basically if I were a manufacturer I'd  
3 want to have pretty good confidence in whatever I was  
4 actually proposing to DTSC. So if I can do a quick and  
5 dirty 4(A) and get the answer I'm happy with and then submit  
6 a final report to DTSC I'm happy with that. But if I can't  
7 get a clear answer with a quick and dirty AA then I'm going  
8 to have to do a more in-depth AA as is written in 5(A).

9 But that's on my terms. I don't engage DTSC at  
10 that point. I just realized, I don't have a definitive  
11 answer so I am going to go back and do an in-depth one. But  
12 if I can get an answer with quick and dirty and a good  
13 thorough chemical, you know, understanding. Then once I'm  
14 satisfied with that and I am pretty confident that I know  
15 what the regulatory response will be, then I'm ready to go  
16 on to 5(B). So I would suggest moving 5(A) to 4(B). Not to  
17 complicate things, of course.

18 PANEL MEMBER JOHNSON: Did you switch 5(A) and  
19 5(B)?

20 PANEL MEMBER HEINE: No, I would say that Step 4  
21 should become 4(A) and Step 5(A) should become 4(B).

22 PANEL MEMBER WALLIN: And 5(B)?

23 PANEL MEMBER HEINE: Would be 5, just 5. There is  
24 no 5 -- there's just a 5. You just submit a report at that  
25 point to DTSC for a regulatory response.

1 PANEL MEMBER PEOPLES: I kind of think we're  
2 saying the same thing.

3 PANEL MEMBER HEINE: Right.

4 PANEL MEMBER PEOPLES: But the logistical layout  
5 of it is different the way you described it.

6 PANEL MEMBER HEINE: Is it?

7 PANEL MEMBER PEOPLES: Yeah.

8 PANEL MEMBER HEINE: I did agree with you though.

9 (Laughter.)

10 PANEL MEMBER JOHNSON: Just to clarify that.  
11 Weren't you kind of saying that you would lift the first  
12 part of 5(B) and attach it to 4? In other words, there is a  
13 regulatory submission.

14 (Several panel members began speaking at once.)

15 PANEL MEMBER PEOPLES: Because for me 5(B)  
16 incorporated 5(A).

17 PANEL MEMBER JOHNSON: Yeah.

18 PANEL MEMBER PEOPLES: Because these were  
19 basically parallel suggestions.

20 PANEL MEMBER JOHNSON: Once they're looked at you  
21 give a regulatory submission at that point.

22 CO-CHAIR GEISER: All right. I'm going to call,  
23 I'm going to try to cut this discussion here and move to  
24 Kelly and then we'll sum up. Kelly.

25 PANEL MEMBER MORAN: I just had a couple of

1 things; recognizing I'm the last person before the break and  
2 so everyone wants that break.

3           One thing is that I think that what -- I'm hearing  
4 a lot of confusion in this conversation. And I actually  
5 think -- Bill said he disagreed with something I said but  
6 then he described something that I agreed with. And so what  
7 I'm starting to feel is that there is a lot of confusion  
8 about what 4, 5(A) and 5(B) actually mean. And it may, I  
9 think we're all actually hitting somewhat similar feedback,  
10 you know, a few differences.

11           To take this to the next step it may be helpful to  
12 draw a flow chart and start thinking about the use of some  
13 of those words or something like that. If you want to get  
14 more feedback from us on this area to relieve that confusion  
15 I'd recommend some kind of tool like that as a next step.

16           And then the other point I wanted to make was just  
17 that some of you were on the conference calls I was on;  
18 there were two. And Meg said something really important,  
19 which I wanted to bring up here to help the rest of the  
20 group think, because of what Bill said. Many of the  
21 regulatory responses have really no linkage to the AA. So I  
22 want to say that again. Many of the regulatory responses do  
23 not rely on the information in the alternatives assessment.

24           So labeling and product stewardship, the alternatives  
25 assessment has really no bearing on that.

1           And that's actually part of why I feel pretty  
2 strongly that it's important to have the Department be able  
3 to impose a regulatory response before too big of a period  
4 of time has to pass for really detailed and expensive  
5 studies. So where the regulatory response might link to the  
6 content of the AA we need to think about that. But we also  
7 have to remember that some companies may not see an  
8 alternative and other companies do. And part of our  
9 framework challenge here is to promote innovation and to  
10 create that structure. Thank you.

11           CO-CHAIR GEISER: Thank you, Kelly. So it sounds  
12 like we have, we are trying to preserve something that has a  
13 two-stage, the way I understand it, a two-stage process as  
14 in Lauren's first way that she said. Which is, that a firm  
15 has an option to do a preliminary assessment and then move  
16 to a more sophisticated assessment if it appears appropriate  
17 to the firm. There is also a desire to have the other,  
18 which is more like the 5(B), as well. Which is, the firm  
19 submits some preliminary thing, the Department makes a  
20 discretionary decision and they call for a further. But  
21 rather than seeing those as one or the other I'm hearing  
22 people sort of say both seem appropriate.

23           Let's try to take a break at this point. Kathy  
24 wants to say something. If we want to carry this particular  
25 discussion on when we get back let me know. I'd like to

1 move to some of those substantive areas that we picked up  
2 this morning. Kathy.

3 MS. BARWICK: Thank you, Ken. And this  
4 announcement is related to our planning to move to the  
5 Coastal Hearing Room tomorrow. I am going to let our  
6 webcast viewers know that the link for tomorrow's webcast  
7 will change. And I want to thank the General Services  
8 folks. I believe we've got the sound dialed in really well  
9 now so you can hear me.

10 So if you'll go to the CalEPA website at  
11 calepa.ca.gov, on the left hand side there are quick links,  
12 at the bottom is webcasts. And we will be posting that  
13 information on the DTSC website as well. It's not up there  
14 yet but it will be soon. This change has necessitated us to  
15 use a different link for the website and I wanted everybody  
16 to know that. There will also be a list serve note going  
17 out tonight reflecting the change. So thank you for bearing  
18 with us.

19 CO-CHAIR GEISER: Okay, let's take about a 15  
20 minute break, calling us back here at 3:30.

21 (Off the record at 3:15 p.m.)

22 (On the record at 3:30 p.m.)

23 CO-CHAIR GEISER: Okay, let us reconvene here. We  
24 have about an hour and a half. We've reserved a few minutes  
25 at the end for Kathy and Odette and Debbie to maybe say

1 something about the day so let's try to get what we can in  
2 the next hour and 15 minutes.

3           Where we are is -- and I just want to congratulate  
4 you. We did get through all five steps and we managed to, I  
5 think, treat them rigorously and draw out a lot of important  
6 advice I think, so I think that's great.

7           We did identify in the later part of the morning  
8 some areas that we wanted to spend some time on. A couple  
9 of them I think we really have already done. For instance,  
10 the quantitative versus qualitative, I think we have kind of  
11 put that to rest. We did deal with the I-B green chemist  
12 issue. I think we also kind of dealt with the one called,  
13 that had to do with the initial screening. I think that we  
14 kind of took care of.

15           Which leaves the following that we do want to  
16 spend a little bit of time on. One is this grouping  
17 question of the (A)-(M) 13 elements. How do we feel about  
18 the grouping and in particular how do we feel about the  
19 prioritization of that group.

20           The second area we want to spend a little time on  
21 is tradeoffs. Looking at how you think about tradeoffs.  
22 Some of the issue this morning was, should we think about,  
23 what should the Department say about weighting, about  
24 methods for doing that, et cetera.

25           There was one last -- Maybe Tim can tell us. He

1 suggested, he brought up the issue of data generation. We  
2 covered it a couple of times. Whether we are just relying  
3 on existing data or whether we are pushing for more data and  
4 what about testing and all. We want a few words about that.

5 And we do have two words, "significantly safer"  
6 and "necessariness." I kind of think we dealt with the  
7 necessariness but I'll try to leave a little time for that.

8 Other points? All right. Why don't we begin with  
9 this grouping issue. If you turn to page 10. Page 10 will  
10 give you three different versions of ways to group the (A)-  
11 (M). The latter to add the idea of prioritization. Should  
12 the Department be breaking these out into groups and should  
13 the Department be in its regulation or its guidance,  
14 suggesting a prioritization? Let's spend, let's say, 15 to  
15 20 minutes on that.

16 PANEL MEMBER WALLIN: Can I ask a clarifying  
17 question?

18 CO-CHAIR GEISER: Yes, Anne, sure.

19 PANEL MEMBER WALLIN: What is the purpose of a  
20 group? What does that accomplish?

21 CHIEF DEPUTY DIRECTOR MADRIAGO: I don't know that  
22 it accomplishes anything for us per se if you are just  
23 grouping and not prioritizing. This might be something that  
24 wouldn't be in the regulations, it might be in the guidance.  
25 But some people in the subcommittee suggested that in terms

1 of doing an AA that there were some logical groupings in  
2 terms of how you might look at the factors. So I think  
3 other than that I would throw the question out to your  
4 colleagues.

5 PANEL MEMBER WALLIN: Okay.

6 CO-CHAIR GEISER: I know that Tim was one of the  
7 people who proposed a grouping, a pretty interesting one. A  
8 way to think about grouping. Maybe, Tim, you might want to  
9 say what your, the spirit of what you were trying to do  
10 there.

11 PANEL MEMBER MALLOY: I guess I agree with Odette.  
12 Which is, when we think about grouping we are essentially  
13 trying to identify kind of first level criteria that you  
14 would be assessing in the comparative part of the AA. But  
15 the reason for grouping it would be to give different  
16 weights to one versus another. So for example --

17 PANEL MEMBER WALLIN: To one group versus another  
18 group?

19 PANEL MEMBER MALLOY: Well, to a group overall and  
20 then even within the group. So for example -- I am not  
21 suggesting I am adopting number one or not. But if you look  
22 at this first one on page 10 where you have got basically  
23 human health, environmental resource, technical performance  
24 and costs. At that upper level there are those five.

25 If you were doing a comparative analysis and you

1 had a certain level of data about human health and you had  
2 something about resources and the cost, somebody when  
3 they're making the decision, whether they are doing it in a  
4 kind of intuitive eyeballing -- what I think REACH calls the  
5 verbal argumentative approach. Which is, without any kind  
6 of methodology but rather just kind of weighing pros and  
7 cons and looking at the different factors. You would still  
8 look at that and say, well of those five the ones I'm going  
9 to give most priority to, the ones that matter to me most  
10 are say, human health. So you would look at that.

11           If one particular alternative did so much better  
12 on human health than the others and they were -- but they  
13 had to really sell you on resource impacts. If you value  
14 human health more it would rise to the top in terms of a  
15 ranking. So if you don't apply a weighting to those then  
16 essentially you are applying a default equal weighting,  
17 right? So the question is, from a regulatory standpoint  
18 should you apply, what type of weighting should you apply.

19           So that's what -- when I see grouping that's what  
20 I would, I would think about. And then that leads into this  
21 notion of, obviously if you are not doing a tradeoff kind of  
22 analysis across groups then weighting becomes less  
23 important.

24           PANEL MEMBER WALLIN: Thank you.

25           CO-CHAIR GEISER: I have Bob and Dale and Bill.

1           PANEL MEMBER PEOPLES: Chair, I am going to defer  
2 my comment and listen a little more. I had formulated an  
3 opinion but I want to think about what Tim just said before  
4 I throw my hat in. Thank you.

5           CO-CHAIR GEISER: Then I'll just push you down the  
6 list.

7           PANEL MEMBER PEOPLES: Thank you, push me down.

8           CO-CHAIR GEISER: Dale.

9           PANEL MEMBER JOHNSON: Okay. I think that I would  
10 not group and I would not prioritize in the regulations.  
11 And I would let -- because I think each of these AAs are  
12 going to be individualized, really different. So I think  
13 that's part of the process is to, is to have somebody  
14 propose which ones are the most important. And then how  
15 they, you know, whether this data, that becomes part of the  
16 process.

17           CO-CHAIR GEISER: Thank you, Dale. Bill.

18           CO-CHAIR CARROLL: Thank you, Chair. I want to  
19 amplify what Dale said and make one exception. In the  
20 process of doing the AA I would object to the idea. I  
21 wouldn't necessarily write it in the regs but perhaps it's a  
22 guidance thing. I would object to the idea of grouping like  
23 types of dimensions, as is done anymore. But I am very much  
24 opposed to an all-weather set of priority one, priority two  
25 and priority three factors.

1           That even in the realm of human health and  
2 environmental factors, which are important, the route of  
3 exposure is going to matter, whether one is more important  
4 than the other depending on the situation. One may -- in  
5 one situation it may in fact be a human health issue. In  
6 another situation it may absolutely not be a human health  
7 issue, it could be an environmental issue. So I think this  
8 is something that has to be decided on a case-by-case basis,  
9 thank you.

10           CO-CHAIR GEISER: Okay. How about Tim and then  
11 I'll come back and see if Bob has had enough time.

12           PANEL MEMBER MALLOY: I just want to make a couple  
13 of points about, you know, substantively about this point.  
14 I kind of respectfully disagree with Bill on this one.

15           This is a regulatory program focused on protection  
16 of human health. It makes a real difference how when you're  
17 making comparisons, how you weight various factors, right.  
18 So from a regulatory standpoint there ought to be a  
19 consistency of treatment across cases and priorities.

20           Now I don't dispute, Bill, that in an individual  
21 case concern about carcinogenity might be different because  
22 exposure is very low versus very high. But I think that is  
23 really a question of a metric and a value for a particular  
24 alternative.

25           So for example, you're making comparisons say of

1 four alternatives. And each one of them you're going to,  
2 somehow you're going to have to come up with a metric that  
3 captures both the hazard concerns that you have and the  
4 exposure concerns that you have and you're going to end up  
5 having some kind of performance value for that particular  
6 alternative. And then you're going to compare how that  
7 alternative does on that value to all the other alternatives  
8 that you have. So, you know, for that particular value  
9 maybe Alternative A does really, really well.

10 But on the other hand you might also be looking at  
11 ecological impacts of aquatic pesticides, say, right. And  
12 maybe for that one you're going to do the same thing.  
13 You've got all the values and take into account exposure and  
14 the hazard and so on and so forth. Maybe on that one you  
15 see that B does way better than A.

16 Unless we have a consistent weighting across those  
17 factors of human health and environmental you won't have a  
18 consistency across cases. So sure, you're going to have  
19 differences in terms of in a particular case how much of a  
20 problem carcinogenicity, human exposure and carcinogenicity is.  
21 But that is going to be captured in the performance value  
22 for the particular alternative.

23 And if it turns out that that's not really a  
24 problem for any of the alternatives then that will have, it  
25 will have a commensurate, there will be a commensurate

1 decrease in the impact of that factor on how well the  
2 alternative does overall.

3           So we did this case study where -- this is the  
4 study that Ann and I have been doing with a few other folks  
5 where we did two cases, one lead solder, one garment care.  
6 And we went out and actually did these things. We  
7 developed, you know, a set of factors. We developed metrics  
8 for those factors. We are not saying they are the right  
9 metrics or the wrong metrics. The idea was just to develop  
10 a case study that you could see what's the interaction  
11 across metrics and across weighting. And then we went out  
12 and interviewed people and developed stakeholder weightings  
13 for each of these factors across a variety of groups.

14           And what the study tries to do is it runs through  
15 a whole bunch of scenarios to see what happens when you  
16 alter weighting, what happens when you take out a criterion,  
17 put a criterion in and so on and so forth.

18           And I think that what it shows is exactly your  
19 point. That where it turns out that a particular -- even if  
20 it's highly weighted as being important to your decision, it  
21 turns out that the alternatives are basically the same on  
22 that or fairly well impact on that. That you see that in  
23 the actual result. That that has a much less impact on how  
24 well an alternative does. But what the weighting does is it  
25 allows you to kind of like keep in mind, you know, what's

1 really important to you in making the decision.

2 CO-CHAIR GEISER: Okay, thank you, Tim. So, Bob.

3 PANEL MEMBER PEOPLES: Thank you, Chair. There is  
4 nothing about this process that I found easy. And I think  
5 like many of us I am probably evolving my thinking as we go  
6 here. But after listening to the debate so far and thinking  
7 where I started on this, my first reaction is not to group,  
8 not to prioritize, not to weight, for some of the following  
9 reasons.

10 Number one is, when I look at the statute it says,  
11 best ways to limit the exposure or to reduce the level of  
12 hazard. That covers the gamut. And so all of the 13  
13 critical elements, you know, speak to all those issues. And  
14 it can peel the onion. You get to the specific end points  
15 that deal with each one of those issues.

16 So at this stage I feel like a grouping or ranking  
17 is overly prescriptive. If someone is conducting the  
18 alternatives assessment and they feel like there is data to  
19 support, you know, a weighting prioritization they could  
20 build that into the alternatives assessment based on the  
21 experience that they've got.

22 Our goal is to get this thing across the finish  
23 line. And I have a feeling that if you try to prioritize  
24 now that will result in another series of debates about, you  
25 know, should this one be weighted 70 percent and this one 60

1 percent? So we'll get into this sort of sort of cyclic loop  
2 of debating on that. So it's a little too early, it  
3 involves a lot of complexity and I feel it's unnecessary at  
4 this stage of the evolution. It can certainly be  
5 readdressed once are in place and you're starting to get  
6 feedback from the field of how it's working. And don't let  
7 us get bogged down in too many details on this one.

8 CO-CHAIR GEISER: Thank you, Bob. I have Dele,  
9 Joe and Kelly. I think that's going to be much of the  
10 conversation on this topic. Dele, please.

11 PANEL MEMBER OGUNSEITAN: I don't think we can  
12 talk about this without reference to Odette's number (4)  
13 under Notes about what LCA tools are and what they are  
14 supposed to do. I think intrinsically many of those tools  
15 actually do this weighting and so the results we get,  
16 whether it's qualitative or quantitative, has some element  
17 of prioritization. And we can discuss whether or not we  
18 want to adopt particular software or methodology.

19 But I am also very wary of grouping and weighting  
20 because some of these factors will never get weight. It  
21 differs in Southern California versus Northern California in  
22 terms of the impact of air emissions and water conservation  
23 and all of these. So we could be talking about the same  
24 category but it will have very different impacts on  
25 different populations. I am really concerned about the use

1 of the groups and the potential ways that we would  
2 completely disagree on the models.

3 CO-CHAIR GEISER: Let me just remind people  
4 though. The decision not to weight is also still a  
5 decision.

6 PANEL MEMBER PEOPLES: W-E-I-G-H-T versus W-A-I-T.  
7 (Laughter.)

8 PANEL MEMBER PEOPLES: Just to clarify.

9 CO-CHAIR GEISER: Okay. Joe.

10 PANEL MEMBER GUTH: So Tim, let me ask you a few  
11 questions just to clarify this because I'm feeling a little  
12 confused. First on the --

13 CO-CHAIR GEISER: Joe, it's always helpful if you  
14 could say what you think. If you can do that.

15 PANEL MEMBER GUTH: Maybe I will be able to when  
16 Tim clarifies this question. So I guess part of the point  
17 maybe of grouping is, is it that -- okay, you've got five  
18 groups. But if you don't group then a particular group may  
19 look like it's -- because there's more elements specified in  
20 the statute but they actually all kind of relate to each  
21 other. Like they are all environmental impacts. So that  
22 your grouping is an effort to have five different things  
23 that you're comparing versus 13, where those 13 are not  
24 allocated as between those different kinds of groups.

25 Is that what is leading you to think about

1 grouping? Is that a clear question? Like if you want to  
2 compare environmental impacts to, you know, to cost, say  
3 those are the two things. But -- and so you want to balance  
4 those two things conceptually. But if the statute lays out,  
5 you know, 20 different environmental impact elements and  
6 only one cost element then you are weighting 19 things -- or  
7 20 things against one and it just doesn't look like you're  
8 really balancing two things against each other. Whereas the  
9 grouping kind of allows you to focus on that from those  
10 different interests. Is that what you're getting at with  
11 the grouping? I -- I -- you know.

12 CO-CHAIR GEISER: Tim, I'm going to -- just  
13 because I don't want this to become --

14 (Co-Chair Geiser and Panel Member Malloy  
15 both speaking at once and over each other.)

16 CO-CHAIR GEISER: But answer it briefly and then  
17 Joe has one last moment.

18 PANEL MEMBER GUTH: Okay.

19 CO-CHAIR GEISER: All right, go ahead.

20 PANEL MEMBER JOHNSON: Yes or no.

21 PANEL MEMBER MALLOY: I'll give a qualitative  
22 answer.

23 (Laughter.)

24 PANEL MEMBER MALLOY: In general the statute is --  
25 Mark Twain said, I wish I had more time, I would have

1 written a shorter letter. So give me a second.

2           Yeah, generally speaking, if you assume that it's  
3 important to kind of weight human health against cost and  
4 technical performance. Maybe you don't. But if that's how  
5 you were structuring it then what you would want to do is  
6 have a sense of how much more important environmentally or  
7 health-related factors are than economic factors. So the  
8 grouping is important because ultimately what you're going  
9 to do is you're going to take all of those, say human health  
10 factors. And when you're thinking about human health you're  
11 going to be considering all of those. This is if you are  
12 applying kind of a carefully designed decision approach.

13           Absent doing something like that what you've got  
14 is kind of this zeitgeist approach where you're just looking  
15 at a bunch of factors and saying, what looks best? So what  
16 the grouping does is it orders your approach more and allows  
17 you to aggregate factors so that you are not over-weighting  
18 certain things and under-weighting others.

19           PANEL MEMBER GUTH: You're trying to aggregate  
20 them by interest to facilitate comparison of the interests.

21           You know, like human health is an --

22           PANEL MEMBER MALLOY: I'm not authorized to answer  
23 that question.

24           (Laughter.)

25           PANEL MEMBER GUTH: Right. I wasn't going to ask

1 you. I was going to ask a question. On prioritization, I  
2 guess it's kind of the same thing. My first inclination was  
3 I don't really like this prioritization. But then when you  
4 described it's almost like it's one of these charts where,  
5 okay, each of these gets a red dot or a green dot and that's  
6 it. And if you don't do any other kind of weighting then  
7 you are just comparing, you know, a red dot in human health  
8 with a, you know, with a green dot on economy. But -- so  
9 that -- if that's what we're talking about then I guess I  
10 would think we do need to do weighting.

11 But if the evaluations are going to be more  
12 nuanced. Like oh, a very potent carcinogen versus a very  
13 minor, you know, you know, skin irritation, if those are the  
14 health effects. And if we are going to have some nuance and  
15 a gradation of the size of the impact then I'm not so sure  
16 we would need to prioritize.

17 CO-CHAIR GEISER: Thank you. Kelly.

18 PANEL MEMBER MORAN: I'm going to slide between  
19 I-C and Section III on page 13 because I see them as  
20 interrelated. And when I first saw the grouping that Tim  
21 proposed I liked it and then I thought about it subsequent  
22 weeks and I am concerned overlaps. And let me just give an  
23 example so that people can understand what I'm talking  
24 about.

25 When we think about air emissions we think about

1 that as being a human health thing as the first thing. It's  
2 actually really important for water pollution. Any tank  
3 that contains copper that's on a ship when it's stripped  
4 off, a lot of that gets emitted to the air. In San Diego  
5 where they do a lot of that, half the copper in the urban  
6 runoff is from that rather than just from brake pads. So  
7 air emissions is very much a water pollution issue. They  
8 aren't going to -- the brake pad copper phaseout won't get  
9 them into compliance without this other thing. So it's all  
10 a little related to each other.

11 I also thought a lot about the differences. We  
12 have had some conversations about the idea that certain of  
13 these factors are currently different than others. And I do  
14 think that the structure, the decision-maker structure is  
15 going to have to recognize that some of these are kind of  
16 internal factors and some of them are external factors. And  
17 I don't know exactly what to recommend. Inhaling that right  
18 now but I think recognizing that keeping that forward as we  
19 are going through this process is going to be important.

20 One thing I don't -- this is an odd list of  
21 factors that comes out of the statute so that's another  
22 reason that the grouping makes me feel uncomfortable because  
23 it is not the real list that we would use but we have to  
24 make sure that all of these topics are covered.

25 The one thing that's not explicit in this list is

1 when we are talking about economic impacts. We should be  
2 considering both internalized costs and externalized costs.

3 So, for example, when you make a product that contains a  
4 pollutant that's hazardous waste. Upon end of life the  
5 customer or -- if it's a household product the municipality  
6 incurs the cost of the disposal. That's an externalized  
7 cost that should be partly factored in here.

8 In terms of how to handle this tradeoffs question.

9 I agree that it's going to be important for there to be  
10 some thinking about that. You know, I'm human so I kind of  
11 want the human stuff to be a pretty significant priority  
12 here. I know that there's a lot of cost across the state  
13 for environmental impacts so I don't think that that should  
14 be ignored at all. And how to do that balancing is, I  
15 think, going to be a little bit hard.

16 So my suggestion is something that probably starts  
17 in writing but maybe would be helpful towards getting  
18 through the first years in the decision-making process. And  
19 here again I'm going back to the CEQA analogy where  
20 municipalities and various government agencies have  
21 established what they call significance criteria. So for  
22 some things like air pollution there is actually a  
23 quantitative number. If you emit more than a certain amount  
24 of NO<sub>x</sub> that's significant and less than that it's not  
25 significant. For some things it's a more qualitative

1 statement.

2 But I think that it would be very helpful -- the  
3 folks who are going to be doing these assessments are trying  
4 to say, big or small. Does this matter or not? Which  
5 things do I actually have to consider as tradeoffs, which  
6 ones don't they?

7 I think that the best way to deal with that in the  
8 initial years of this regulation is going to be for the  
9 Department to be consulting with the responsible, all the  
10 agencies that are affected here, and try to come up with a  
11 guidance that helps folks know, big or small. And you can  
12 put it out and say, ordinarily the Department will consider  
13 things above this as big and other things as small. So that  
14 would be my suggestion as to how to do that.

15 And then finally, I was also a little disturbed  
16 about the discussion of weightings. I have just never seen  
17 a good outcome with numeric weightings and charts. And I  
18 know a lot of alternatives assessors and life cycle  
19 assessors love those things. So again, I am just going to  
20 urge a little bit of the essay question kind of approach  
21 that you see reflected in the thing that Ann and Ken and I  
22 put together. And not driving this towards an approach  
23 where we have some numeric weighting scheme and just numbers  
24 in a chart against each other. So thank you.

25 CO-CHAIR GEISER: Thank you. And I have Anne.

1           PANEL MEMBER WALLIN: Thank you. I guess I would  
2 like to start my comment with the end of Kelly's. This is  
3 an answer to an essay question. It's not multiple choice,  
4 it's not true/false. And I think that's one of the things  
5 that makes me uncomfortable about some of these concepts.

6           I don't mind the groupings as a way to maybe bring  
7 some structure and some logic and some consistency in how  
8 information is presented. I don't weight the  
9 prioritizations. One of the reasons I don't is because you  
10 have got such a range of applications that are going to go  
11 through AAs that your priorities are probably going to vary.

12          If I am doing laundry detergents I am going to be probably  
13 putting a pretty high internal prioritization on water  
14 quality impacts. If I am comparing paints maybe I'm more  
15 concerned about air emissions and VOCs.

16           I just don't think there is a one size fits all  
17 kind of weighting here. It is going to be this kind of  
18 juggling of 13 or more things and coming up with a list that  
19 feels better.

20           The other thing I think we're going to have to  
21 think about is that something may be important but across  
22 your alternatives it may all pretty much be the same. So  
23 maybe water quality really is a priority but fundamentally  
24 it is not a differentiator. And so it is not helping you  
25 make a choice as to which one really is preferred.

1           The one thing I would very much caution against,  
2 this is very controversial certainly in the life cycle  
3 assessment area, is that we not try and take all these  
4 numbers and add them up because you have got these disparate  
5 impacts. And probably the best example I have seen of that  
6 from someone else's slide is if you drive into a town it  
7 tells you how many people live there, it tells you what the  
8 elevation is and it tells you maybe when it was established.

9           And if we were to judge which is a better town then we'd  
10 just add all those numbers up and there we go.

11           (Laughter.)

12           PANEL MEMBER WALLIN: And that's a little bit what  
13 this feels like if we think we are going to start to add all  
14 this together. It's just not that clean cut.

15           But one of the things that is used sometimes to  
16 help in LCA is denormalized data. And so within a category  
17 you set something to 100 and everything is relative to that.

18           And sometimes, again, that can help you as you are looking  
19 across all these disparate factors, to try and come to some  
20 sort of basis that, well this one probably is an  
21 improvement, no, they are really all about the same but this  
22 one is clearly worse. Thank you.

23           CO-CHAIR GEISER: So my question to you, Anne, is,  
24 had you used that before?

25           PANEL MEMBER WALLIN: I had stolen -- I don't even

1 remember whose slide that was at a USGVC conference but I've  
2 used it many, many times.

3 CO-CHAIR GEISER: I was going to say it looked  
4 well-practiced.

5 (Laughter.)

6 CO-CHAIR GEISER: Okay, people are sliding into  
7 the -- I'm encouraging people to see themselves as sliding  
8 into a discussion about tradeoffs. So as we are doing this  
9 I'm noting people are beginning to really move that way.  
10 But please from here on, know your thoughts about tradeoffs.

11 We are being asked -- there are several options here to  
12 consider. Odette really does want us to spend some time  
13 thinking about tradeoffs amongst factors. What happens when  
14 there is no clear winner, so to speak, in terms of all of  
15 the 13 factors. How do you begin to think about tradeoffs?

16 PANEL MEMBER PEOPLES: Chair, may I ask a  
17 clarification question of the staff? That is, in this  
18 discussion that we just had around the prioritizations and  
19 groupings, did you get the kind of information you need to  
20 provide the guidance at this point?

21 CHIEF DEPUTY DIRECTOR MADRIAGO: I think so.

22 CO-CHAIR GEISER: Thank you.

23 CHIEF DEPUTY DIRECTOR MADRIAGO: Let me, let me  
24 put it -- what I basically I think I heard. There might  
25 have been one or two exceptions but basically what I heard

1 was, it's helpful. People will probably do it in practice  
2 but there is no one size fits all approach. So if we are  
3 going to address it, it would be more appropriate to address  
4 it with guidance rather than regulations. So if I am  
5 mishearing people, tell me.

6 CO-CHAIR GEISER: Okay, what we have at this point  
7 is Lauren, Roger, Tim and then Bill. But please, as you do,  
8 speak to the issue of tradeoffs. Thank you. So this will  
9 be Lauren.

10 PANEL MEMBER HEINE: Thank you, Chair. This is  
11 sort of a strange perspective but I keep coming back to, how  
12 does a manufacturer know when they have satisfied DTSC's  
13 requirement and the intent of this regulation? And I am  
14 thinking of all of the life cycle factors as options, as a  
15 menu from which a manufacturer may choose to use in their  
16 alternatives assessment. It may be very possible to meet  
17 the spirit of the regulations just looking at exposure,  
18 hazard and environmental impacts and call it good.

19 But if you are not satisfied, if you don't -- and  
20 that might be okay from DTSC so I'm not sure I can express  
21 this well. But I imagine that DTSC could say -- I'll be  
22 very simplistic. If you remove that chemical of concern you  
23 have satisfied us, right? However, the manufacturer may  
24 say, I don't really want to remove this chemical of concern  
25 so I am going to do, I am going to look at a number of other

1 factors. I am going to look at costs, I am going to look at  
2 water impacts. I am going to make this picture much bigger  
3 so I can -- and I am going to force DTSC to see it from my  
4 perspective that there is a lot more in this picture than  
5 just removing that chemical of concern.

6 But if you have removed that chemical of concern  
7 is that enough? I think that it is not really necessary to  
8 use all of the life cycle considerations. I think it should  
9 be an option to use them. And therefore I don't think  
10 prioritization really matters. I think it's up to the  
11 manufacturer to determine which ones are relevant to their  
12 case really, they're making a case.

13 In that sense that does bring me to the issue of  
14 tradeoffs. Where -- I'm sorry.

15 (Laughter.)

16 CO-CHAIR GEISER: You're so compliant. Okay,  
17 Roger, see if you can beat that.

18 PANEL MEMBER PEOPLES: I'll hold the gun to him.

19 PANEL MEMBER McFADDEN: Well you did make that  
20 real swift move because I put my --

21 PANEL MEMBER HEINE: Yes.

22 PANEL MEMBER McFADDEN: When I put this up we were  
23 talking about grouping and prioritization and so on. In the  
24 spirit of Lauren --

25 (Laughter.)

1           PANEL MEMBER PEOPLES: -- I want to, if I could,  
2 just briefly touch this grouping because I would support  
3 that. That in regulation it will pose -- create problems.  
4 But for guidelines it's useful so I would agree with that.

5           What strikes me is more important as a scientist  
6 is that each of these criteria be defined in some manner by  
7 which a company that is responding to this clearly  
8 understands what you are asking for. Because economic  
9 impacts could be defined in a million ways, you know. And  
10 Kelly, you mentioned the externalities. Some would argue  
11 that that's not part of an economic impact. You would, I  
12 would, others may not.

13           But if that isn't clearly defined then you're  
14 going to get a myriad of different replies which you can't  
15 really compare very well. So my advice would be to be sure  
16 these are defined in such a way that they have either  
17 criteria or something scientifically that they can anchor  
18 to. That they know when they give you this information it's  
19 useful. It needs to be meaningful and useful.

20           And then on tradeoffs.

21           (Laughter.)

22           CO-CHAIR GEISER: Thank you, Roger. Tim.

23           PANEL MEMBER MALLOY: Everything I have to say  
24 relates to tradeoffs.

25           (Laughter.)

1 CO-CHAIR GEISER: You can tell who is good at  
2 writing grants.

3 PANEL MEMBER MALLOY: Generally it's me. I kind  
4 of -- I wanted to first of all say a little something about  
5 that grouping that has my name attached to it, you know.  
6 Which is, that is a -- that was meant as a general grouping  
7 to help frame things. It wasn't meant to be a list of what  
8 are the relevant criteria that I think ought to be involved  
9 in an AA. We have a much more developed kind of sense of  
10 what these criteria ought to be. Because I agree with you,  
11 Kelly. They are not really well articulated, as you say, on  
12 economic impact.

13 On economic impact I think it's important to  
14 distinguish between economic impacts to a facility, which is  
15 appropriate in a permitting situation such as this, versus  
16 societal economic impacts, which I think is not appropriate  
17 in an AA prepared by an individual facility. That's more  
18 done for a centralized program. I can give you lots of  
19 examples of that.

20 But what does this have to do with tradeoffs. Let  
21 me tell you that in order to make tradeoffs I think the  
22 problem is while we all like kind of the essay approach, it  
23 has got its values, the fact is you are talking about a  
24 decision environment, which even in a simple case is going  
25 to have multiple criteria of commensurables.

1           And, you know, the simple fact is that from a  
2 human cognition standpoint we are not able to rationally  
3 deal with that and that we are going to need some decision  
4 aids. The real question is, what are the decision aids  
5 going to look like. And we've got -- some of the decision  
6 aids are a series of narrative guidelines about think about  
7 this and think about that and they may be perfectly  
8 appropriate I don't dispute that. But embedded in them are  
9 going to be certain underlying values, subjective values.

10           And Ken put this correctly, whether you express  
11 them or not there is going to be a weighting involved. I  
12 think when you're making tradeoffs across these groups a  
13 transparent program, a consistent regulatory program has got  
14 to identify what the relative importance of those different  
15 factors are.

16           I entirely disagree with the notion in here that  
17 it should be left to the discretion of the manufacturer  
18 about how to value these differential, the differential  
19 weight given to each of these factors because that is a  
20 societal issue, not an individual facility issue.

21           And even if we thought that was a good idea, to  
22 initially allow a manufacturer to do it and then let DTSC  
23 review that, on what basis would DTSC review it if there  
24 isn't a standard set in the regulations or the guidance?  
25 All we would have is, whoever happens to be reviewing that

1 AA at DTSC applying their subjective values to the decision  
2 and that could vary across whichever permit evaluator is  
3 making the decision.

4           So what we have got is a lack of consistency of  
5 legal defensibility of meaningfulness. Because you could  
6 have different cases coming out differently merely because  
7 of who it is who happened to have done that. So I think we  
8 are going to need some additional guidance about how to  
9 value these things. And I don't think a simple narrative  
10 tool is enough.

11           You know, let me just say, so how do you make  
12 those tradeoffs? And this is the -- I just want to make  
13 this point. I know a lot of people feel that kind of these  
14 decision aid tools we saw for packages and what not are  
15 black boxes that people just put numbers in, they add things  
16 up in an incomprehensible or arbitrary way. And I think it  
17 is useful to take a close look at what these decision tools  
18 are. It's a very well-developed discipline. It's used in a  
19 variety of environmental applications where alternatives are  
20 being assessed.

21           And the fact is that these decision-making aids,  
22 whether they are software based or not, first of all do  
23 normalize data across criteria.. It's not simply adding up  
24 different types of data. They normalize them across the  
25 dimension of a scale in a number of different methodological

1 ways, which you'd want to think about to see if you think  
2 that's an appropriate way to do it. But what it allows you  
3 to do then is to, on a comparative basis, to visualize what  
4 the difference is across your alternatives, right?

5           So rather than burying somewhere in the analysis  
6 what the tradeoffs were that you made, whether you're gaming  
7 the system or not. What it does is it highlights for you  
8 how your assessment and the value of a particular factor and  
9 how your alternative did on that factor. It highlights it  
10 and makes you look at it and realize what was driving your  
11 decision. And it allows for an open conversation with  
12 external groups, with DTSC and with the manufacturers about  
13 what actually went on in that particular alternatives  
14 analysis rather than shielding it in --

15           And I have to say, I'm a lawyer so I can -- look,  
16 you give me, you want a particular outcome? You give me a  
17 bunch of guidelines that you want me to cover. I'll write  
18 you something that's persuasive that comes out the way you  
19 want it.

20           So look, if it was Bob and Roger and Art who were  
21 the people in the companies who were doing the AAs I'd feel  
22 really comfortable about leaving it to the manufacturers  
23 because I know where their values lie, I know what type of  
24 people they are. But this is a regulatory program that is  
25 going to be implemented by a broad range of businesses and

1 they are not all going to be Art, Bob and Roger. And some  
2 of them are going to be gaming the system, some of them are  
3 going to have no idea what they're doing. And you need to  
4 have, I think, regulatory program guidances that make sure  
5 that there is some basic level of transparency and a basic  
6 understanding of what is important across these factors to  
7 be taking into account.

8 I work in the Superfund program at EPA. I have  
9 seen what happens under NEPA and under CEQA when people  
10 apply narrative guidelines and it is not pretty, you know.  
11 Essays can be an opportunity for people to express in deep  
12 fullness the thoughtfulness that they have put into an  
13 issue. Or, we have all written essays in college and high  
14 school when we haven't prepared for the exam and we know  
15 what else essays can do, right? They can sound persuasive  
16 but not have much value to them. And I think that's the,  
17 that's the issue that -- that's how I feel about tradeoffs,  
18 thank you.

19 CO-CHAIR GEISER: Thank you. Bill next.

20 CO-CHAIR CARROLL: Thank you, Chair. And I also  
21 promise to talk about tradeoffs.

22 Tim, I just want to assure you. I understood, you  
23 know, what you were talking about in terms of, in terms of  
24 weighting. The weighting of various factors and so on. In  
25 fact, we went through this exact exercise in the NSF

1 standard process in which we decided not to make it a part  
2 of the process but we developed a tool that did exactly  
3 that. Where you had a number of parameters that you, that  
4 you could weight.

5           And that in the end it didn't sum it up to a  
6 number but it essentially showed you variable width bar  
7 charts such that when you gave a big weight to something it  
8 was a big, fat bar and you could see that it made a big  
9 difference in the area. If you made a small difference in  
10 that one that's highly weighted you could see what the  
11 difference was. So I understand the point that you were  
12 making.

13           What I am disagreeing with is that there is one  
14 matrix of weights that should apply in all cases. And I am  
15 even going to make the situation more complex. I think this  
16 should be a part of either the debate or the transparency  
17 that leads to a decision and here is what I mean.

18           If you imagine that the process involves not just  
19 the 13 dimensions that we're talking about but a number of  
20 subdimensions, particularly for the things under human  
21 health and the environment, you are going to have lots of  
22 things coming together. You imagine you have a data matrix  
23 that addresses all of those 13 dimensions and subdimensions.

24           Then you would have a weighting matrix that you almost  
25 apply as a screen on the front of that and at the end you

1 see exactly what you're talking about, which is to say, how  
2 your weights modulate the data and give you an overall  
3 picture at the end.

4           There will be, there will be different reasons to  
5 apply different weights for different circumstances and I  
6 don't just mean on a different combination of priority  
7 chemical and priority product. I mean different  
8 stakeholders will see things in different ways in terms of  
9 the way these things ought to be weighted.

10           And you might also ask the question, are we  
11 talking about this from the place where the product is used,  
12 e.g. here, or are we talking about where it's manufactured?

13           Or if it's both manufactured here and used here there could  
14 be, there could be different considerations.

15           So I think at least at this point, I think that  
16 the process of generating the information and then  
17 evaluating it ought to be something that a number of  
18 stakeholders have a shot at. I as a manufacturer would  
19 probably want to take a shot at weights for my analysis of  
20 this. Other manufacturers might want to weight things  
21 differently. An NGO might want to weight it a third way,  
22 other stakeholders a fourth way.

23           Now the question of course is, what amounts to  
24 significant differences among, among the conclusions that  
25 you draw from those. And, who decides in the end which is

1 right and how? I guess my point is there is no one right  
2 answer; there are different ways of looking at this. And  
3 what you discover is that in taking the different ways of  
4 looking at it you find a reasonably close call that if what  
5 actually makes the differentiation in the end is what you  
6 choose as the remedy. If there is not significant  
7 differences, one to a next, then it is very difficult to  
8 pick a harsh remedy for the priority product with the  
9 priority chemical versus an alternative that evaluates. It  
10 could be very similar to it.

11           So I guess where I'm coming down is that I am  
12 leery of picking a discrete matrix of weights that is  
13 applied in all cases. Understanding and accepting the idea  
14 that even if you don't use weights you have, in fact,  
15 weighted. And it's a valid point. But I think it also is  
16 naturally going to wind up being a point for discussion and  
17 debate somewhat modulated by the stakeholder but also  
18 modulated by the exact situation. And what I am getting to  
19 is a much more complex problem than something that I think  
20 can be solved by simply defining those weights in the  
21 regulation. I think that's too simple a solution. Thank  
22 you, Chair.

23           CO-CHAIR GEISER: Okay. Bruce is next.

24           PANEL MEMBER CORDS: First a comment and then a  
25 clarifying question, I guess.

1           You know, when I look at the 13 factors a lot of  
2 the, I anticipate anyway, a lot of the COCs will get on  
3 there because they -- for only a factors. They will be  
4 there because there was a concern over only a couple of the  
5 factors. For example, there is not going to be anything on  
6 there probably because it is not energy efficient. There is  
7 not going to be anything on there because it used a lot of  
8 water, right? It's going to be these chemicals of concern.

9           But then we're going to look at alternatives. So what I'm  
10 saying is, for a lot of the chemicals of concern a lot of  
11 these will be blank, there won't be data, right?

12           CHIEF DEPUTY DIRECTOR MADRIAGO: Um-hmm.

13           PANEL MEMBER CORDS: For all these 13 things that  
14 the legislation says you have to take into consideration,  
15 the following factors, these 13 factors, we won't even know,  
16 we won't even be able to fill in the blanks or provide data  
17 for the COCs that go on that list.

18           CHIEF DEPUTY DIRECTOR MADRIAGO: It's possible.

19           PANEL MEMBER CORDS: Probable I would say. But  
20 then do we say that in every alternative that we identify  
21 that we have to, that it would be required to -- so we are  
22 going to actually generate more data on alternatives than we  
23 had on a COC.

24           CHIEF DEPUTY DIRECTOR MADRIAGO: What the statute  
25 says is that all 13 of those factors must be considered. So

1 then the question is, what does "consideration" mean? And I  
2 think this gets back to the discussion we had earlier with  
3 different levels of, you know, consideration. And, you  
4 know, I hesitate to use the words qualitative and  
5 quantitative after the earlier discussion but, you know,  
6 some of it you may -- if you have absolutely no data, no  
7 idea whether or not there is an impact there, then what I am  
8 hearing some people say is that there would be an obligation  
9 to get information or generate data.

10 PANEL MEMBER CORDS: For the chemical of concern,  
11 otherwise you won't compare it to the alternative. Because  
12 I know a lot of these you will have an idea but you won't  
13 have an actual --

14 CHIEF DEPUTY DIRECTOR MADRIAGO: Good point.

15 CO-CHAIR GEISER: Thank you. I'm going to make a  
16 comment and then I have Bob. And this goes to some of the  
17 spirit of that discussion that you and the others were  
18 engaged in. I think, first of all, Tim has laid out a way  
19 of thinking about the grouping to start with and then it  
20 talks about a set, a use of a set of tools for helping, to  
21 assisting in the decision-making.

22 And I am really pleased that Tim is doing this  
23 because I am really pleased that UCLA is involved in this  
24 pilot that he's doing. And I am only sorry that we are not  
25 able -- Tim and Ann suggested we might want to try to review

1 some of this at this meeting. We just didn't have time. At  
2 a future time or some other way we'd like to plug that in  
3 because I think that is going to be really vital to us.

4 But let me say a word about my own approach to it.

5 It has been not skeptical so much as just holding off some.

6 Because the way we do it in Massachusetts is to ask firms  
7 to develop matrices where you can see the values across a  
8 range of alternatives, across -- and you can sort of see  
9 what we consider to be patterns on a matrix. Because in the  
10 end I am very interested in advancing human judgment and  
11 wanting people to deal with the ambiguity and complexity of  
12 real time situations, of trying to balance a lot of things  
13 together. And I find a visual display like a bar chart and  
14 other such things to be really good at allowing people to do  
15 that. So we use these matrices.

16 The other thing a matrix does fairly nicely is  
17 show you where you don't know, where information doesn't  
18 exist because it ends up as white or in some other way that  
19 makes you understand just how little information you may  
20 have to try to do something.

21 That said, I don't find that that's not easily  
22 transported to California. And the reason, in part, is  
23 because we don't actually require firms in Massachusetts to  
24 do something given that matrix. They just -- they go ahead  
25 and do something, yes, but the law doesn't require that they

1 do something.

2           So here we have a situation where it's tied to a  
3 regulation and it's going to be tied to a response, a  
4 regulatory response. But I think that's a way out of this  
5 to a certain degree as well, which is that in the end you  
6 are not really asking firms to make a decision about a safer  
7 alternative as we are asking them to present enough  
8 information to the Department that the Department can decide  
9 about for response. Because the basis of that response is  
10 the alternatives assessment.

11           And indeed I am thinking that the co-product of  
12 that exercise is really that a lot of firms learn a lot  
13 about alternatives and really make some very wise decisions  
14 on their own as they do that. But the law is not saying  
15 they have to do that. The law is only building the base for  
16 the response that the Department is going to make. And the  
17 responses are, while they may be several they are not --  
18 there aren't hundreds, there are a few there.

19           And so the level of information that's necessary  
20 to provide a -- first of all, a wise decision to the  
21 Department doesn't have to be that significant and it's more  
22 important to the firm that it be further developed. But  
23 that's up to the firm to go as far as they need to go in  
24 order to make a determination whether a safer alternative is  
25 worthy of adoption.

1           So I see this as trying to get us as high as we  
2 can in displaying alternatives against each other such that  
3 the Department can make decisions but also such that firms  
4 can make decisions. At a degree to which a decision-  
5 assisting tool can be very valuable in that way it seems to  
6 me is running it and then sort of standing back and asking,  
7 does this turn out to be, does this make sense? This thing  
8 tells me that a safe alternative -- that B is safer than C  
9 or something like that. Does that look right? That's where  
10 I think the tool becomes really valuable, at assisting you,  
11 at challenging you and all. And that's what I hoping will  
12 be -- some of what might come from what I'm hoping is very  
13 good work there that Tim and all are doing.

14           PANEL MEMBER MALLOY: Thank you.

15           CO-CHAIR GEISER: But I also don't want it be a  
16 debate with Tim because I think that, you know, we are all  
17 in this together. We are trying to learn how to do this.  
18 And I think we just want to celebrate that activity that is  
19 going on here. Okay, so I have Bob and then --

20           PANEL MEMBER PEOPLES: Thank you, Chair. And I  
21 appreciate those words for Tim.

22           You know, I am not an attorney. And one of the  
23 things that always is a challenge for me is, you know, when  
24 you put words on paper there is a language that gets  
25 codified and then there is the spirit which was trying to be

1 captured with the language. And for me it's frustrating  
2 when people spend time trying to figure out how to push the  
3 limits of the words as opposed to meeting the spirit of the  
4 law or the regulations.

5           So I think one of the challenges we've got here is  
6 how do we, how do we create a regulatory environment that  
7 creates the esprit de corps that people commit to  
8 accomplishing the spirit of what we are trying to do here.  
9 Because in the end, you know, I think that's what this, what  
10 this law is all about.

11           So one of the things that I thought about in terms  
12 of these tradeoffs is, we always talk about what tradeoffs  
13 we're willing to make. I am going to suggest to you there  
14 is a tradeoff we don't want to make. And the tradeoff we  
15 don't want to make is to allow regrettable substitutions,  
16 all right.

17           And when you talk about not making that a tradeoff  
18 and avoiding the creation of regrettable substitutions it  
19 starts speaking to the issue of data gaps, all right. So  
20 when you talk about there being data gaps -- and I think  
21 Bruce, yeah, you had made the point. There's going to be a  
22 lot -- I agree with you, there's going to be a lot of data  
23 gaps on existing materials for which the alternatives  
24 assessments will be prepared to. And I believe there will  
25 be as many if not more data gaps on some of the alternatives

1 that get proposed.

2           But if we truly want to avoid regrettable  
3 substitutions we are just going to have to accept the rules  
4 of the game are going to have to change and we're going to  
5 have to do the work to generate the data and the information  
6 to try to plug those gaps. It won't be perfect, it won't be  
7 uniform, mistakes are going to be made. But the fact,  
8 you've got to have some information on which to base  
9 judgments, you can't go on vapor. And the issues of  
10 mechanistic toxicology and green chemistry are now again to  
11 the point where I think we can apply those and fill some of  
12 these gaps going forward.

13           My final thought on this is that, you know, we  
14 haven't talked too much in this particular round about  
15 confidential business information or the data gaps but they  
16 do exist. And the other part of this law is that, you know,  
17 your challenge is to write regs that will facilitate  
18 decisions and decisions are fueled by information and  
19 clarity.

20           So I could argue that ultimately the decision-  
21 makers, which includes the public, the consumers, we can  
22 facilitate the decision-making process by making it  
23 transparent that there is confidential business information  
24 or that there are data gaps. And now if I know I have a  
25 choice of something that has good information and I have

1 something that has no information, I can decide I'd rather  
2 go with something I know than something that is a shot in  
3 the dark and I don't know, it could be a regrettable  
4 substitution. So that's my thought on the tradeoffs.

5 CO-CHAIR GEISER: Excellent, Bob, very good.  
6 Michael.

7 PANEL MEMBER KIRSCHNER: This has really pushed my  
8 thinking. I hadn't really considered this very much so it's  
9 very interesting, thank you, everyone. I have listened to  
10 Bill and Tim and the others because I'm thinking about a  
11 solution. I'm going to propose a potential solution so you  
12 can start shooting -- getting your arrows ready and machine  
13 guns or whatever.

14 The basic situation is that for every chemical of  
15 concern, priority product combination we have, that implies  
16 -- well each one of those is going to have specific human  
17 health and environment impacts that are known and that are  
18 the reason that these are being targeted.

19 Were DTSC -- I scribbled it down because my memory  
20 is like Swiss cheese. Should the weighting and tradeoffs be  
21 defined by DTSC therefore for each COC priority product  
22 combination. And that would be where this is defined. And  
23 I'm not talking about weighting in a, you know, a one  
24 through 100 sense of one-zero; I'm looking at something  
25 binary. This is the problem we're trying to solve, here is

1 a set of human health issues and environment issues with the  
2 chemical of concern product combination.

3           Let's make sure that first of all the first tier  
4 of the weighting is to make sure that the replacement  
5 doesn't have those effects. The second tier is everything  
6 else or has a lesser impact. The second tier -- you can  
7 have a second and third tier. The second tier, make sure,  
8 you know, compare these parameters as well, whichever those  
9 factors or whatever factors we're looking at or considering,  
10 13-plus whatever. Look at those as well. Then there's a  
11 set of factors that maybe are unimportant. That you just,  
12 you know, they are not really relevant to this particular  
13 situation.

14           If this is proposed then that gives all the  
15 stakeholders the opportunity to shoot holes in it. You are  
16 not putting in the regulation any specific weighting, you  
17 are just saying that you will, you will identify priorities,  
18 priority factors, for each COC product, priority product  
19 combination. So it doesn't really tie your hands, it allows  
20 stakeholder input and also shows that DTSC has considered  
21 all 13 factors, right. And the consideration could be,  
22 don't worry about. Don't worry about costs, don't worry  
23 about energy efficiency, you don't have to address in the  
24 alternatives assessment. So that's it.

25           CO-CHAIR CARROLL: Mike, could I ask you to

1 clarify this. Because I want to read it back to you and  
2 tell me if I heard what you were intending. That for each  
3 combination of priority chemical and priority product, it  
4 got there for a reason. And so what is most important is  
5 that the alternatives assessment address those reasons as  
6 your highest priority. And so what is most important is to  
7 find alternatives that are better for what landed you on the  
8 list. That that's what most important.

9           And then you're suggesting that there may be, you  
10 know, two tiers or three tiers where there is a second tier  
11 of things that could be important in the overall scheme of  
12 things and a third tier that seems not to be important in  
13 this particular case. And that you would ask the state to  
14 create some sort of weighting, general weighting scheme that  
15 addressed it on that, on that relative priority basis. Was  
16 that your suggestion?

17           PANEL MEMBER KIRSCHNER: Yes, basically yes. And  
18 it's a simple, I think, binary, you know, one-zero  
19 weighting. You are not going to weight -- if  
20 carcinogenicity is not a reason the COC priority product  
21 combination is there it's not going to be in the first tier.  
22 It may well be in the second. And that's something that  
23 needs to be addressed. You should compare the  
24 carcinogenicity of -- I'm shocked I can say that word. I  
25 think I pronounced it correctly.

1           You have to compare that to the COC and the  
2 proposed alternatives. If it's better or worse, you know,  
3 you indicate that. If it's a lot worse then, you know, for  
4 the alternatives then DTSC has to decide what to do or the  
5 manufacturer may take it out because they know this is going  
6 to create another problem. If there is an exposure pathway,  
7 right. Anyway, that's -- you basically got my comment.

8           CO-CHAIR GEISER: All right, thank you, Michael,  
9 for kind of a simple way to think about that. All right,  
10 Ann.

11           PANEL MEMBER BLAKE: There's always a risk here --  
12 the discussion has passed by but I am going to try this  
13 again and try to talk a little bit about the work that we  
14 have done and with the caveat that when we bring it up and  
15 try to explain it generates more questions. But I do want  
16 to frame it a little bit in what was surprising to me.  
17 Because what really struck me about doing this, playing out  
18 the decision tool is that I am a pragmatic person. I really  
19 want to try it and see how it plays out and then play with  
20 the different factors and see what happens.

21           And one of the things we did was we did a list of  
22 stakeholder ranking. We tried a couple of different  
23 scenarios where everything was the implicit. If you don't  
24 weight it it's got an equivalent weight. And then we  
25 elicited, granted from a very small N, the scientist in me

1 has to put that caveat in, but we interviewed NGOs and  
2 consumers, industry and government and legislative folks.

3           And the surprising thing to me, or maybe it  
4 shouldn't be that surprising given that we are all humans  
5 and live on this planet, that the priorities of the major  
6 criteria, of the major that we are talking about, health,  
7 environment, technological feasibility and so forth, people  
8 didn't -- different stakeholders did not weight those --  
9 they weighted them differently, they did not prioritize them  
10 differently. We all prioritized them the same way.

11           And the weights, honestly, were not that variable  
12 between groups. And this is where the N, the small N  
13 actually becomes significant. There was a lot more  
14 variability within a group about which one -- technological  
15 and cost -- varied a whole lot more, particularly within the  
16 industry group. So that was a surprise to me. So I think  
17 there may not be that much of an issue about who is going to  
18 weight things differently.

19           And I also think, as has been said before, I think  
20 it is appropriate for a regulatory agency implementing this  
21 statute that with the mission of protecting health and the  
22 environment that those weights should be weighted more  
23 heavily.

24           The way it plays out in our two case studies,  
25 however, as Mike was indicating, is that even the human

1 health and environmental factors may have a greater weight  
2 in the overall comparative analysis, it may end up that they  
3 are not that big a deal for each of these particular case  
4 studies. So you may say, human toxicity, human health  
5 toxicity is very important to us, but it turns out, as Anne  
6 also mentioned earlier, it may not be the distinguishing  
7 factor in the alternatives that you were talking about.

8           So I would just like to offer that for me it was  
9 much easier to see data and we actually took a crack at what  
10 you talked about in terms of defining criteria, Roger. We  
11 actually took a crack at, you know, what are some of the  
12 metrics that we might use for these. We went down to a sub-  
13 sub-criteria level. So, you know, what we have here is your  
14 high level criteria, you have a medium level criteria. We  
15 went down to several levels to get data like in the '50s and  
16 so forth and to get economic data to see how it would  
17 actually play out.

18           And the other thing. Ken, you said that this  
19 decision-making tool allows you to visualize what is  
20 actually driving your decision. And one of the things you  
21 can with this is you can actually say, well let's play with  
22 the weight of this particular factor and move it up and down  
23 and see what it does to the ranking of the alternatives.  
24 And there's some surprising responses. In some cases they  
25 are very responsive. In one case study we had it to be very

1 responsive that it flipped alternatives around. In some  
2 cases it really didn't matter as much as we thought.

3           So I would like to offer that at some point where  
4 we can present these results that, you know, it might give  
5 us something more to focus on and actually see how it plays  
6 out. Because it certainly clarified it for me instead of  
7 taking these abstract concepts like where do we put a weight  
8 in the regulation and so forth.

9           So just to wrap up from that. I would still think  
10 it's appropriate to put a weight for a regulatory agency, a  
11 heavier weight on human health and environmental factors  
12 because that is the mission of the agency to do that. But  
13 it may be that in case by case studies it may not turn out  
14 to affect the outcome as much as we think.

15           CO-CHAIR GEISER: Good. I have Dele, Lauren and  
16 Joe. Also just checking on the timing. We've probably got  
17 another 15 minutes to 20 minutes of talk. So if there's  
18 points that you think you still want to get out on this  
19 somewhere that you're not, that you haven't had a chance to  
20 get out, think about not leaving here with regrettable --

21           (Laughter.)

22           CO-CHAIR GEISER: Thinking that you didn't say  
23 something. So, Dele.

24           PANEL MEMBER OGUNSEITAN: Thank you. This is  
25 actually quite -- just a follow-up to what Ann said. And I

1 like to think of trade-offs from the perspective of the  
2 decision that DTSC has to make. And when I think about  
3 that, these 13 categories I feel fall into two groups.

4           Would DTSC ever reject an alternative chemical  
5 because it's too expensive? Say, for example, the economic  
6 impact is just a cost pressure. Would DTSC reject it for an  
7 alternative because the product now would only last three  
8 years instead of five years? Or that the product doesn't  
9 perform just as well? I think those three, probably more  
10 from the concern to consumers and to manufacturers. Whereas  
11 the other ten categories are more consistent with the  
12 mission of DTSC and naturally they are weighted more in your  
13 decision to reject or accept an alternative.

14           CO-CHAIR GEISER: Thank you, Dele. Lauren.

15           PANEL MEMBER HEINE: Dele, I think that was  
16 really, really well said. And I keep trying to get at this  
17 issue to see what the chemical listed as a chemical of  
18 concern and a product of concern does not have any parallel  
19 to what is required in terms of looking at the alternatives.

20           So if I as a manufacturer am able to eliminate a  
21 chemical of concern in my product and I do not replace it  
22 with anything that could possibly be considered a chemical  
23 of concern based on a full spectrum of human health and  
24 environmental attributes have I satisfied the agency at that  
25 point? And if I have I may choose not to move with those

1 other attributes. And I think that needs to be really,  
2 really clear.

3 But if I really don't want to lose that chemical  
4 and I want to make a case that I don't want to stop using  
5 that chemical I am going to look at the economic factors,  
6 the water factors, the carbon footprint. Everything I can  
7 dig up to make a case that I shouldn't have to not use that  
8 chemical anymore.

9 CHIEF DEPUTY DIRECTOR MADRIAGO: And that's a  
10 really good point. I think depending on where in the  
11 process we do that we may have a few legal issues we would  
12 have to deal with. I think clearly if you did this  
13 voluntarily up front, if we got pulled into the net of those  
14 required to do AAs, I think that's doable. But once you get  
15 pulled in, somehow we have to satisfy the words that say,  
16 the AAs have to consider those 13 factors.

17 CO-CHAIR GEISER: Joe.

18 PANEL MEMBER GUTH: Thank you. I want to just  
19 briefly second Tim's strong emphasis for DTSC to outline how  
20 to do the triage. I just think that it really doesn't  
21 matter so much, doesn't turn so much on, you know, whether  
22 the people doing these, making the decisions are good people  
23 or bad people, it's just an internal logic. The corporate  
24 forum needs companies to advocate for their interests and  
25 it's just their economic interests. And I just think that

1 that's the pervasive internal decision-making structure that  
2 we're going to confront.

3           Actually what would probably be best would be for  
4 DTSC to make, be making those evaluations. It's the  
5 government, it's their job. I think there is more  
6 accountability to the public but I understand the resource  
7 problem. So as a second best option I think that they  
8 should try to evaluate the values and the structure, a  
9 decision-making structure that incorporates the values of  
10 best protecting -- doing the best thing for the public, for  
11 society's welfare. Which can take lots of consideration  
12 into account but it just needs to be articulated.

13           Data gaps. You know, one of the problems in this  
14 program is that there is not a minimum data set required for  
15 chemicals. I think without some baseline data about  
16 chemicals there is a great risk of making regrettable  
17 substitutions. And I am just very concerned about DTSC and  
18 government being credited down the road with -- it finds  
19 itself in a regulatory action based on incomplete data that  
20 turns out to be mandating regrettable substitutions. I just  
21 think that the picture there is going to look like  
22 incompetent government and so, you know, that is a problem.

23           I am sympathetic to the point that Bill made about  
24 allowing the manufacturer of -- also to fill data gaps for  
25 chemicals that aren't even their own or their competitors'

1 chemicals. I mean, some of the data gaps may even have to  
2 do with whether it's a suitable substitute technologically.  
3 We want to know if it really works so we have to try that.  
4 That means you really -- I'm not sure you really have to do  
5 that. So I am sympathetic to that. On the other hand,  
6 maybe less sympathetic to the need to fill data gaps for  
7 your own chemicals.

8 CO-CHAIR CARROLL: Understand that.

9 PANEL MEMBER GUTH: So.

10 CO-CHAIR GEISER: Very good point, very good. So  
11 I have Roger and Tim. Roger.

12 PANEL MEMBER McFADDEN: Okay, I'm ready to talk  
13 about tradeoffs now.

14 (Laughter.)

15 PANEL MEMBER McFADDEN: Just real quick. Would  
16 any reasonable person trade off K, which is public health  
17 impacts, et cetera, etcetera, for any of the others? I'm  
18 not. That's a question that would be important I think. I  
19 wouldn't. That doesn't mean everybody else wouldn't, it  
20 just means I certainly place a high priority on that. So I  
21 think there's innately something there at least that you can  
22 connect to without weighting all the rest.

23 The question I have though is a little off-base  
24 just a little -- going to your last point about, don't leave  
25 here without questions. So I had one on data that's been

1   troubling me.   So who is required to prepare these AAs?

2   What is the context of this?

3                   What if the maker of the priority product refuses  
4   or is non-responsive but another company who doesn't make  
5   that product, sells that product in the state of California.

6   Would that company inherit the responsibility?  Either have  
7   to prepare and submit that information or in some way become  
8   the gatekeeper between the state of California and the maker  
9   of that product who could actually be a non-California  
10  company or actually be a non-US company in many cases?  It's  
11  important to understand that in this context of discussion.

12  I'm just curious.

13                   CHIEF DEPUTY DIRECTOR MADRIAGO:  Well, most likely  
14  it would be something along those lines.  I don't know if  
15  you recall how we had it structured in, you know -- actually  
16  in both of the last two versions of the regulations they  
17  varied a little bit but it was basically that concept.  If  
18  the manufacturer isn't responding to requirements then the  
19  -- and you're right, some are going to be out of state and  
20  out of the country.  Then the California retailer would have  
21  the option of finding a way to meet the requirement or the  
22  industry selling the product.

23                   PANEL MEMBER McFADDEN:  Thank you.

24                   CO-CHAIR GEISER:  Thank you, Roger.  Tim.

25                   PANEL MEMBER MALLOY:  Thank you.  I think I have

1 one last thought that I think is a kind of a global thing.  
2 And let me just start by saying I really believe what Bob  
3 said about this ought to be designed in an atmosphere where  
4 people want to make better decisions and so on and so forth.

5           And yet the pragmatist of me and based on my  
6 experience of representing industry and also being in an  
7 enforcement agency is such that I can't ignore the fact that  
8 we have got to design a program that covers, you know, the  
9 good actors and the bad actors in general.

10           And along that line, I appreciate what Bill said  
11 and I think it's a really very kind of valid and important  
12 point that, gee, one useful thing to come out of this  
13 process would be that we get these AAs out there and then  
14 the stakeholders can have a conversation. The NGOs can look  
15 at the AAs, the business, the supply chain, the agency. And  
16 they can have conversations and then a result. And that,  
17 that the weighting there is less important because the  
18 weighting becomes kind of a negotiation or a collaboration  
19 among those groups.

20           And in fact, some of these methods that I have  
21 been talking about, these decision tools, are actually  
22 designed to help that kind of a group process because it  
23 allows people to see where their real differences are. You  
24 know, maybe your weights don't matter, right? So it's  
25 helpful then,

1           Here is the concern I have about it and why I am  
2 such a big advocate for kind of laying out as much as you  
3 can in the regulation itself about what the decision will be  
4 based on. And I take this from thinking about, again, the  
5 Clean Air Act and Title V.

6           In 1990, you know, there was this Title V Clean  
7 Air Act program that created these operating permits that  
8 for the first time for major sources in one place you could  
9 go to a permit and see all of the regulatory obligations  
10 that apply to these facilities. Before that like a refinery  
11 might have 20,000 individual permits. And nobody, including  
12 the company, could figure out, you know, what the  
13 obligations were, right.

14           So Title V was an incredibly important advance in  
15 that. And we just took all those obligations, put them into  
16 one operating permit and created a transparency where, you  
17 know, environmental groups and local citizens could come.  
18 There would be compliance. Sort of cation obligations. It  
19 would be an opportunity for this public sphere where people  
20 could interact and there would be collaboration.

21           And in theory that was great. In practice what  
22 happened though was there were so many facilities submitting  
23 so many permits, applications, and so few resources  
24 available to public groups and NGOs, that a lot of these  
25 permit applications kind of just went through without

1 anybody seeing anything except whoever reviewed them at the  
2 agency. So the idea that it would create this collaboration  
3 in practice didn't work out.

4           And depending on how this program is designed, if  
5 you do have kind of a large number of AAs going on, I am  
6 fearful that the collaboration that we would all like to see  
7 will not happen, mainly because the people -- you know, in a  
8 sense transparency is overrated if nobody can get to the  
9 table to talk about those things that are now transparent.

10           So that's why when you hear me talking about  
11 wanting to try to build as much structure and specificity  
12 and consistency into the regulation, that's what I'm getting  
13 at. And, you know, you said one of the things that drive is  
14 being practical. And I think we have to be practical in the  
15 sense of, there may not be lots of conversations once the AA  
16 is done. And if there aren't then you really get one or two  
17 shots at making sure that they are consistent and meaningful  
18 and that's why I feel the way that I do. Thank you.

19           CO-CHAIR GEISER: Thank you, Tim, thank you. I  
20 think that is pretty much the cards so I am assuming that we  
21 have run through the ideas, exhausted maybe.

22           Before I turn this over to my colleagues I would  
23 just like to say, just make a couple of points. One is just  
24 what a refreshing and engaging discussion this has been.  
25 You know, this is an area close to my heart intellectually

1 and all. And just listening to all of this and learning and  
2 seeing things drawn out the way people have really worked to  
3 do today was just great. Frankly, I know this may sound  
4 silly but I could do hours more of this.

5 (Laughter.)

6 CO-CHAIR GEISER: Partly because it was just so  
7 exciting. Because people really were digging in and doing  
8 really good, good work and I just want to congratulate you.

9 But also just noting the other thing about this.  
10 We have been going, what? Two some-odd years now as a  
11 panel. I admire the maturity of the panel itself at being  
12 able to -- the conversation that is really building on one  
13 another's ideas. And also differing with each other but not  
14 with a sense that one has to protect the idea that -- you  
15 know, just sort of being able to group think things in a way  
16 that makes for stronger advice than we could give if we were  
17 just shooting from what we know as individuals.

18 Both of those things have made me feel really  
19 excited about this conversation today. And so I just wanted  
20 to say that because I just thought it was great. I'm  
21 really, really enjoyed this.

22 With that I am going to turn this over to Odette  
23 and Kathy will close this up. Thank you very much.

24 CHIEF DEPUTY DIRECTOR MADRIAGO: And I would  
25 certainly second everything Ken just said so wonderfully.

1 And the one thing I might add is I could really tell by the  
2 discussion today that you all had taken the time to look at  
3 these options and consider them and make notes and I think  
4 that has really helped it be a very productive discussion  
5 today. Very valuable for us.

6 So I think we are getting close to being ready to  
7 go to dinner. I think dinner is at six o'clock. I don't  
8 know if Kathy has any closing housekeeping remarks she would  
9 like to make.

10 MS. BARWICK: I do.

11 CHIEF DEPUTY DIRECTOR MADRIAGO: Otherwise I will  
12 see you all at dinner.

13 MS. BARWICK: I wanted to make just a brief  
14 reminder that we are going to be moving to the Coastal  
15 Hearing Room on the second floor. And for the webcast  
16 viewers, if you would go to the [calepa.ca.gov](http://calepa.ca.gov) website, look  
17 at the left for the webcast links and you will find the  
18 meeting there. Our DTSC Green Ribbon Science Panel website  
19 has also been updated so you can see the link there as well.

20 So I just wanted to make sure that everybody knows where to  
21 go to listen to us tomorrow.

22 And a little bit of housekeeping here. For you  
23 Science Panel members, if you would please take your name  
24 tag with you. Leave your table tent on the table, okay?

25 (Comments from several Panel Members)

1 and laughter.)

2 MS. BARWICK: And I know it sounds very random but  
3 there is a reason for it. And I'll tell you if you want to  
4 know but you probably don't. Just take your name tag with  
5 you, leave your table tent on the table. And take your  
6 belongings with you, please, because we are going to be  
7 clearing out this room.

8 DIRECTOR RAPHAEL: Do you want to do a Bagley-  
9 Keene reminder.

10 MS. BARWICK: Yes. You all know that tonight's  
11 dinner is a social event and not a continuation of today's  
12 discussion per the meeting rules so note that. Please  
13 remember the open meeting law that we operate under.

14 (Whereupon, the Green Ribbon Science Panel  
15 Meeting was adjourned at 4:51 p.m., to  
16 reconvene at 8:30 a.m., Friday, July 15,  
17 2011, in the Coastal Hearing Room.)

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## CERTIFICATE OF REPORTER

I, RAMONA COTA, a Certified Electronic Reporter and Transcriber, 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 I thereafter transcribed it 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 1st day of August, 2011.

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