

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GREEN RIBBON SCIENCE PANEL
MEETING

RED LION INN
SIERRA ROOM
1401 ARDEN WAY
SACRAMENTO, CALIFORNIA

THURSDAY, APRIL 30, 2009

8:30 A.M.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

A P P E A R A N C E S

Green Ribbon Science Panel Members

Ken Geiser, PhD, Co-Chair

Deborah Raphael, Co-Chair

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Ann Blake, PhD

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Robert Peoples, PhD

Julia Quint, PhD

Julie Schoenung, PhD

Megan R. Schwarzman, MD, MPH

Anne Wallin, PhD

Michael P. Wilson, PhD, MPH

DTSC Staff Present

Maziar Movassaghi, Acting Director

Maya Akula

Kathryn Barwick

Bob Boughton

Yolanda Garza

Peggy Harris

Radhika Majhail

Hortensia Muniz

Michael O'Docharty

Nancy Ostrom

Donald Owen, Jr.

Joseph Smith

Jeffrey Wong, PhD

Xioaying Zhou

Also Present (by Affiliation)

Ansje Miller

Center for Environmental Health and CHANGE Coalition

John Ulrich

Chemical Industry Council of California

Davis Baltz

Commonweal and CHANGE Coalition

Tom Jacob

DuPont

Dawn Koepke

McHugh & Associates and Green Chemistry Alliance

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1 P R O C E E D I N G S

2 PANEL CO-CHAIR RAPHAEL: Okay, if people could get
3 their seats, get their coffee, we'll get started. We have
4 quite the ambitious morning.

5 Good morning everyone. I hope you all had a great
6 evening and some of you got to hear Kathy play the guitar,
7 which must have been a treat.

8 Today to start us off, welcome back. Welcome to
9 the people in the audience, welcome to the people on the
10 webcast. We are lucky today that Director Movagasi (sic) --
11 did I do it right?

12 MR. MOVASSAGHI: Movassaghi.

13 PANEL CO-CHAIR RAPHAEL: Oh.

14 (Laughter.)

15 MR. MOVASSAGHI: You're still within your 30 day
16 window.

17 PANEL CO-CHAIR RAPHAEL: All right, Movassaghi,
18 all right. And I even have it written that way but I just
19 couldn't do it. Director Movassaghi will be presenting some
20 words this morning, which I am looking forward to hear. So
21 Director.

22 MR. MOVASSAGHI: Good morning everyone. As I said
23 yesterday, I didn't have a chance to be with you folks all
24 day but in every office that I went to we'd turn on the
25 computer, I was listening to the webcast. Running in-

1 between meetings catching little snippets of what was going
2 on. And actually the thing I had to resist was, you know,
3 doing the looking past the people I was having meetings with
4 saying, that stuff is a little more exciting. But the
5 business at hand needs to go on while we are trying to move
6 forward in this new venture.

7 The one thing I wanted to say, actually I wanted
8 to say it yesterday but I was so excited that I forgot. But
9 I really want to commend you folks. The big challenge that
10 we laid out yesterday can only be accomplished if this body
11 has a frank, open dialogue where we respect different
12 viewpoints. And folks not only bring the perspective of the
13 entities they are working for, private sector universities,
14 consultants, but also sharing perspectives about what you
15 have learned along the way that don't necessarily represent
16 the viewpoint of your specific organizations.

17 And that is amazing. It's wonderful that you are
18 having this frankness and dialogue because we need this
19 exchange. This is the arena to have the back and forth, to
20 ask the tough questions. To say, look, you know, most of
21 what is on the table is not perfect, there are tradeoffs.
22 What is a complete list of tradeoffs. So I just wanted to
23 really commend you folks because you got there even without
24 me saying it, which again verifies more that the brainpower
25 in this room is amazing. So thank you.

1 Again I am not going to be with you folks most of
2 the day today. But in-between running meetings I'm
3 listening to you folks. And actually I had the Secretary
4 sit down for ten minutes and listen to the webcast as well
5 and she was actually amazed that we are doing all this
6 stuff.

7 Kudos to you. We are looking forward to some more
8 activities. There were no questions for me yesterday. One
9 of the things I forgot to mention is, I know some of you are
10 from out of town. I haven't gotten a chance to meet most of
11 you directly. But if you have questions or issues, by e-
12 mail. The BlackBerry is always attached to me. My wife
13 calls it my second mistress. So if you have any questions
14 please feel free to e-mail me.

15 (Laughter.)

16 UNIDENTIFIED SPEAKER: Wait a second, who is the
17 first?

18 MR. MOVASSAGHI: I'm afraid to say, it's my
19 stomach. The first mistress is the stomach.

20 (Laughter.)

21 MR. MOVASSAGHI: Everybody has gotten to recognize
22 Maziar, when the blood sugar goes below a certain level they
23 give me candy and sugar and then I come back up again.

24 All right, thank you.

25 MS. BARWICK: Thank you. And before we get

1 started this morning with our presentations and discussion
2 from the panel I wanted to remind people that we are going
3 to be having those presentations, clarifying questions. And
4 before the break, which is scheduled for 10:30, we will have
5 a short public comment period. For those comments,
6 specifically related to this morning's discussion. And
7 after the break there is a longer public comment period. So
8 do give your comment cards to Maya. She will be making sure
9 that people have the opportunity to indicate when and on
10 what topic that they would like to talk.

11 So Debbie, handing it over to you.

12 PANEL CO-CHAIR RAPHAEL: Okay. I think everybody
13 can tell by looking at the straw proposal and thinking about
14 what's ahead of us in the next few minutes, really what it
15 comes down to is there's a lot on the table here. And I am
16 going to make some comments before we open it up to
17 discussions and questions.

18 But just to understand that prioritization and
19 brevity are the words of the day for this group. So you
20 have had some time to digest the straw proposal. Nancy --
21 Nancy, I noticed that Bob is not here.

22 MS. OSTROM: Xioaying will --

23 PANEL CO-CHAIR RAPHAEL: Xioaying will be doing
24 the presenting. So we are going to do a little bit of a tag
25 team this morning on the presenting. And when it's all done

1 we'll come back and talk about how we manage the discussion.

2 So with that, Nancy.

3 MS. OSTROM: Okay. As you can probably tell from
4 my slides I tend to write less and talk more so I'll try and
5 go through this quickly.

6 The process for the alternatives assessment is
7 laid out in our statute. And what we need to come up with
8 in our regulations is a process for evaluating the chemicals
9 of concern in consumer products and the potential
10 alternatives to determine how best to limit exposure or
11 reduce the level of hazard posed by the chemicals of
12 concern. So that's what it tells us that's our charge in
13 the statute.

14 And we need to evaluate the availability of
15 potential alternatives and potential hazards posed by the
16 alternatives and conduct an evaluation of the critical
17 exposure pathways. Part of that needs to include the life
18 cycle assessment tools. And we need to devise simplified
19 and accessible tools that consumer product manufacturers,
20 distributors, retailers and consumers can use to make
21 manufacturing, sales and purchase decisions. So that's our
22 charge in the statute and it's quite a challenge.

23 I have to tell you that we are faced with the
24 challenge of taking what maybe people ordinarily consider to
25 be maybe a good business practice or a sustainable business

1 practice and frame it into a regulatory setting. And this
2 is something that really hasn't been done for this
3 particular kind of approach that I know of yet.

4 I don't mind telling you that we are kind of
5 struggling a bit with some of this stuff. We are struggling
6 a bit with the details. So let me dive in.

7 I'm going to give a brief overview. I'm really
8 interested in your feedback and ideas. I hope you all did
9 have a chance to read the straw proposal. And I want to
10 emphasize that this straw proposal is clearly not set in
11 stone and we are clearly not married to anything in it.
12 It's just sort of a logical progression that we came up with
13 based on ideas that we had, some of the research we have
14 done and some of the feedback we have gotten at our
15 workshops.

16 I'm technologically challenged so please be
17 patient with me.

18 This slide is kind of a bit of a throw-away. This
19 kind of started out with us trying to make a flow chart of
20 what our regs should look like and, you know, how it
21 progresses from one stage to another. We very, very quickly
22 identified that there really isn't -- I mean, there's sort
23 of a logical progression. But there really isn't a clear
24 flow because it does double back and it is iterative and it
25 isn't a sequential thing. And there is a lot of overlap

1 between all our sections. Rob's section on the chemicals of
2 concern and prioritization and then we talked a little bit
3 yesterday about prioritizing end uses.

4 That overlaps into the section on alternatives
5 assessment where we are trying to identify the alternatives
6 and the uses and evaluate those and then select preferred
7 alternatives. And then implement those alternatives. We
8 are crossing over into Hortensia's section on the regulatory
9 responses, which we are not really going to talk about with
10 you at this point but there's crossover there.

11 And the linkages between all of our sections, we
12 have identified some of them but we haven't really
13 identified all of them and exactly how they fit together and
14 all of that. Those are some of the details we just are kind
15 of still coming to terms with. And some of those linkages
16 are hard too because we really haven't, you know, finally
17 established what our sections are going to look like. And I
18 think some of those linkages depend on that. So clearly our
19 regs are complex, there's lots of overlap, and we are just
20 finding that that there is just a lot to it.

21 So in this slide, this is just a real quick
22 overview of the steps we identified for alternatives
23 assessment. Sort of all the crucial steps that an
24 alternatives assessment probably would need to consider.
25 And then all of the considerations questions we asked

1 ourselves, questions we asked at our workshops of the
2 stakeholders. And these are the considerations that, you
3 know, we have been thinking about for each of these steps.
4 And this just sort of summarizes all of those.

5 And I think in thinking about this for me, if I
6 think about a really successful alternatives assessment I
7 think it's really important that we identify what the
8 boundary conditions are. Very clearly identify what those
9 are at each point. And that we identify, clearly identify
10 all of our assumptions, all of the background assumptions
11 that we are making. All of the sort of decision roles that
12 we are using. And just clearly lay that out if this process
13 I think is going to be successful.

14 So in the alternatives analysis, in the straw
15 proposal we have laid out sort of who, what, when, where,
16 how, why, that sort of stuff. And again I emphasize that
17 this is something we put together to give people something
18 to react to. You know, just sort of some of the ideas we
19 have had for how this could work.

20 And originally our idea was that it would focus on
21 the high priority chemicals of concern because we were
22 hooking up into Rob's section. If he changes, and it sounds
23 like he may be changing into some sort of tiered approach or
24 some categorization approach, then, you know, this would
25 approach also. Who and what would change also.

1 And as was pointed out yesterday, I should say
2 that I have changed some of the questions at the end in
3 particular. And actually some of my comments in response to
4 some of the comments I heard from you guys yesterday. You
5 gave me a lot of food for thought and some ideas and some
6 considerations. So the questions at the end are reordered a
7 little bit. They are sort of so -- and I did make copies
8 but then I forgot them on my desk so I apologize for that,
9 but they are on the slide. And they are not that different.

10 But anyway, we recognize that the scope of this is
11 potentially enormous. We recognize that. That, you know,
12 we are talking about thousands of chemicals of concern. Not
13 just formulations but articles when we are looking at
14 products. So at the point where we switch from chemicals to
15 products, we recognize that the scope of this is potentially
16 enormous. And, you know, we would like ideas for wrapping
17 or arms around this and trying to figure out effective ways
18 to handle the enormity of the task.

19 So as I said, we started out describing, what.
20 Consumer products with one or more high priority chemicals
21 of concern.

22 Ideally this is performed by the manufacturer. As
23 Don mentioned yesterday, we are using manufacturer as a
24 surrogate for all the people who could potentially do this.
25 But, you know, we have a concern about focusing only on

1 manufacturers because that does create a situation where
2 it's not great to manufacture in California if you are the
3 only ones who have to do this.

4 When and how. In the straw proposal was one of
5 our attempts at trying to prioritize a little bit. We sort
6 of had a schedule for who would do alternatives analysis
7 when. So that was one way we were thinking about
8 prioritizing things and sort of trying to manage the scope
9 of the project. And then after discussions yesterday some
10 other ideas have come up and so I -- those are in the
11 questions and I would like to spend a little more time
12 discussing those then.

13 Here I just want to run through real quickly our
14 ideas for transparency. Our idea was that the alternatives
15 analysis would be submitted electronically. And in some way
16 maybe posted on the technology clearinghouse or in some way
17 presented in a public way to allow for public review and
18 comment. And then that way the public becomes part of the
19 reviewing process. Competitors, stakeholders. Other people
20 all become part of the reviewing process. And so we were
21 trying to figure out a way to account for those comments
22 that actually add value to the alternatives assessment. And
23 that's why it gets a little complicated there in the public
24 review and comments section.

25 We would run into issues potentially with

1 confidential information. So that's something, you know,
2 one of those details we would need to work out. And figure
3 out how that would work if maybe not all the information is
4 presented. That's just one of those issues. If you have
5 ideas for that, that would help.

6 And then there was a lot of discussion yesterday
7 about the Technology Information Clearinghouse in terms of
8 how that information would be used. I sort of envisioned a
9 lot of the information that would be used in the
10 alternatives analysis would come from there. That
11 manufacturers might be able to look to that as a source of
12 information. And that if they are developing information on
13 their own for their alternatives analysis they would also
14 contribute to that. So it would be sort of an exchange in
15 some way. And that's where some of the data quality issues
16 that were discussed yesterday and Jeff mentioned also could
17 come up.

18 So here are some of the evaluation attributes, the
19 health impacts, the eco impacts. A lot of those would be
20 some of those traits that Sara was discussing yesterday.
21 There are a lot of models that evaluate chemical
22 substitution and chemical alternatives and I haven't had a
23 chance to look at all of them in-depth. I've looked at some
24 of them and, you know, I'm still in that process. A lot of
25 this information is available.

1 The potential for exposure. That's where the
2 critical pathways consideration in the statute would come
3 in. And then also the statute, as you know, calls for
4 consideration of life cycle impacts. And unfortunately
5 Bob -- oh my goodness. I heard that he had broken a limb.
6 Do you want to do your --

7 MR. BOUGHTON: An appendage.

8 MS. OSTROM: An appendage, sorry. I heard it was
9 a limb. It's good I guess that it was just an appendage.

10 So Bob will run through the life cycle impacts and
11 then I am going to come back and talk about the rest of the
12 straw proposal and how we put all this together and try to
13 evaluate it.

14 MR. BOUGHTON: Hello everyone. I guess you can
15 see if I point with my good finger.

16 So as Nancy outlined, in the law there is a
17 requirement for life cycle assessment to be embedded within
18 this alternatives assessment. When you read back in the
19 report it talks about life cycle thinking and the
20 application of life cycle thinking.

21 And when you say life cycle assessment you start
22 to gravitate towards the ISO standards and this rather
23 heavy, sledgehammer kind of approach that can be very data
24 intensive. And I don't think we can push people towards
25 that. There are companies doing it. If they want to do it,

1 that's great. But I think we need to provide in guidelines
2 something more flexible.

3 And if you look through this diagram that Nancy
4 already provided you can see there's quite a few things that
5 are within the assessment and life cycle impacts. The
6 environmental as well as life cycle costing are part of
7 those.

8 So if one thinks back at just the LCA guidelines
9 you are really talking about, you know, determining the
10 scope and the system boundaries, the functional unit.
11 Looking at life cycle stages and looking across each of the
12 unit processes from cradle to grave or all through the
13 chain. And then boiling that information into environmental
14 impacts.

15 Well that's something that certainly could be
16 done. I think what we are trying to do is to figure out,
17 Xioaying and I are responsible for pulling together the
18 language. We are thinking of a guideline basically that
19 will help people through applying life cycle thinking.

20 The bottom line isn't necessarily to get exact
21 numbers, which a full, quantitative LCA doesn't do anyway.
22 But to get a good idea of what the potential regrets might
23 be. The idea is to avoid regrettable substitutions. And
24 using life cycle thinking to look up and down the chain to
25 make sure that we are not making a big pile of something

1 somewhere else or creating harm somewhere else, either
2 spatially, temporally or with different media. Those types
3 of considerations. So the magic is in the language and how
4 we can make it clear enough, how people can walk through
5 that process.

6 The heavier lifting I think will be for us to
7 figure out how that information, the output from the life
8 cycle work feeds into and informs the alternatives
9 assessment, that nexus. And that's something we need to
10 work a lot with Nancy on, figuring out exactly what is it
11 the LCA needs to output and how that will help inform the
12 alternatives assessment, which then helps inform the action
13 steps.

14 Here are some of the items that need to be
15 included in the law. We are expanding items such as L,
16 environmental impacts. A little nebulous if we are going to
17 do ecotoxicity and those types of concerns. Air emissions,
18 of course we are looking at a broader breadth. So we will
19 have some definition of what types of things need to be
20 included. Obviously water quality is in there as well. The
21 A and B items are the types of things that you would look
22 back at the functional unit to make sure you are looking
23 equivalently.

24 And this is where there's a little not so much
25 confusion but some thinking of, are we talking about the

1 life cycle of a product that contains a chemical of concern
2 versus some alternative that provides an equivalent
3 function. Or are we talking about the life cycle of the
4 chemical for the equivalent function it provides.

5 In other words, this chemical is a plasticizer.
6 We need an alternative. Do we look at the life cycle
7 aspects of that or are we looking at the particular product
8 and its substitute or its function? So we are still trying
9 to make sure that the language that we provide is robust and
10 comprehensive but still something that is implementable.
11 And maybe not easy but at least something that manufacturers
12 and people can use, even though they have never done this
13 type of work before.

14 The move for us is towards this qualitative
15 approach where it would be informed by numbers. And there
16 are some reasonably good data sources out there. NREL has
17 LCI or inventories for specific processes like cement and
18 electricity. Those could be referenced. Carnegie-Mellon
19 has a database that is an econometric-driven system. EIO/LCA
20 it's called. And that could be used for the upstream
21 information, before manufacturing and before use, which
22 would still have to be figured in the disposal phase for a
23 particular product. So I think there's some sources of good
24 data that we can point to that people can use rather having
25 to go all the way up the process chain and figure out the

1 specifics.

2 So I think I already covered this. We are looking
3 at producing this guideline which is hopefully
4 understandable and useful by a breadth of different people
5 out there with different backgrounds.

6 And I think it's important to point out that when
7 you are looking at alternatives, when you use this life
8 cycle methodology, it helps to identify hot spots or the
9 particular processes that are leading to large emissions or
10 large outputs, large inputs. And that there is very
11 informative. You can make the alternative better by
12 attacking those particular hot spots that are identified.
13 Reducing water consumption. Whatever it happens to be that
14 pops up from the analysis. So it is very informative. And
15 that's really what LCA is doing today.

16 And again we are looking to see that nexus. How
17 will this information be used in alternatives assessment.
18 How do we make it valued and exactly what form should it be
19 in to help the alternatives analysis. Back to you.

20 MS. OSTROM: So as Bob mentioned we are still, we
21 are still working out sort of the connections, some of those
22 connections.

23 This is one of our ideas. It was in the straw
24 proposal, and I'll walk through it sort of step by step, for
25 how we might bring some of this information together. And

1 in the first step we identify the availability of potential
2 alternatives. Now one of the issues that has come up is how
3 to determine the functional equivalency of alternatives and,
4 you know, what the scope of alternatives are and how to
5 determine that equivalency.

6 As Bob mentioned, there are aspects of the LCA
7 approach that can be used to look at feasibility. But this
8 is going to be one of the questions that we have at the end
9 for you in terms of getting some ideas from you and what
10 criteria we might look at for that consideration.

11 In the second step we are collecting the
12 information for the specified attributes that we are looking
13 at, both the health and the eco and the LCA stuff.

14 And then we would conduct or run through the
15 process that Bob and Xioaying come up with.

16 And then we have for our evaluation a step-wise
17 comparison. And this is something that would happen perhaps
18 in stages. And this is, again, just an idea that we had for
19 trying to, you know, handle and make decisions about
20 disparate information.

21 And so in the first stage we would compare the
22 alternatives using the prioritization criterion or criteria
23 for the chemical of concern that we are looking at for this
24 particular instance. So something that was identified as a
25 high priority because it's a PBT or something like that, all

1 the alternatives would be evaluated using just that
2 criteria. And only those alternatives that are equal or
3 better in terms of preference according to that criteria,
4 would move to the next stage, everything else would be
5 knocked out.

6 And then in the second stage it's a similar sort
7 of a screen. We look at the health and the eco criteria.
8 Only those alternatives that perform as well or better than
9 the existing alternative move to the third stage.

10 And in the third stage we look at the rest of the
11 life cycle impact criteria, the economic stuff comes in
12 here. And we would also sort of weigh those using the
13 principles of green chemistry as sort of one of our
14 preferential decision rules.

15 So that's the process we laid out in the straw
16 proposal. And then at the end, presumably at some point,
17 preferred alternatives would be identified. And then we go
18 from there into the response actions.

19 Now if there is no alternative. Say we weren't
20 able to identify alternatives. That's something we would
21 have to deal with. We are looking in our straw proposal
22 about putting that into a special category for consideration
23 or evaluation. So ideas for dealing with those data gap
24 issues are welcome at this point.

25 So in the third section, as I mentioned, that's

1 where we look at the evaluation for the regrettable
2 substitutions and also where we look at sort of
3 internalizing those sort of external costs that sort of
4 arise. When you are doing the life cycle analysis those
5 become apparent at that point.

6 And as Bob was mentioning in the life cycle
7 section, those particular issues with alternatives could pop
8 up at a particular stage. And those can inform the
9 regulatory options. For example, if an issue popped up in
10 terms of disposal issues then that could lead to end of life
11 management considerations in the regulatory responses. So
12 we are hoping that the information we gather from this
13 analysis would in some way inform the regulatory options.

14 So let me get to my questions here. In the first
15 one originally I was talking about alternatives analysis
16 models just in terms of, you know, do we array things
17 according to matrices, do we try to aggregate data and that
18 sort of thing.

19 But after yesterday there was a lot of talk about
20 tiering and grouping the chemicals. We started thinking
21 about different levels of alternatives assessment. The
22 statute is very clear that DTSC has to impose the regulatory
23 options after an alternatives assessment and so we don't
24 feel that the alternatives assessment is optional. But that
25 doesn't mean that we have to have the same alternatives

1 assessment for every instance. We actually in our workshops
2 have asked stakeholders for ideas about different types of
3 alternatives assessment. Maybe not one size fits all.

4 So perhaps we have some kind of a preliminary
5 assessment. Or could it be based on -- let me see,
6 yesterday the term was, use patterns. Some of the
7 discussion dealt with use patterns. Could the alternatives
8 assessment be altered according to the use patterns? Could
9 they be altered according to what the regulatory option is?

10 If we are looking at just, at a labeling option,
11 or if we were looking at the regulatory option is collect
12 more data. If we don't have data, we don't have
13 alternatives, maybe we know that at the outset. We can move
14 directly to the research or data collection step and just
15 have sort of a preliminary assessment of that and move
16 directly to that point. Those ideas are the kinds of ideas
17 I am interested in hearing about with that.

18 And then there is also the functional equivalency
19 and feasibility of the alternatives as we talked a little
20 bit about that earlier. And then comparing the dis-similar
21 attributes. You know, we came up with this sort of staged
22 approach. We came up with our ideas for what our
23 preferences were and we would like feedback on that if you
24 have other ideas for different preferences.

25 And then there is a fourth question. So these are

1 all the questions that you have but I have re-ordered them
2 and sort of expanded a bit. And then the fourth question is
3 the third-party involvement role. This more gets into sort
4 of how it's done. At the outset I described that the
5 manufacturer as a surrogate does this.

6 But, you know, one of the comments we got at a lot
7 of our workshops and in discussing this is that perhaps, you
8 know, to get a handle on the vast array of stuff we are
9 going to be looking at maybe there is a role for third party
10 involvement. And what would that look like? How would that
11 work? What would be ideas for the criteria for choosing and
12 certifying a third party operator.

13 So if we have time we can get to that. That's
14 sort of more, how does this work. And maybe that's more of
15 an implementation thing. But if you have an interest or
16 expertise in that we are interested in that also.

17 So I am going to, if I can, move back to the
18 previous slide for the questions. So I am going to take
19 notes. And so if you have questions of me I'll answer
20 clarifying questions. But I am going to spend a lot of time
21 just listening and taking notes too.

22 PANEL CO-CHAIR RAPHAEL: Thank you, Nancy, thank
23 you, Bob. And that is such a commanding presence you have
24 sitting there like this. It's intense.

25 (Laughter.)

1 PANEL CO-CHAIR RAPHAEL: So just a little hygiene
2 announcement. I learned that phrase from Bill.

3 MS. OSTROM: Wash your hands.

4 PANEL CO-CHAIR RAPHAEL: There you go, yeah. Boy,
5 indeed.

6 Apparently that background noise we are hearing is
7 because someone's cell phone is interacting. So just make
8 sure your cell phones are off, everybody in the room, if you
9 could. That would be great.

10 Okay, so thank you staff. That was -- there's
11 quite a lot there. A lot of food for thought. We have an
12 hour and 20 minutes. We have 24 people here who have a lot
13 to say. So again, prioritization, being concise. And what
14 I am going to ask is if what you -- as you are talking if
15 you get a response and it inspires you to a second question,
16 I am going to ask you to hold on to that so that we can at
17 least get everybody's number one idea out on the table
18 first. Then we'll come back.

19 And a reminder that this is not your only
20 opportunity to give your opinion and feedback. That we are
21 welcome as panel members to communicate freely with DTS
22 staff through Kathy. So I am hoping and I am assuming that
23 staff is hoping that as you leave today you will capture
24 your thoughts in writing and send them via e-mail through
25 Kathy to the panel and they can then communicate directly

1 back with you.

2 Okay. So with that I see -- okay, so this is
3 going to be my challenge. So Richard --

4 PANEL MEMBER DENISON: Could I clarify an agenda
5 item here?

6 PANEL CO-CHAIR RAPHAEL: Yes.

7 PANEL MEMBER DENISON: I am not sure what we are
8 doing the rest of the day today. It seems to me there are
9 two other major pieces, one is the alternatives assessment
10 and the other is the regulatory response section. Are we
11 talking about both of those now or is there a subsequent
12 presentation?

13 PANEL CO-CHAIR RAPHAEL: There is no presentation
14 on regulatory response, we are not covering that at this
15 panel session at all. So I don't know where you see that on
16 the agenda.

17 PANEL MEMBER DENISON: Well I don't see it on the
18 agenda.

19 PANEL CO-CHAIR RAPHAEL: Okay. So --

20 PANEL MEMBER DENISON: It's a pretty broad agenda
21 for this morning. So I just didn't know whether -- this is
22 solely focused on the alternatives assessment --

23 PANEL CO-CHAIR RAPHAEL: Correct.

24 PANEL MEMBER DENISON: -- process and not on the
25 linkage to the regulatory responses. Or is that?

1 PANEL CO-CHAIR RAPHAEL: Well I would say that
2 because -- sometimes. just like Nancy was saying, the
3 iterative nature and the overlaps make those distinctions
4 and those bright lines impossible sometimes. So it may come
5 up. But I would suggest that what we really want to dig
6 deep on are these questions here because there's a lot of
7 meat there. If they lead you to talk about linkages you
8 might want to bring that up. But we are not going to focus
9 on regulatory response. That could be, in fact, another
10 meeting. So I don't know if that helps your clarification
11 or not, Richard.

12 Okay. So with that I've got three names and then
13 I'll come back to more. But Richard, are you done? Is that
14 the only thing you wanted to say?

15 PANEL MEMBER DENISON: No, oh no.

16 (Laughter.)

17 PANEL CO-CHAIR RAPHAEL: That's not what I meant,
18 okay. So go ahead. We've got Richard, Kelly, Jae, and then
19 I'm going to write down some more names.

20 PANEL MEMBER CHOI: You got your time already.

21 (Laughter.)

22 PANEL CO-CHAIR RAPHAEL: Okay, go.

23 PANEL MEMBER DENISON: That was just clarifying
24 the agenda.

25 PANEL CO-CHAIR RAPHAEL: Okay, go.

1 PANEL MEMBER DENISON: Okay. You know, I asked
2 that question in part because you guys can count me as
3 somebody who is very nervous about this whole process of how
4 alternatives assessment plays here. And when I wake up at
5 night and worry about this I see a huge boulder in the road
6 that represents alternatives assessment and no way around it
7 if we are not careful. And I work a lot on the Toxic
8 Substances Control Act and this thing could turn into far
9 worse than Section 6 of TSCA if we are not careful.

10 So there's a few things that I want to say about
11 it that I think are absolutely critical that are already in
12 the straw proposal and then two things that I think need to
13 be thought about further.

14 One is having an absolutely clear and short
15 deadline for performance of the alternatives assessment.
16 And I applaud the proposal for having that.

17 And second, there needs to be a clear articulation
18 that the assessment is to be based on readily available
19 information. So that we don't get into a situation where
20 somebody says, well we are going to do a study, it's going
21 to take three years, and then we will finally be able to do
22 our alternatives assessment. It's got to be limited and
23 constrained.

24 I strongly support the tiered approach you are
25 laying out to the assessment where you first look at the

1 criteria of concern and then other health and environmental
2 aspects and then that third tier. I think that's, that's a
3 critical piece.

4 Here I am getting into a little bit this linkage
5 to regulatory response because I can't help but think about
6 this since I recognize the statute says that the regulatory
7 response has to follow temporally the alternatives
8 assessment.

9 But I think you have really got to think seriously
10 about any kind of notion that the only way to get to any of
11 the regulatory responses is through a full-blown
12 alternatives assessment. There's got to be ways around
13 that. Because otherwise, I mean, many of the reg responses
14 have nothing to do with alternatives assessment. You may
15 need to label a product regardless of the outcome of an
16 alternatives assessment, for example. So I think that's got
17 to be laid out clearly.

18 And if you are interpreting the statute in the way
19 that you just said, Nancy, I am very concerned about how
20 you, how you get there. I am not so sure you have to
21 interpret it that way, okay. There may be a temporal
22 requirement but necessarily a requirement to link the
23 regulatory response to the outcome of the alternatives
24 assessment.

25 And finally I think what I don't understand

1 clearly at all is sort of where the burden of proof lies in
2 these alternatives assessments. If the outcome is there is
3 no alternative, and the manufacturer is the one that does
4 the assessment. You know, where is the burden of proof,
5 both legally and practically, in terms of assessing whether
6 that outcome is in fact a legitimate outcome or not, given
7 the obvious potential conflict of interest between who
8 performs it and what they find.

9 So maybe I'll stop there. But those, I think, are
10 things that you really need to think seriously about and
11 need to be addressed in the regulation.

12 PANEL CO-CHAIR RAPHAEL: Thank you, Richard.

13 I just wanted to reiterate what Peggy just told
14 me. The intention was not to hide anything on regulatory
15 response it was simply that there wasn't a prepared
16 presentation. Those linkages, they welcome your comments
17 and your thoughts on those linkages, it is not a bright line
18 at all.

19 All right, so I have Kelly, Jae, Ann Blake,
20 Lauren. And then I have the others, I'm just not reading
21 them. Go ahead.

22 PANEL MEMBER MORAN: So I'm going to fly over this
23 pretty high. I think there's a lot of good quality work
24 going on here. But I read the straw proposal about eight
25 times and each time I looked at it I thought, this is too

1 hard. And I kept thinking, particularly for the variety of
2 different people that will need to do them and the variety
3 of different situations that we need to cover.

4 I mean, we are talking about trying to create a
5 one size fits all process for a huge variety of things where
6 we might be substituting a chemical, reformulating a
7 product, perhaps even approaching a problem in a completely
8 different way. So how do you do that?

9 But I didn't want to just sit here and say that so
10 I have been thinking a lot about, well how can we recommend
11 something to move forward that works? Where has this
12 happened before? And there's actually a really cool example
13 in the state where we have done this once before that's
14 worked. There's a law called the California Environmental
15 Quality Act. There's a federal law similarly called the
16 National Environmental Policy Act. And it requires
17 environmental review for various government decisions.

18 And that process, it started first here in
19 California and in the early '70s. A whole method of
20 practice has developed and grown out of that. The approach
21 is very robust in the sense that it was laid out in a
22 concept and it's grown. The methods of practice have grown.
23 We have gotten smarter. But we made better decisions from
24 the time we started implementing it.

25 And the way it works regulatorily has been that

1 the process and framework is in the law and the regulations.
2 But the actual questions that need to be answered are in a
3 set of guidelines. So it lays out a set of questions and
4 says, here are the questions, here are the topics. And some
5 of them are very different than others. Some of them are
6 air quality. You know, it's sort of typical, air quality,
7 water quality, land use. Typical environmental questions.
8 But there's also some big picture questions that have to be
9 answered at the end.

10 And the other thing that is good about this, is
11 that because its in guidelines the questions can be updated.
12 The questions can be written in a way that help elicit the
13 responses. The method of practice has developed over the
14 years. So at first people were struggling. How do we
15 answer these questions. What's the right information, how
16 do we proceed.

17 As the programs have developed the state has
18 issued guidance. Other professional organizations have
19 issued guidance. Science and professionals in the practice
20 have developed methods that have become standard in doing
21 this so it has grown and become more robust. It's a really
22 excellent process for decision-making in California and it's
23 got some flexibility.

24 The other thing that's good about it is because
25 it's a series of questions sometimes the answers are really

1 straightforward. There's a simplified process with a
2 checklist and you just write a few things down and you're
3 done. But you have to think about all of those different
4 questions and make sure you have a good answer and record
5 that. Sometimes the answers are more complicated, the
6 decision is more difficult. So the documents get thicker
7 and longer and we bring in more complicated methodologies.

8 This kind of process I think is one that I would
9 encourage the state and the other members of the committee
10 to consider in this discussion. Because formulating the
11 right questions will generate good decision-making. And I
12 think as this process grows and changes we can get all those
13 methodological details worked out. And I think we are
14 already making a good start on some of the most important
15 ones there too.

16 So that's the thought I'm putting out for
17 consideration. A little different approach but one I think
18 would be really robust for California.

19 PANEL CO-CHAIR RAPHAEL: Excellent.

20 I am going to read the names. And then if I
21 missed you, wave to me. Jae, Ann Blake, Lauren, Anne
22 Wallin, Dale, Bill, Meg, Julia, Ken, Tim. Okay. So we've
23 got -- next is Jae.

24 PANEL MEMBER CHOI: Okay. Thank you, Nancy and
25 Bob. At the end I heard about, your presentation about the

1 landfill and incineration. But somehow in your slide
2 incineration is way out, it's not part of alternatives
3 assessment cycles. I would suggest to consider the
4 importance of landfill and incineration. Because if you
5 look back, the initial concept of studying the waste
6 electronic equipment -- as well as Rojas in Europe. It
7 really started from this concept of how we dispose.

8 In the US, as you know, we all dispose into the
9 landfill because we have huge space of land. Whereas in
10 Europe they have to incinerate. So because of incineration
11 of, you know, the product, the goods, they have to think
12 about emissions. They have to think about the lead.
13 Although lead is not, you know, going into water field. But
14 somehow, you know, in terms of the bromine, for example.
15 Does it indeed, you know, cause cancer because of the
16 emissions.

17 So what I am suggesting here is that maybe you may
18 need some kind of road map within the frame of life cycle
19 stage. Because depending on how we dispose of the -- you
20 know, at the end of life cycle we have to dispose somehow.
21 So depending on how we are going to dispose, and then your
22 alternatives could be clearer. You know.

23 I try to think matters as simple as I can. For
24 example, if you heard -- the public look at it in terms of
25 how this recycles and environmental impact. They look at

1 the landfill, you know. If you look at like 15 years ago
2 when some newspaper came up with a story about plastics is
3 bad, you know, let's use paper. But here comes another
4 newspaper going to landfill and found out a hot dog inside a
5 newspaper, they have not degraded, you know. So if you look
6 at -- of course there's also McDonald's, you know, over the
7 years. Styrofoam versus paper.

8 PANEL CO-CHAIR RAPHAEL: So can you focus this.

9 PANEL MEMBER CHOI: My point -- Yes. My point
10 here is I would like to recommend, bring this landfill into
11 life cycle, you know, assessment item so that from there I
12 think you can, you can look at impact on, you know, the
13 ecology as well as water resource, et cetera.

14 And then there is also the possibility of a new
15 business or a new technology out of that. So that is my
16 recommendation.

17 PANEL CO-CHAIR RAPHAEL: Thank you, Jae.

18 PANEL MEMBER CHOI: Thank you.

19 PANEL CO-CHAIR RAPHAEL: Thank you.

20 Okay, Ann Blake.

21 And put your cards down, even when you are about
22 to talk, because the camera can look at you better.

23 PANEL MEMBER BLAKE: Thank you both and Bob, thank
24 you for turning up on injured reserve here. Nancy, I really
25 appreciate the thought you put into this. And I have some

1 very specific answers because I spend a lot of time trying
2 to do these alternatives assessment and I have some
3 suggestions for what it looked like. And you have already
4 sort of headed that way with the step-wise comparison and
5 trying to tier it a little bit and it will probably interact
6 more with Rob's part as we develop that.

7 But addressing and building on Kelly's comment
8 about thinking more broadly. I'll start with the broader
9 comment which is that some of the guidelines and questions
10 along the CEQA model that might come up will probably back
11 us up and try to consider functional uses and we might start
12 to think about functional uses and classes of chemicals.

13 I think this is when you can start transitioning
14 from individual ingredients of concern and lumping them by
15 functional use and also different product classes. Say, for
16 example, Phthalates may have a different function in a toy
17 versus a personal car product and different subsets of
18 phthalates may have that. And while they may have the same
19 function chemically they may also, there may be a different
20 substitution depending on what product class you are going
21 into. So that's something to think of and I think that
22 might come from a broader view.

23 So then I had an idea of what one of these step-
24 wise proposals might be. And I like your comparing to
25 prioritization criteria. Your Step One, step-wise, I am

1 very much in favor of that. And I had a thought, for
2 example, that you might have -- and I would tie this also to
3 regulatory response. So that if you have a quick and dirty
4 Step One analysis, say that you have your top five criteria,
5 then one pass/fail criteria, for example, like cord blood or
6 biomonitoring. Or sensitive subpopulation exposure, that
7 that kicks you immediately to a specific regulatory
8 response. And then steps down from there.

9 I think that will do for the moment.

10 PANEL CO-CHAIR RAPHAEL: Thank you, Ann.

11 Lauren.

12 PANEL MEMBER HEINE: Thank you. All right, I
13 appreciate the comments that came before. I have just a
14 little laundry list here.

15 I think it's really, I like your step-wise
16 approach as well very much. It may be helpful to think also
17 in terms of chemical/material/product/system and to break it
18 out that way. And also as Ann was saying, with the
19 functional use. That's another way to get a lens on at
20 least the chemical side of it.

21 I think the path you're going in terms of -- you
22 talk a lot about human health effects, eco effects, life
23 cycle effects. I really like the way you break that out.
24 Because one of the challenges with life cycle assessment is
25 it doesn't always support good design. It's a good sort of

1 after-thought way to compare things but it doesn't always
2 help you make the best choice in terms of options when you
3 are designing something, particularly when there is not a
4 full life cycle assessment available.

5 So I think if you keep the attributes as dis-
6 aggregated as you can, you can always aggregate them later.
7 But if you are comparing things based on health, based on
8 carbon footprint, based on eco impacts and based on end of
9 life options, you know, as Jae was saying. That will allow
10 you to identify hot spots.

11 And it may be that one thing has a better carbon
12 footprint than another but it may be that in the scale of
13 the use of the product that's tiny. Maybe, you know,
14 manufacturing one chemical uses more carbon than another but
15 it may be that the carbon is really, the carbon impact
16 really comes out in the use of the product. So it is really
17 important, I think, to keep those things separated so you
18 know where those hot spots are and you can substitute for a
19 health effect.

20 And also that I think -- sometimes life cycle
21 assessment, things get lost in the assessment. It's very
22 overpowered by energy typically. The more you sort of
23 tailor your life cycle assessment towards the energy metric
24 you don't lose the health effect metric and the eco health
25 metric as well.

1 And this feeds into -- one other suggestion is you
2 talked about what to do if there are no good alternatives.
3 One suggestion might be to issue a California Green
4 Chemistry Challenge. That might be a way to kind of bring
5 out alternatives.

6 And also as Richard was noting, the idea of who is
7 doing the alternatives assessment. Could this be made
8 somehow publicly accessible so that people can suggest
9 alternatives as well that might come out of the woodwork,
10 that sort of thing. That's probably -- you have already
11 thought of that.

12 And then the last thing is, can you -- this is
13 maybe touching a little bit on the regulatory side. But why
14 doesn't California think -- has California thought about
15 having its own Material Safety Data Sheet. It wouldn't be
16 called necessarily a Material Safety Data Sheet. But some
17 kind of supporting -- we know MSDSs have a very bad name.

18 But some kind of California product disclosure
19 form that allows people to communicate information, not only
20 on industrial products but on consumer products, that would
21 be available to the public and that could address the
22 disclosure of a chemistry that could address whether or not
23 it contains any chemicals of concern to the state of
24 California. That could address carbon issues. That could
25 address eco issues. That could address life cycle issues

1 and could maybe even suggest how to properly manage the
2 product at the end of its life.

3 It seems like some sort of California Product Data
4 Sheet could be very helpful in terms of supporting
5 information flows. And a lot of the manufacturers make both
6 consumer and industrial products and already have to do this
7 for industrial products. And it has been a huge gap over
8 time that this information has not been available to the
9 public.

10 PANEL CO-CHAIR RAPHAEL: Thank you, Lauren, those
11 are great suggestions.

12 Anne Wallin.

13 PANEL MEMBER WALLIN: I'm a bit like Lauren, I've
14 got this laundry list. So I'm just going to launch in and
15 hopefully the court reporter catches it all.

16 I would applaud you that you are not going to put
17 everything through a full LCA. They are unbelievably
18 resource-intensive and you have got a pretty big scope here.
19 It's just not at all practical. But I would urge you to use
20 a different term for then what you do and reserve the term
21 of LCA and life cycle assessment for things that follow the
22 ISO standard, whether you talk about life cycle approaches
23 or approximations or proxies or something but maybe
24 distinguish that.

25 You talked about a number of tools and sources of

1 information. One that I did not see on there was BEES,
2 which is available from the National Institutes of Standards
3 and Technology. It is a piece of free, life cycle software.
4 It is designed for the building and construction industry so
5 it is going to need to be expanded to kind of cover the
6 scope of products that you are interested in. But I think
7 it is a good tool that is a long way there. They have
8 figured out how to address confidential information coming
9 in from individual manufacturers and make that available.
10 It's free to users. It's pretty user-friendly for somebody
11 that is not a life cycle expert. So I think it holds a lot
12 of promise.

13 You mentioned some data sources, I highlight a
14 couple of others. Plastics Europe, EU-JRC is also working
15 on putting out a bunch of data. There obviously are
16 purchased data sets and I don't know if that presents an
17 opportunity. I think it is one of the biggest challenges we
18 have in life cycle assessment is that there is an entire
19 industry and business model built on people buying data.
20 Instead of the data being free and the way you model that
21 data is really the business model. And I don't know if you
22 have an opportunity here to maybe negotiate with some of
23 those vendors and get access to some of that data for users.

24 The other thing you could do is to reward and
25 incentivize groups or even individual companies to provide

1 data to you. I would think about that in terms of this
2 whole regulatory mechanism. What could you do that would
3 reward somebody putting together that manufacturing data so
4 that it would be more readily available to everybody to use.

5 I do like the idea of trying to prioritize some of
6 these criteria so you are not looking at everything for
7 everything at every stage in order to try and streamline
8 this.

9 The other thing I would think about are proxies
10 that are out there and available. Somebody mentioned Wal-
11 Mart yesterday. I think they have done some good stuff,
12 particularly in the area of packaging. And I don't think
13 these scorecards are going to be anything that's going to
14 fit the breadth of what you are trying to do.

15 But there are some general rules in life cycle
16 that are probably pretty broad. If you lose less stuff per
17 functional unit it's usually going to turn out better. If
18 it's more durable, if there's less weight, et cetera. And I
19 would think about how you could build those in to some of
20 these alternatives assessments.

21 But I think my final caution is to take a step
22 back and think about this process from somebody who has a
23 new innovation that they would like to bring to the market.
24 I think we are looking at this relative to what's on the
25 market and is there something better out there. But I'd

1 look at it from that other user. Somebody who is an
2 innovator who has got something new. And make sure that you
3 have not set them up with a system that is so resource-
4 intensive and such a hurdle and so daunting that they decide
5 not to play.

6 Because ultimately I think that's the great
7 promise of what you are doing is to foster innovation and
8 get people to bring you new things. And so I think you want
9 to think about this whole process from their perspective.
10 Thank you.

11 PANEL CO-CHAIR RAPHAEL: Very nice.

12 Okay, I've got Dale, Bill, Meg, Julia, Ken, Tim,
13 Mike. Dale.

14 PANEL MEMBER JOHNSON: Okay. I'm going to kind of
15 look at this in a real broad sense and actually go back to
16 what Richard was saying about the burden of proof. Because,
17 I mean, you can think of this in a number of ways. Who has
18 the burden of proof and then how do you actually act on it
19 from a regulatory standpoint.

20 So for instance, it seems to me the burden of
21 proof is on the manufacturer and then the Department has to
22 deal with that in terms of a regulatory action. It seems a
23 little bit unusual that the burden of proof would be in the
24 Department and then the Department acts on their own, on
25 their own work. That seems to be a little problematic in

1 terms of the whole, you know, just from a regulatory and a
2 legal standpoint.

3 So it seems to me that what you, what you are
4 actually doing then is creating a set of guidelines and
5 tools. And those guidelines actually would be tiered out in
6 different types of product uses, different situations and so
7 on and so forth. So there would be a series of those but
8 they would be in guidelines.

9 And then giving the tools to people to actually
10 make these analyses. And to me that's critical because it
11 goes back to the burden of proof. It goes back to the
12 manufacturer. The manufacturer and the consumer, whoever is
13 doing this, has to have the right tools, has to know that
14 those tools will be used in a reasonable, scientific
15 analysis approach that could lead to some kind of regulatory
16 action.

17 And then, quite frankly, this would lead to for
18 the Department, this would be submitted or so forth by the
19 manufacturer. The department then would act on it.
20 Obviously in this situation it sets up the whole industry of
21 the third party analysis group. Whether that's used by the
22 manufacturer, whether that's tied into by the department or
23 so forth. But, you know, that's obviously going to be
24 there.

25 But then this ends up being a case by case basis

1 where it falls into the various types of tiers, of the
2 product line, of hazard and so on and so forth. So it's not
3 a one size fits all. It's a set of guidelines, tools, a
4 submission and then a case by case evaluation on that that
5 comes to a reasonable end point for everybody who is
6 concerned.

7 Now what's critical is that when you talk about
8 linkages, the linkages of information and so forth have to
9 connect correctly. So if you read the straw proposal and
10 you go through the impacts of the life cycle analysis, it
11 defines the term volume from yesterday. So it's not -- so
12 you can't sit yesterday and talk about the term volume and
13 try to understand what it is, when the life cycle analysis
14 defines it here. And it goes back to the amount that is
15 being manufactured, the amount that goes into the product
16 and so on and so forth. So those linkages have to be very
17 carefully put together. Otherwise it would be a huge mess.

18 So anyway, that's kind of what I think. It's a
19 set of guidelines, very clear tools. It's a submission by
20 the manufacturer. And then there's action taken in
21 relationship to the, to the submission.

22 PANEL CO-CHAIR RAPHAEL: Excellent, thank you.

23 Okay, Bill.

24 PANEL CO-CHAIR CARROLL: Thank you, Chair.

25 I have a couple of observations first. And then I

1 may ask a clarifying question, depending on how long it
2 takes me to choke these out.

3 We've talked a bit about tiered evaluations and I
4 applaud that. But remembering that alternatives analysis,
5 whether done on a rigorous basis or what you would do as an
6 individual consumer, is not an exact science. And I might
7 suggest that you have tiered evaluations as well.

8 The easiest way, to quote Kathy Barwick, to get
9 this wrapped around the axle, is to have, is to put a
10 requirement on someone to change his or her manufacturing
11 process for a trivial difference between one alternative and
12 another. And I would urge you to think about ways of
13 having, of having bands, if you will. Think of clear
14 winners, clear losers, too close to call. Something of this
15 variety. And I am not talking about bright lines as
16 differences between those.

17 The advantage to that is, if you find clear
18 winners then there is an opportunity for everybody to win.
19 If you, if you discover that it's too close to call then you
20 can spend an awful lot of time and effort not getting much
21 accomplished but arguing about a trivial point. So I think
22 you get it and I would suggest that.

23 Second, in terms of, in terms of looking through
24 the straw proposal. A suggestion. And I realize it's early
25 and there's nothing worse than having somebody critique your

1 first draft. But the more, the more that you can develop
2 flow charts, particularly as you get into the regulatory
3 part of it. If this, then that. I had a tough time
4 following that. So the more you can draw pictures for those
5 of us who aren't that good with words it helps a lot.

6 The third thing, and I will apologize in advance
7 because I don't know the statute that well and this may, in
8 fact, be a chemicals of concern question. But I want to ask
9 it because the chemicals of concern presence triggers
10 alternatives analysis.

11 My question is, what about a chemical of concern
12 that is upstream of the product? That is virtually,
13 totally, irreversibly transformed in the final product? And
14 what does it mean, and I realize it's a plain language
15 version. But what does it mean when something ends up in a
16 consumer product? Does that mean I started with it out
17 here? I'll give you an example.

18 We start with ethylene, we ethylene oxide, we make
19 ethylene glycol, from that you make PET. I'm guessing
20 ethylene oxide will be a chemical of concern. Does the use
21 of ethylene oxide to make PET trigger alternatives analysis,
22 even though I bet even a good analytical chemist won't find
23 ethylene oxide in the PET. And I think that's something
24 that is ultimately going to need some clarification.

25 And also -- I realize we had a bit of this

1 discussion but I'll close with this. It probably will save
2 a lot of problems if you do give some consideration on a
3 basis of use and exposure and so on, de minimis presence of
4 certain materials in certain, in certain end products. And
5 my experience in this is, don't ever tell an analytical
6 chemist he can't find something. Thank you, Chair.

7 (Laughter.)

8 PANEL CO-CHAIR RAPHAEL: A challenge. Thank you,
9 excellent.

10 Meg.

11 PANEL MEMBER SCHWARZMAN: Thanks and
12 congratulations to DTSC on getting to this point. I have
13 just a few suggestions and thoughts.

14 One is something that it sounds like there is
15 growing consensus on, on the panel, is the idea of
16 circumscribing the alternatives analysis depending on the
17 degree of available data, with the amount of available data.

18 And one thing to consider is the possibility of
19 scaling the alternatives analysis to some kind of
20 description of a minimum available data set. And there
21 could be tiers of that. Again, another opportunity to have
22 multiple levels. But it sounds, it sounds hard without that
23 to figure out how much alternatives assessment is required
24 based on how much data. So that is going to have to be
25 articulated somehow. Again, these are each complex issues

1 and I think we all are acknowledging that. That it is not
2 entirely clear what that data set would be for what tier of
3 alternatives assessment.

4 Which acknowledges the point that Richard started
5 with, which I just want to echo, which is that it is just
6 going to be so important that these alternatives analyses
7 are done on readily available data. And that's what is
8 going to permit this to move smoothly, in my view.

9 Also I want to echo this second point. The
10 investigation in an alternatives assessment be based on this
11 functional use. And it's something that's already in the
12 straw framework so I know that you have thought about it.
13 But to emphasize that, that is what in my mind is going to
14 allow the avoidance of only looking for a drop in chemical
15 substitutes, and that is something that you flagged in the
16 straw proposal. And like Ann said, I think it's an
17 excellent point, that it allows you to consider product
18 classes.

19 And I am sympathetic to this tension between, do
20 you look at the life cycle of the product or do you look at
21 the life cycle of the chemical of concern in the product.
22 And I think this functional use starts to get at the
23 chemical of concern in the product. The way, Bob, that you
24 used the example of plasticizers. Or of course flame
25 retardants is another issue.

1 And can you switch at that point to an engineering
2 fix like an inherently flame retardant material rather than
3 finding a supposedly safer, flame retardant chemical. So I
4 think it's important to build opportunities into the
5 alternatives assessment to steer away from a chemical in the
6 first place and do an engineering fix, and clearly you're
7 aware of that.

8 Echo another point that's been brought up is about
9 who performs these alternatives assessment. And the basic,
10 my basic emphasis would be that cannot be performed by
11 people who have a financial interest in proving the absence
12 of an alternative. And I think that's a clear way to avoid
13 a conflict. Whether that means that the alternatives
14 assessment is then performed by the user of the chemical, by
15 a manufacturer, as opposed to the producer of the chemical.
16 This may be a case of it being determined by that products
17 use. But all of these are complex issues, I realize.

18 Two sort of issues that haven't, I haven't heard
19 clearly mentioned yet but I think Dale hinted at. I think
20 this is what sort of is led to by Richard and Dale's point
21 about where the burden of proof lies. I would put it very
22 simply as sort of who decides. Who decides that you have a
23 safer alternative.

24 And the risk that I think we all hear the
25 potential for is that DTSC become an arbiter. And I think

1 everybody can see the limits of that and the potential, both
2 very resource-intensive and the difficult position that that
3 would put DTSC in. So how can this be -- there's a tension
4 between the distribution of the work by developing tools and
5 then letting manufacturers apply them and maintaining
6 quality control. And that's a tension that I understand you
7 are wrestling with.

8 And the final, my final issue is just to throw an
9 idea out there that I don't even necessarily want to
10 advocate but to put it on the table because I haven't heard
11 it yet. Is this question of putting a safety test into the
12 alternatives assessment. That is -- What I mean by that is
13 requiring an alternative to prove that it does not have the
14 attributes of a chemical of concern. And having that be one
15 of the tiers of an alternatives assessment. That risks
16 raising the bar too high for an innovative, new material.

17 You know, so again another tension with what Anne
18 Wallin I think appropriately flagged is that we want to
19 create opportunities for folks who have developed innovative
20 new materials to step forward and prove the value of their
21 alternative. And we don't want to create too high a bar for
22 that. But it's just another thing to throw on the table.

23 Thank you.

24 PANEL CO-CHAIR RAPHAEL: Thank you, Meg.

25 Okay, Julia, Ken, Tim, Mike Kirschner, Robert or

1 Bob, Mike Wilson and Roger.

2 So now we go to Julia.

3 PANEL MEMBER QUINT: Okay, I'll be very brief. As
4 a toxicologist I have a lot of concern when I look at, you
5 know, the alternatives and who decides whether or not the
6 alternative is really, you know, doesn't raise health
7 concerns. Because toxicology isn't physics. And, you know,
8 we have enormous disagreements on what constitutes, you
9 know, whether or not this is a carcinogen or whether or not
10 this is a reproductive or developmental toxicant.

11 So I think, you know, from my perspective I think
12 we have to have some clear idea of not getting into this
13 realm of battling whether or not, you know, what is toxic,
14 and introduce that into this process. Because that could be
15 a very long and hard road. We already go through this in a
16 number of identification processes. And I think -- so
17 that's, that's a cautionary note.

18 Also I think we have besides CEQA we have other
19 examples of alternatives assessments and, you know,
20 regulations that have produced safer alternatives. Mostly
21 in the industrial sector by CARB, you know. They have
22 regulated the present, you know, chlorinated hydrocarbon
23 solvents in consumer products and auto repair. I think we
24 can look to some of those examples and just see how this was
25 done and, you know, what constituted success and where the,

1 you know, hard parts were in addition to CEQA.

2 Because I look at this regulation and I just see
3 identification of more and more data gaps, you know. I
4 think a lot of this information is not available. Even the
5 minimum data set for a lot of the chemicals that I have
6 looked at, we don't have reproductive and developmental
7 toxicity data.

8 So I think, you know. I don't want -- I'm
9 concerned about getting into a situation where we end up
10 identifying more and more gaps and we are paralyzed and we
11 are not able to move forward. I think there are some things
12 that we know. I think there are some alternatives that are
13 available that very --

14 You know, the problem is once you identify safer
15 alternatives in some of these other instances that I am
16 talking about that have come out of pollution prevention
17 programs that have been supported by DTSC, I think the
18 struggle is, is having these people who make these products,
19 you know, create a viable market. I mean, more and more,
20 you know, they can't, you know, be viable because the
21 product is unadvertised and they are overwhelmed by the
22 less-safer alternative products.

23 So I think, you know, it's really, really
24 important to have good criteria and good authority for
25 saying that this is a safer alternative. And who does that?

1 I mean, who decides? Who reviews the alternatives, you
2 know, who has some authority to say yes, this is safer.
3 Because it could lead to a lot of problems.

4 And I think we should involve third parties in
5 this. I mean, I don't want to shut off the people who have
6 been working in this area and coming up with innovative
7 solutions to these problems. I think the manufacturers have
8 a lot to offer and should bear some of that burden. But I
9 think also it is an opportunity for people to really get
10 into this whole area of thinking about, you know, chemicals
11 and safer alternatives and stimulate this whole energy
12 towards, you know, science and chemistry and everything that
13 we have been thinking about in general. So that's it.

14 PANEL CO-CHAIR RAPHAEL: Nice, thank you.

15 All right, Ken.

16 PANEL CO-CHAIR GEISER: I'm glad that Kelly
17 brought up the EIS experience because I think that what we
18 are doing is, that's a good model for thinking about what we
19 are doing. Because we are starting out to try to do
20 something here that's really, really big. This is not just
21 a tweak on how we are going to regulate chemicals. This is
22 trying to build a new kind of capacity in firms, a new kind
23 of capacity at the state level and a new way, a new way of
24 thinking. And we should see it as a ten-year project. We
25 should see really understanding that we are trying to grow

1 this.

2 And for me, I'm thinking that that mans we need to
3 get a lot of language that some of the early stuff is
4 getting categories of languages that are right. So as we
5 grow we really develop these.

6 And alternatives assessment to me, I know there's
7 a lot of questions about it. But I think it is a great new
8 tool and we are just learning how to begin to build this at
9 this point.

10 I'm thinking that what's useful about this
11 conversation is that we really ought to be thinking about
12 alternatives assessment at different levels. And I would
13 say there are at least three in my mind. There's something
14 I would call an alternatives identification. Which is very
15 quick, very dirty, and it just says, are there alternatives
16 out there. And that's all it is. It's for rapid movement
17 and it's for things like moving toward labeling and
18 information transference.

19 There's a second one which might be something
20 called alternatives review. In which you actually have to
21 review the alternatives and you have to look at them in
22 different -- but you don't have to do a full-blown
23 alternatives assessment.

24 And the last one I might call alternatives
25 evaluation, which is really a much more rigorous thing and

1 is really, is really for most places is those sensitive
2 areas where there's got to be a lot of science put on
3 something to figure out whether the alternatives truly are
4 going to be safer. Because in some cases the alternatives
5 are going to be so obviously safer you don't have to worry
6 about it. That's where an identification might be all that
7 you need. But in other cases you are really going to have
8 to dig much, much deeper.

9 So it seems to me -- and the state ought to be
10 able to in its guidance, you ought to have a decision-making
11 that allows us to decide which of those three are necessary
12 for which kinds of situations.

13 The second thing about it is I think that we,
14 there's a real -- my general feeling is firms should do
15 alternatives assessment. That's where the largest amount of
16 capacity is. It's also where the largest amount of benefit
17 is. Because as firms learn to do that better and better,
18 and build capacity to do, they become -- the staff people
19 become much more sophisticated. The way in which the
20 dialogue changes in the firm is improved, et cetera.

21 But I don't think it's true that alternatives
22 assessment only should be done by firms. I think there
23 ought to be another channel that allows the state to do
24 alternatives assessments on things that the state really
25 wants to move forward on, regardless of whether a firm is

1 going forward or not. So that's another, there ought to be
2 two channels there.

3 And the last thing I want to say about it is on
4 third-party. And that is, any regulatory system like this
5 builds markets for private behavior. We will build a market
6 here for consultants. There's no question there is going to
7 be a market and it is going to be a big market of people who
8 are offering services to come out and do your alternatives
9 assessment. We ought to be responsible for that market. We
10 ought to think about how those people are able to
11 effectively deliver the services that we hope they will do.

12 So I would urge us to think that part of this
13 program is training people in how to do alternatives
14 assessment, and I would even say, potentially certify third-
15 party intervenors who are in many ways going to be doing
16 them, but also are going to be people who really can
17 validate these. Because the state -- Julia's right, we
18 can't just ask the state to be trying to certify and
19 validate all of these alternatives assessments. But
20 somebody with competence needs to be there.

21 So I think there is no question that eventually we
22 would have to have it. We will have third-parties. The
23 question is whether the state is going to be responsible for
24 those third-parties. So I would urge us to understand that
25 there needs to be a training part of this and potentially a

1 certification part of it.

2 PANEL CO-CHAIR RAPHAEL: Thank you, Ken.

3 I just want to do a time check here. We are going
4 until 10:20. And so we have got 30 minutes so we're doing
5 well. I want to thank you all for being so concise. And
6 this is not permission for the six remaining to void that.
7 Because I would like to -- some of the people who went early
8 on, they might, you know, have some final thoughts.

9 So I've got Tim, Mike Kirschner, Bob, Mike Wilson,
10 Roger and Richard Liroff. So Tim.

11 PANEL MEMBER MALLOY: Thank you. I had several
12 points and I'll try to be concise.

13 First, it sounds to me like what we are talking
14 about in the straw proposal is what in the legal world we
15 talk about as management-based regulation. So the idea is
16 we are trying to get inside of companies and change the way
17 they make decisions in a very direct way. So requiring them
18 to do an alternatives assessment. And I think that will be
19 beneficial in and of itself along the lines Ken mentioned.
20 You know, you manage what you measure so we make people
21 think about it. And those who take that seriously and
22 implement it will probably see benefits flowing from it.

23 So I think for a certain sector this kind of
24 management-based regulation is going to work. However, I
25 don't think it goes far enough because research and

1 organizational theory and management literature shows that
2 even when people have systems in place there's many
3 organizational features that prevent those systems from
4 actually producing the outcomes you are thinking about, and
5 I think CEQA is an excellent example of that.

6 I tend to be a lot more cynical about CEQA than
7 others in the room. And maybe that's because I'm a lawyer,
8 maybe it's because I have litigated in cases involving CEQA.
9 But while it provides flexibility and gets people thinking
10 it is also widely litigated.

11 And frankly, many of the reports that I have seen
12 that have been produced by consultants are basically cookie
13 cutter reports that don't consider very deeply many of the
14 issues, and attempt to avoid considering the issues because,
15 obviously, the folks who are paying them are hoping to get a
16 quick review rather than an in-depth review. That is not
17 true of everyone but I think in designing a regulation
18 system you have got to think about all types of folks who
19 are going to be affected by that.

20 That brings me to this conclusion that the design
21 and the flexibility that you build into the alternatives
22 assessment provisions really need to depend, will depend
23 upon the consequences that would flow from that. I tend to
24 think that we should be moving less from very, very flexible
25 guidelines to more objective criteria so that these things

1 are enforceable.

2 It sounds like Richard is kept up at night by the
3 thought of alternatives assessment, or at least it wakes him
4 up. I'm kept up at night but in a different way. I am not
5 worried that it won't happen, that these alternatives
6 assessments won't occur, I'm worried that they will. In the
7 sense of, you will generate alternatives assessments that
8 look a lot like these CEQA reports I was discussing. That
9 they are going to be very superficial, some of them, and
10 will reach the conclusion that the sponsor of it wants to
11 reach.

12 My concern is about the level of enforcement. As
13 written the straw proposal, to me I read it very differently
14 than you do. I read the straw proposal as attempting to be
15 a self-executing mechanism. That is, there will be an
16 alternatives assessment, it gets posted, the public has the
17 right to comment, maybe DTSC will comment. There doesn't
18 seem to be a mechanism for actual review and approval of the
19 alternatives assessment, nor does it seem that there is a
20 mechanism to translate the alternatives assessment into a
21 government and public-reviewed regulatory response.

22 The way the straw is written, and again I know
23 it's a first draft and maybe I'm reading it incorrectly.
24 But it seems to me as if it is attempting to create this
25 self-executing mechanism where you finish your alternatives

1 assessment, and then based on what you found you fall int
2 certain categories of regulatory response and you are
3 expected to go out and do those things.

4 The concern obviously I have with that is the
5 person -- that puts a lot of pressure on making sure the
6 right person does the alternatives assessment and does it
7 properly. Which leads me to two conclusions. I'm really
8 trying to be quick here. But it leads me to a couple of
9 other points.

10 First is I do support the level, a tiered level of
11 alternatives assessment. I think the idea that a lack of
12 data would lead to a kind of expedited alternatives
13 assessment that would move you right into the obligation and
14 create more information is an excellent idea. My concern is
15 -- so, you know, so you ought to go out and develop the data
16 that is missing on your, on your chemical.

17 My concern is, what if the gap in the alternatives
18 assessment is also data on the alternative chemical
19 substitutes? That creates I think thornier issues about who
20 is going to develop that data in order to complete the
21 alternatives assessment. And I think the regs ought to take
22 that into account as well and we need to figure out a
23 mechanism to provide that information.

24 The other thing I would like to say is that the
25 lack of data trigger ought to also trigger protective action

1 in the interim in addition to just developing information.

2 One quick point on your tiering, the
3 prioritization. Say look, you know, when we compare these
4 things we kick something out if it has -- we kick something
5 out if, you know, on the priority criteria it's worse than
6 or equally as bad as the substitute. That sounds, that
7 makes sense to me.

8 I guess the thing I am trying to figure out is
9 what happens when you have got a product that has four or
10 five chemicals in it. How does that work? It seems to me
11 -- I am not a scientist but it seems to me that creates all
12 sorts of difficulties about what you kick out and when,
13 right. Because it seems like you got to know more before
14 you kick one out or the other.

15 And then I'm finishing up. This is my last one,
16 this is my last one. Who does it? Who does the
17 alternatives assessment? Two questions there I think. The
18 first question is, is it government versus private? I agree
19 with Ken's point about the government, the firms need to be
20 doing them. But I think in identifying the firm we need to
21 align the obligation with both capacity and incentives to do
22 a good job.

23 So for example, the manufacturer of a raw material
24 may have very little incentive to do an alternatives
25 assessment that finds a good substitute for their product.

1 The manufacturer of the product using their chemical may
2 have a better incentive. They are not going to have a great
3 incentive, though. I mean, a lot of these companies do not
4 like changing their processes. So I think that requires
5 very close oversight by the government in review of these
6 things and determining both the review of the alternatives
7 assessment and also determination of what the regulatory
8 response ought to be. I will stop there.

9 PANEL CO-CHAIR RAPHAEL: Thank you, Tim.

10 PANEL MEMBER MALLOY: And I'm sorry for talking so
11 long.

12 PANEL CO-CHAIR RAPHAEL: Well this chair just had
13 a learning moment. Never compliment your panel on brevity
14 until the end. So thank you, that's good.

15 (Laughter.)

16 PANEL MEMBER MALLOY: It was concise but not
17 short.

18 PANEL CO-CHAIR RAPHAEL: Fair, that's a fair
19 assessment.

20 Okay, Mike Kirschner.

21 PANEL MEMBER KIRSCHNER: Okay, thank you. I have
22 one clarifying question and then a few points. I was
23 quickly reading through 1879 again.

24 Does this require the alternatives assessment to
25 be public, to be publicly available?

1 MS. OSTROM: It says that it needs to be
2 transparent. And so the way we interpreted that in the
3 straw proposal was publicly available.

4 PANEL MEMBER KIRSCHNER: Okay, that leads to the
5 start of my comments. I'm trying to think about how
6 industry, especially industry that makes complex products,
7 would deal with something like this. And what this
8 effectively does is inserts California, inserts competitors,
9 inserts the public into the product development process at a
10 company and through their supply chain.

11 I think this is a precedent that we have to think
12 very, very clearly about and really understand what that
13 word transparent means, and whether that becomes actually a
14 barrier to trade. That might be a, that might be a problem.
15 I mean, I deal with new laws around the world all the time
16 and we see barriers to trade of one sort or another. And
17 this has a risk of becoming one of those. Where the
18 requirements in this state are so different and so
19 extraordinary compared to requirements everywhere else that
20 it's problematic.

21 That said though, I think that a process like this
22 absolutely needs to be incorporated into development
23 processes. But there are prerequisites of information. And
24 maybe more important than information, knowledge and
25 awareness and understanding.

1 So I would suggest that as we step into these
2 waters we very, very rapidly narrow the scope of the initial
3 alternatives assessment requirement to products that are
4 chemical intensive and perhaps household use aerosols and
5 liquids, household cleaners, something like that. Something
6 very narrow that we can just test. Where the companies that
7 manufacture these have very solid knowledge and
8 understanding of the chemistry, of chemical engineering and
9 toxicology, presumably.

10 Because once you get beyond those short supply
11 chain companies that are very close to their chemical
12 suppliers, make their own chemicals, whatever. Once you get
13 past them the expertise doesn't exist. Alternatives, you
14 know. You think of alternatives in terms of functionality,
15 you don't think of it in terms of environment because nobody
16 has any experience in this. That's where the education
17 comes in.

18 So before you expand the scope of that to include
19 complex products that have more than, you know, a handful of
20 chemicals in them to computers. And as Julia pointed out
21 yesterday, the microphone here probably has 500 different
22 substances throughout it. You are going to have to, you
23 know, step slowly.

24 And then the issue of doing an alternatives
25 assessment. Again, this sort of assumes a one-for-one

1 replacement. I think Kelly raised this. That that's not
2 how product development works in a lot of cases. Well let's
3 just design the problem out. And how do you, how do you
4 respond to a requirement like this in that situation. It
5 constantly happens.

6 And as far as third parties. Third parties do not
7 have the expertise, period. We cannot, you know -- At the
8 Berkeley workshop Feuer's office came to talk and he said
9 that we want this to all go through third parties. Third
10 parties must be responsible for the alternatives assessment.
11 That's completely impractical. There is no expertise in
12 California, for instance, on the selection of materials for
13 ceramic capacitors, there's just none. We don't have any
14 factories here, we don't have any of the ceramic capacity
15 manufacturers here. Maybe there's one. But there's
16 probably situations like that all over the place. I think
17 it is very difficult to try to imagine that we funnel all
18 this through what would ultimately be a huge bottleneck.

19 And I agree with Ken's point then. You make the
20 manufacturers do it and incent it properly, then you'll get
21 the result you want. Having third parties do it you will
22 not get the result you want, it will just be part of the
23 process. It won't change anything in the internal product
24 development process. That's all.

25 PANEL CO-CHAIR RAPHAEL: Thank you, beautiful.

1 Okay, Bob.

2 PANEL MEMBER PEOPLES: Okay, thank you.

3 PANEL CO-CHAIR RAPHAEL: Put your card down.

4 PANEL MEMBER PEOPLES: Thank you, ma'am.

5 PANEL CO-CHAIR RAPHAEL: I'm strict.

6 PANEL MEMBER PEOPLES: I'm going to try to do this
7 fast and I may wind up sending some details to avoid
8 elaboration. Bob Peoples.

9 First of all, just one or two comments up front
10 about philosophy. We know that this destination called
11 sustainability is way in the future, generations in the
12 future. So the important thing is that, you know, we do not
13 want to let perfect get in the way of good enough because we
14 have got to start this journey. So to that extent I think I
15 want to complement the staff for helping us to find a
16 starting point, I think that's great.

17 The other thing I'll share with you is one of my
18 favorite mottos has been, success is perseverance for one
19 more minute. So we just have to hang on and keep fighting
20 the good fight because that's what it's going to take, all
21 right.

22 I would like to let this group make sure you are
23 aware of it, if you are not, that the ACS Green Chemistry
24 Institute launched an initiative the first week of March for
25 the generation of an ANSI-based Green Chemistry Standard.

1 That standard will include both a chemical element and a
2 chemistry element. So the chemical itself and the chemistry
3 by which it's manufactured. If you want more details about
4 that let me know. Realistically the implications for this
5 won't manifest themselves until the second half of 2010.
6 But I believe it will have a contributory role to play in
7 what we are trying to accomplish here.

8 There was a comment made about proprietary,
9 confidential information and then there's a separate issue
10 around third party certification. And I believe third
11 party, independent third party certification has a role to
12 play in managing the issues of proprietary and confidential
13 information. So that may be a way to bring those two
14 together.

15 I think Nancy, you mentioned that there were a
16 number of audiences and one of them was the public, for
17 example. So I would like you to think hard about the
18 challenge that one size does not fit all. And how you
19 communicate with the public is going to be diametrically
20 different from how you do that with the technically trained
21 individuals that have to use this information to make
22 decisions along the way.

23 I think there is also a little nugget here that is
24 very valuable. Out of this will come the identification of
25 gaps. And those gaps can inform the academic research

1 community to provide them a pathway forward to fill those
2 gaps. And the value in that is that there's federal funds
3 available to facilitate the research that leads to solving
4 those problems. So we can actually lubricate the journey
5 towards sustainability with federal money if we share those
6 gaps.

7 And my final thought is that green chemistry is
8 not about being less bad, right. It's about applying the
9 fundamental principles, the 12 principles from the initial
10 design phase to avoid the creation of problems in the
11 future. So we may want to think a little bit differently
12 about, and how to incentivize alternative chemicals that
13 exist today versus the creation of new materials.

14 And I think it goes back a little bit to Ann's
15 point earlier. Whether they are newly created to replace
16 existing or whether they are brand new materials that get
17 invented. And I think if those come through this
18 fundamental application of the green principals we may want
19 to look about how to look differently about how to handle
20 those through a system like that.

21 So I am going to stop there and say thank you.

22 PANEL CO-CHAIR RAPHAEL: Great, okay.

23 We have got, I have got four speakers, four cards
24 up, and we have got 15 minutes so let's be concise. Mike.

25 PANEL MEMBER WILSON: Thank you. So I just want

1 to point just to three main issues. One being the power of
2 firms in doing the alternatives assessment, the power of
3 markets, and then the importance of flexibility. And, you
4 know, building on a lot of the things that people have said.

5 But I think one of the -- looking at the first.
6 In terms of the power of firms, one of the examples that I
7 think is the most compelling in the US has been the
8 experience in Massachusetts under the Toxics Use Reduction
9 Act that required firms to conduct pollution prevention
10 plans and to submit those. They were not voluntary, they
11 were required.

12 In the process of doing that, I think as Tim has
13 said, companies found lo and behold that they were using
14 toxic substances that they were unaware of, that there were
15 safer alternatives, and that there was, there was a lot of
16 low-hanging fruit that just by having the discipline of
17 being required to conduct that process moved firms to the
18 point where they saw significant reductions. In some cases
19 40 percent reductions in the use of toxic substances across
20 sectors.

21 That differs from the experience in California
22 under SB 14 where a similar pollution prevention approach
23 but a voluntary approach where in assessing the chemicals in
24 an allied product sector the DTSC report on the progress
25 under SB 14 concluded -- when they found that 29 out of the

1 40 California firms that were evaluated in this sector were
2 out of compliance with SB 14. They concluded that the
3 underlying problem may be that company management lacks
4 commitment to devoting the necessary resources to evaluate
5 source reduction options.

6 The problem being that these were technological
7 changes that were, that would be required under the
8 pollution prevention plan and it was simply too painful for
9 the company to do that without a requirement. And so I
10 think one of the successes of Massachusetts has been that
11 it's a process that the firm has to go through but it is
12 also required. We can't rely on a voluntary process.

13 So the second piece is the power of markets. And
14 I think many of us have pointed to this problem of the
15 potential for DTSC being set up to be the arbiter. That is
16 going to be a choke point.

17 Another example in California that I think was
18 very successful, Julia Quint alluded to the changes that
19 have occurred in the vehicle repair industry moving from
20 chlorinated solvents. We moved that industry away from
21 chlorinated solvents. In one case then, an important case,
22 we moved them to neurotoxic substances.

23 Rather than going through a regulatory process in
24 moving the industry off of those substances the state health
25 department issued a health hazard advisory that just listed

1 products that contained neurotoxic substances. In this case
2 hexane. And within two months the industry had
3 reformulated.

4 Now that doesn't say the direction where they went
5 in terms of the alternatives but it was a powerful example
6 of how markets can move industries away from a substance
7 into an alternative. So then what we are up against is, as
8 we have all said, then where do we move the industry? If we
9 are able to use information in markets to drive them off of
10 or away from chemicals of concern how do I identify the
11 safer alternatives?

12 I think my point on this is, and as many have
13 said, we have to avoid codifying a rigid process into this
14 regulation. We are standing on the edge of a wilderness.
15 We have a compass, we have a sense of where we want to go,
16 but we don't have a topographic map. And we don't know sort
17 of the nature of the problems that we are going to face in
18 doing this. So what I would recommend is this -- Debbie
19 is --

20 PANEL CO-CHAIR RAPHAEL: I want you to focus. I'm
21 trying to get where you're going.

22 PANEL MEMBER WILSON: Here it is, here it is.

23 PANEL CO-CHAIR RAPHAEL: Yes.

24 PANEL MEMBER WILSON: So that is a -- I think
25 getting back to your point originally Debbie, which was that

1 we are coming from a point of a set of prioritized
2 substances that are problematic. All of them are and that's
3 the universe we are working in. And so I think what's
4 needed is a set of sort of five tiers ranging from highest
5 priority to lowest priority.

6 And that the highest priority -- then within each
7 of those five set you apply Ken's suggestion of
8 identification. Yes, he called it alternatives
9 identification, alternatives review or alternatives
10 evaluation. Because it may be that we find as we are moving
11 through this that there are high priority substances for
12 which there are readily available alternatives. And we
13 should move quickly on those without having to scale the
14 boulder that Richard has described. So if that can be
15 codified in the regulation that seems to me what we would
16 want to do.

17 PANEL CO-CHAIR RAPHAEL: Nice, thank you.

18 Okay, Roger.

19 PANEL MEMBER McFADDEN: Thank you, Roger McFadden.
20 Bob, you captured some of mine so mine will be much more
21 brief because you captured some outstanding information.

22 When I was a young boy there was a politician who
23 inspired me at that time, the brother of the President of
24 the United States, who said the following words: Some see
25 things as they are and ask, why. I see things as they

1 should be and ask, why not?

2 And I think that's what we are challenged with
3 here. We really need to do both. We need to see things as
4 they are and ask why, and continue to do that like science
5 does so well. At the same time we need to encourage with
6 the second one of challenging ourselves to ask, why can't we
7 do this. So I think it's great that this panel is working
8 on that because that is what we are wrestling with, isn't
9 it?

10 And Bob you said, don't let perfect stop us from
11 doing good and I agree. But at the same time we want to
12 make sure that wanting to do that good doesn't rush us into
13 unintended consequences. So I think it's important that we
14 go through this. You the staff and us the panel, to work
15 together. And the public to challenge all of us to be sure
16 that we look at all of the angles of this before we start
17 moving forward with action too quickly.

18 I would like to support what Lauren said about
19 Material Safety Data Sheets. They're terrible, they are not
20 good tools. And we need to either clean them up, and
21 California could play a great role in that to clean up those
22 Material Safety Data Sheets, or create some new mechanism by
23 which to communicate that. Or to adopt, there is an ANSI
24 formatted MSDS that many companies are beginning to use
25 today and maybe adopting something like that would be

1 useful.

2 Also just one last thing. It might be a good idea
3 to take a look at the 12 principles of green chemistry that
4 we are here talking about and see if we can't figure out how
5 to build a tool around those 12 principles. If you are
6 looking for a collection tool to look at new technologies
7 and new product development maybe some of it could be framed
8 in those 12 principles. Because if you really look at them
9 they are incredibly, incredibly beautiful from my
10 perspective. Thank you very much.

11 PANEL CO-CHAIR RAPHAEL: Nice, thank you.

12 Okay, Richard.

13 PANEL MEMBER LIROFF: I promise to be short and
14 concise. Richard Liroff.

15 I was struck by Kelly's reference to the EIS
16 process. At the federal level there was a problem in the
17 early stages of well, we're looking at all these individual
18 projects but there are these larger directional issues. And
19 so what evolved from that was a series of decisions to
20 develop both a programmatic and project-specific
21 environmental impact assessments. I don't know if there's a
22 similar kind of experience at the California level.

23 But I wonder if that experience is relevant to
24 what we are dealing with today. You know, how do we tier
25 this, scale this, avoid tripping over the boulder that

1 Richard has referred to.

2 And might there be -- with regard to that might
3 there be some low hanging, areas of low hanging fruit where
4 in essence there are some willing participants who want to
5 be the guinea pigs, if you will, or the leaders, call them
6 what you wish, in this kind of exercise. And this touches,
7 could touch on Tim's point about what do you do when you
8 have got something with four or five chemicals or 500
9 chemicals.

10 And I'm wondering if some sort of sectoral-
11 specific approach is called for in the very first instance
12 where you can kind of align supply chains, if you will, of
13 roughly willing participants who want to experiment with
14 alternatives analyses. What comes to mind, for example, is
15 the cosmetics area where there's a huge amount of
16 reformulation going on by a very, very active natural
17 products or organic products industry, call it what you
18 will, working with the Campaign for Safe Cosmetics. Those
19 folks are doing a lot of alternatives analysis.

20 Well what are the lessons from those experiences?
21 How are they bounding those experiences. What's relevant
22 here are these are consumer products. And they want to make
23 money by doing better. They are doing the analyses. They
24 are looking deliberately for safer alternatives. How are
25 they doing it, what can we learn from that experience? One.

1 The cleaning sector, Method, Seventh Generation,
2 SC Johnson if you want something bigger. The same kind of
3 thing. It's a systematic evaluation that has been going on.
4 There's accumulated experience. What can we learn. Mike,
5 you have some focused workshops in this area saying, look,
6 even Clorox is doing it now and their new line of cleaners is
7 going gangbusters in the marketplace. Those are the
8 manufacturers.

9 A different sectoral approach could be the health
10 care sector. Slightly different. You have the Kaiser
11 Permanentes, a major California company, others saying, we
12 have safer chemicals policies. We want safer alternatives.
13 We want you, manufacturers to come to us with alternatives
14 which, you know, are not PBTs, not CMRs, whatever. And they
15 hopefully are generating some amount of innovation, not only
16 in product development but in product analysis.

17 Again query, can lessons be learned? Is there
18 some way of piggy-backing on one or some combination of all
19 these things to get this process going. Because we need to
20 -- I mean, this process is huge. It's an immense amount of
21 inertia. You know, this is really a path-breaking journey
22 that, you know, a landmark journey that the state has
23 embarked on. Maybe if we can find some winners out there
24 that have already accomplished something we can save an
25 awful lot of, sort of, you know, in the office at the desk,

1 well how am I going to go about doing or shaping this.
2 There's a huge amount of experience out there by willing
3 players, let's draw on it. The end.

4 PANEL CO-CHAIR RAPHAEL: Nice idea.

5 Okay, Oladele.

6 PANEL MEMBER OGUNSEITAN: Thank you. Dele
7 Ogunseitan.

8 I seem to remember yesterday that one of the
9 exemptions to the regulation is mercury in compact
10 fluorescent light bulbs. And I think to some extent that
11 decision has taken us through the entire spectrum of what we
12 can expect with this process. I am wary of linking the
13 alternatives evaluation to the regulatory response, partly
14 because of the trade issues that have been brought up.

15 We have a great example, for example, the European
16 restriction on the use of hazardous substances in electronic
17 products. The regulatory restrictions came because these
18 substances were identified in a process similar to the
19 second part of this initiative that these are very bad
20 chemicals, take them out. It's taken millions of dollars
21 and maybe ten years or more now for industry to come up with
22 alternatives. Well that process has generated a lot of
23 patents, a lot of research for university professors and
24 training students in comparing the proposed alternatives in
25 terms of their function, do they actually work well. And

1 the safety issues associated with replacing something that
2 could be a very sensitive component of products.

3 So it is not going to be a very quick fix to say
4 here are the lists of alternatives on the web.

5 Manufacturers can go to that site and decide to pick and
6 choose what regulators want. Just a brief comment.

7 PANEL CO-CHAIR RAPHAEL: Excellent point.

8 Okay, I see that there is one person who has dared
9 to put his card up a second time. So before I go to that,
10 because we have a couple of minutes. There's a couple of
11 people, and I won't name names, who haven't spoken yet. And
12 I am just -- Oh, another person dared to do it a second
13 time. Okay, that is not what I'm asking.

14 (Laughter.)

15 PANEL CO-CHAIR RAPHAEL: I am asking, is there
16 anyone who hasn't spoken?

17 Okay Art, you win for now. Let's see how brief he
18 is, guys.

19 PANEL MEMBER FONG: Don't I get a prize for that?
20 Actually just a minor follow-up comment about conflict of
21 interest and who should be doing what. You know, I don't
22 really see it as one of these either/or situations. Either
23 firms or producers doing it versus the state or some other
24 third party doing it.

25 The reason why I say that is because if you are

1 trying to do these life cycle evaluations, obviously not
2 life cycle assessments. In fact it is more of a
3 collaborative process. Because in most situations it is in
4 fact the producers or manufacturers or industry who has the
5 most useful information for this kind of study. So again, I
6 don't see this as an either/or situation and ideally it
7 should be a collaborative process. And that's just one
8 minor point that I wanted to make.

9 PANEL CO-CHAIR RAPHAEL: Okay, so now I have a
10 challenge. Oh Julia. Julie, sorry.

11 PANEL MEMBER SCHOENUNG: I just want to make one
12 comment and an overall question sort of to DTSC. And that
13 is whether or not there would be an assessment of the
14 regulation in terms of as we go forward can the regulation
15 be modified?

16 Right now we want flexibility but ultimately you
17 want something more rigid. I don't know how much room there
18 is for that and how much assessment of progress or impact
19 this has on the state, both economically and in reducing the
20 use of toxics and whether we can figure that into the
21 picture as well.

22 PANEL CO-CHAIR RAPHAEL: Those are good points.

23 Kathy.

24 MS. BARWICK: I would like to offer a quick
25 process suggestion because you have been sitting in your

1 chairs for a long time. And I'll just ask the sense of the
2 group. We have a short public comment period scheduled for
3 the end of this session; we have three comments. And then
4 after the break we have a 45 minute public comment period.

5 And I would like to propose possibly -- right now
6 I don't have the sense that we will use all of that time.
7 So I would like to propose to the group that you might want
8 to take a break. And then we will come after the break with
9 public comments based on this morning's discussion, followed
10 by public comments of a general nature.

11 And then we can use whatever extra time that we
12 have on our agenda today for a continued discussion here.
13 I'm looking over there. I want to make sure the Chairs are
14 good with this. Is everybody okay with that little change?

15 PANEL CO-CHAIR RAPHAEL: Yes, we are biologically
16 good with this, yes.

17 MS. BARWICK: I have 25 minutes after. If we
18 could reconvene at 20 minutes until 11:00 that gives you 15
19 minutes. Thank you.

20 (Whereupon, a recess was taken.)

21 MS. BARWICK: I would like to thank everybody for
22 returning so promptly.

23 PANEL CO-CHAIR GEISER: Okay. Do you want me to
24 explain it or do you want to explain it? I can explain it.

25 MS. BARWICK: Okay.

1 PANEL CO-CHAIR GEISER: So here is our plan for
2 what essentially is the rest of the morning. And that is,
3 we are planning to do now public comment. And we are going
4 to take public comment in order. That is, we will do the
5 public comments that have to do with the last item, Section
6 4, first and then we will ask for general comments from the
7 public. I think we have candidates for both of that.

8 We will then, it turns out we do have a small
9 amount of additional time. And so what Kathy and Jeff and
10 others thought might be useful is we use it for some general
11 comments from the panel in regards to just your overall
12 thoughts and things you might not have had a chance to say
13 or some bigger picture issues that you want to raise. And
14 then we will, we are required then to have one more public
15 comment period before I am going to turn this over to Bill
16 to sort of close up for us.

17 So with that what we are going to do now is turn
18 to public comments that are relevant to Section 4, the
19 section that we have been in for the last period of time
20 here. So Kathy.

21 MS. BARWICK: Thank you. We have two presenters
22 here and one commentor that I'll read from the web. And
23 with respect to process, Mr. Baltz has a comment on Agenda
24 Item 4 as well as a general comment and I told him it would
25 be fine if he just distinguished between the two different

1 types of comments but made his all at the same time.

2 Ansje Miller. Please remember we have three
3 minutes for public comments and our timer is Radhika over
4 there.

5 MS. MILLER: Thanks. So this is about the
6 alternatives assessment that we just discussed. The first
7 thing that I wanted to talk about was that I am very
8 concerned about the idea, and I think a lot of folks have
9 really talked about this, about having to go through the
10 alternatives assessment before really being able to take any
11 action. It seems like a lot of people have talked about
12 that so I am not going to go into depth. I just want to say
13 a couple of things. That there's two things involved in
14 that, two concerns that I have.

15 One is getting bogged down in a lengthy process
16 before being able to take any action when it's clear that
17 something is bad and we need to do something about it. I
18 think there's been a couple of things. But if you guys
19 could just really think about what that might look like. I
20 think some people have talked about really doing a quick and
21 dirty kind of thing.

22 But then the second piece of that is what do you
23 do when there is no safer alternative and yet the substance
24 that we are talking about is really toxic and we need to go
25 ahead and take action on it. And so if you guys could

1 really think about how do we deal with that problem as well
2 that would be useful.

3 Then the second thing is who does the alternatives
4 assessment. I am very concerned that manufacturers who have
5 an interest in what the outcome of that assessment do that.
6 And that's where I think third party really does come into
7 play. It does, I believe, need to be funded by
8 manufacturers because it does benefit manufacturers but
9 there needs to be some sort of barrier so that third party
10 may be going into a separate fund. So that one particular
11 -- the funding isn't necessarily tied to a specific
12 alternatives analysis. So it's kind of a general fund for
13 alternatives analysis that perhaps the DTSC, perhaps OEHHA,
14 some agency is responsible for doling out.

15 I wanted to reiterate, I think it's been brought
16 up, that the alternatives analysis should be made public.
17 So that if another company comes in that has a new product
18 or a new idea for an alternative that hasn't been discussed,
19 that option is available.

20 I want to reiterate what has been brought up that
21 it is important to have a tight deadline on these
22 alternatives analyses so that we don't get stuck in them.

23 And I also wanted to talk about there was an issue
24 raised about what chemicals are we looking at and how do you
25 define that. Whether it ends up in a product down the line

1 or whether it enters in upstream and you can't tell whether
2 the product is down the line.

3 I would like for folks to remember that we are
4 thinking about this in a life cycle context. And so if a
5 chemical enters upstream there are workers that are exposed
6 to that chemical. And that is something that needs to be
7 considered in this process. Workers shouldn't be left out
8 of this. And I know from CHANGE's perspective, if workers
9 are left out of this process that would not be a successful
10 outcome. So thank you.

11 PANEL CO-CHAIR GEISER: Thank you.

12 MS. BARWICK: Just to stay on alternatives
13 assessment I am going to go ahead and read the comment that
14 we got from Dr. Russell Vernon from UC Riverside. And he
15 has two comments. One is:

16 "Please don't create another level of
17 regulatory burden with marginal benefits.

18 New Jersey has a state-specific MSDS that is
19 a joke."

20 And his other comment is:

21 "The University of California would be a
22 great partner in research on alternatives
23 assessment if given sufficient financial
24 incentives."

25 Right, okay.

1 Now we will go to Davis Baltz and he will make an
2 initial comment about the alternatives assessment and then
3 his general comment. And I suggesting that he should get
4 six minutes, three minutes for each one.

5 MR. BALTZ: Davis Baltz with Commonweal and the
6 CHANGE Coalition. Ansje covered some of the points I wanted
7 to make. The need for the alternatives assessments to be
8 transparent/public, for tight time lines. Perhaps six
9 months once a chemical goes into alternatives assessment
10 before we have some actionable information.

11 Intrinsic hazards of chemicals should be the
12 primary trigger that sends a chemical into the alternatives
13 assessment process. I'm sure there's a lot of different
14 views here on risk assessment and there may ultimately be a
15 role for that. But the promise of green chemistry is to
16 remove products and chemicals from the marketplace that are
17 intrinsically hazardous so this should be the primary
18 trigger.

19 On the cost benefit analysis economic factors.
20 This is obviously going to be I think a somewhat contentious
21 issue. I think DTSC will probably get a range of views.
22 But the economic considerations, if they are taken into
23 account, should be focused on the health and environmental
24 costs that are associated with a chemical being in commerce.

25 For example, what is it going to cost to remediate

1 the environment, environmentally remediate from the use of
2 the chemical in the environment? Or what are the public
3 health costs for having a carcinogen on the market? So if
4 you are going to factor in economic costs let's be sure that
5 we capture all of those that are important that the public
6 currently bears, as opposed to the manufacturer of the
7 chemical.

8 I liked Ansje's suggestion about a fund that
9 manufacturers will pay into. Certainly we agree that they
10 should be responsible for the cost of conducting the
11 alternatives assessment. But we do need some sort of
12 firewall so that we don't create -- I think it is
13 inevitable, as a couple of you mentioned, that there is
14 going to be a new industry of consultants created.

15 So if we assume that that's going to happen, what
16 can we do to ensure that we don't have a client relationship
17 between the manufacturer and the certifier of the
18 alternatives assessment. That will need some careful
19 consideration. But at the end of the day I think there is
20 going to have to be a role for the state to provide some
21 final quality control and oversight so that we have
22 assurance as members of the public that what we are getting
23 has passed muster.

24 So of course all of this comes back to a point
25 that I made yesterday, briefly. If alternatives assessment

1 is really going to work we are going to have to have a
2 mandatory data set. And at the end of the day with the
3 Green Chemistry Initiative, if we can get a lot of these
4 data gaps which people have talked about filled, then it
5 will have gone a long way towards getting us to a better
6 place.

7 Even if it's not perfect I tend to want to really
8 hold out for something that is really very good instead of
9 settling for something that just moves us a little bit down
10 the field. But inevitably no one is going to get everything
11 that they want out of this but everyone will benefit from a
12 really robust data set. So I hope that in your further
13 advice to DTSC, and I think you have all heard this many
14 times as well, we need to have this data come forward so
15 that informed decisions can be made.

16 And for those chemicals that have no information
17 or limited information, this may have been said yesterday
18 and I wasn't here in the afternoon, but a chemical that has
19 inadequate information should automatically be designated as
20 a chemical of concern to prompt the generation of that
21 information. We have seen a number of examples where the
22 mere potential for listing a chemical on some kind of list
23 without any contemplated action necessarily has prompted a
24 lot of movement. So if a chemical doesn't have any
25 information on it but it is designated in some way to sort

1 of spur the generation of that information.

2 So now a couple of general comments, moving away
3 from the alternatives assessment. One has to do with trade
4 secrets and confidential business information. I know this
5 is going to be another thorny issue. But the legislation as
6 written we feel is quite flawed in this regard. It contains
7 provisions that will make almost all information that could
8 be useful to the public or other decision-makers, shielded
9 from public view.

10 And I just -- not all of you may know but the
11 author of this legislation himself understands that there's
12 a flaw in the confidential business information in the
13 statute and is working to draft some legislation or a
14 follow-up bill that will address this. So this is just
15 something to, you know, keep in mind. That there's pretty
16 wide agreement that there needs to be a fix put in in that
17 regard.

18 And then finally, Bill Carroll had brought up this
19 example of ethylene oxide is an upstream chemical that might
20 be problematic that maybe becomes less harmful or even
21 innocuous by the time it, you know, reaches the public. But
22 I would say that from our point of view we absolutely must
23 have those upstream, problematic chemicals included in this
24 program so that occupational exposures are considered and
25 workers are protected.

1 So I want to thank DTSC for their tremendous work
2 with an enormous task and we are ready to continue to work
3 with you. Thanks a lot.

4 PANEL CO-CHAIR GEISER: Thank you, thank you
5 Davis.

6 MS. BARWICK: Just so you know I've got a couple
7 more web comments that I'll read at the end.

8 Tom Jacob.

9 MR. JACOB: I'm short.

10 (Laughter as he adjusted microphone.)

11 MR. JACOB: Tom Jacob from DuPont. I think this
12 has been a very, very interesting discussion. I have sensed
13 some tensions that I think need to be out there in the open
14 and wrestled with. Frankly, tensions around which this
15 group may be uniquely positioned to add value.

16 One is just the question of the scope of this
17 exercise. I sense a vision on the part of some that what we
18 are about here is transforming all the market incentives out
19 there so that we will begin the process of systematically
20 weeding out all hazardous chemicals.

21 On the other hand there's a vision that we may
22 have certain really problematic actors that require a deep
23 dive to get down in there and figure out how to do it
24 better. I think you can go in very different policy
25 directions depending upon where you put your emphasis

1 between those two. It's important to realize they are both
2 there.

3 The other area I wanted to address was CBI, it
4 came up yesterday, it just came up with Davis's comments.
5 It is huge. And as a company that spends hundreds of
6 millions of dollars, years of time focused on developing
7 innovative alternatives to specific products and specific
8 applications, this is critical. It is critical to achieving
9 the second half of the green chemistry goal which is to
10 deliver new products that are more sustainable. But we need
11 to have insurance that there will be some return on that
12 kind of investment when we get to the point of actually
13 delivering something in the marketplace that makes a
14 difference.

15 There is an evolutionary process that this green
16 chemistry program is very much at the forefront of that is
17 moving systematically away from decisions being made by
18 technically trained and competent regulators toward the
19 regulators being the enablers of decisions that are
20 dispersed. That are made by the public, the consumers,
21 downstream entities.

22 There is a tension there around how to deal with
23 the information that makes the difference between giving is
24 a return when we innovate versus protecting that
25 information. It is not an issue when it's the regulator

1 that makes the decision, we'll provide anything we need --
2 he needs or she.

3 But when it becomes dispersed so that Meg gets
4 what she wants, so that Mike gets what he wants, we are also
5 giving BASF what they want, we are also giving Dow what they
6 want. And instantly our hundreds of millions of dollars and
7 years of investment is not ours to get a return on. And I
8 think around the table we have folks that can perhaps
9 contribute to advancing that dialogue toward an alternative
10 approach perhaps, refinements of our current approach that
11 can really have meaning. Because this is a challenge that
12 has a much larger frontier.

13 MS. BARWICK: Thank you, Tom.

14 John Ulrich.

15 MR. ULRICH: Thank you and good morning. My name
16 is John Ulrich, I am the Executive Director of the
17 California Chemical Industry Council. I was actually part
18 of Debbie Raphael's fourth ring yesterday and so I was
19 watching you participating from afar.

20 I too want to thank you for being here today and
21 agreeing to participate. And I want to also let you know
22 that the Chemical Industry Council has been supportive of
23 this process since day one. We lobbied very heavily to make
24 the Governor's Green Chemistry Initiative a reality. We
25 actively supported along with our environmental brethren the

1 passage of the bills. And we were honored to have been a
2 participant at the Governor's bill signing last year in Los
3 Angeles.

4 On a large scale you might say, well why are we
5 doing this? Well on a large scale because our industry
6 globally has embraced the concepts of sustainable
7 development, sustainable chemistry. The National Research
8 Council has identified in its grand challenges of the
9 chemical industry that green chemistry is in fact a pathway
10 to sustainable industry.

11 Now my organization represents a statewide group.
12 The men and the women, the physical assets, the jobs here in
13 California in the chemical industry. So from that
14 standpoint it is a very personal activity for us.

15 The Legislature decided in its wisdom that it was
16 incapable of making all of the decisions that were coming to
17 them on a daily basis in terms of regulating chemicals. And
18 they chose, through the Green chemistry legislation of last
19 year, to move those decision-making to the regulatory
20 scientists, the regulatory agencies. You here today on this
21 panel were part of that legislation that we supported. And
22 so I have a very personal feeling that we were helpful in
23 organizing this group and I am very grateful that you are
24 here today to make that a reality.

25 In doing that, however, we do have certain

1 expectations. We have an expectation that good science and
2 good methodology will guide your policies. And we also
3 know, and I like Dr. Denison wake up in the morning and I
4 worry about a couple of things too. And what I worry about
5 is false expectation. The false expectation that perhaps,
6 and I have seen it many times, that green chemistry will be
7 perceived as a quick fix to all toxics and all waste.

8 And we know that just isn't the case. Dr. Geiser
9 talked about a ten year process. I think we have to be
10 looking at it in terms of a continuous improvement process
11 on the way to breakthrough. And breakthrough will come but
12 all of you here with your advanced degree and science know
13 that you don't just go into a laboratory and decide one day
14 that you are going to have a Eureka and come out of it with
15 a breakthrough. It takes time and continuous improvement
16 and continuous work.

17 So in that regard I would ask, please be guided by
18 science and good policy. And please communicate that this
19 is a journey, not a destination. And that breakthrough is
20 difficult but continuous improvement is a way to get there
21 and that it should always be part of our program.

22 So thank you very much and again, congratulations
23 for being named to the panel.

24 PANEL CO-CHAIR GEISER: Thank you, Mr. Ulrich.

25 MS. BARWICK: Dawn Koepke. Did I say that

1 correct?

2 MS. KOEPKE: Good morning, Dawn Koepke. I'm with
3 McHugh and Associates, government relations. And I am here
4 before you today as one of the co-chairs for the Green
5 Chemistry Alliance. It is an industry coalition that has
6 come together to work on the Green Chemistry Initiative,
7 provide feedback to DTSC as well as you all as you move
8 forward in developing the process of moving forward in the
9 regulations.

10 The Green Chemistry Alliance has put together a
11 number of principles of which I would like to share just a
12 couple of those. First being the use of sound, scientific
13 methods for review is very important to the Alliance.
14 Avoiding duplicative and conflicting regulatory reporting
15 requirements.

16 Also ensuring balanced consideration of the unique
17 applications, intended function, performance and useful life
18 of the product in question as well as other life cycle
19 factors by statute, required by statute.

20 Also imposing only cost-effective, sustainable
21 technologically and commercially feasible requirements. And
22 finally, the implementation of such regulations should
23 minimize compliance costs and administrative burdens,
24 protecting California jobs and consumers.

25 With regard to the panel's discussion over the

1 last two days. We have been very encouraged by the
2 discussion. Alliance members have been participating,
3 whether it be by webcast or here in person. We are
4 definitely following the discussion taking place and we are
5 encouraged by that discussion.

6 We would echo a number of the comments raised by
7 the previous speaker, John Ulrich, with regard to your
8 efforts and kind of where we are coming from on working on
9 this effort.

10 And finally I would just note that the Green
11 Chemistry Alliance is working on a detailed, collaborative
12 and proactive response to provide to DTSC and you all
13 hopefully here in the next couple of weeks, providing a
14 little bit more detail with regard to our interests as well
15 as how we think that this could be made workable and really
16 a proactive opportunity here. Thank you.

17 PANEL CO-CHAIR GEISER: Thank you.

18 MS. BARWICK: So we have three comments that came
19 in on our website and they are all relatively long. So I am
20 going to read those into the record, hopefully in fairly
21 short order. From Chris Laszcz-Davis:

22 "I was very impressed with the
23 thoughtfulness of comments this morning. I
24 do, however, have a few observations for your
25 consideration.

1 "There appears to be a fair amount of
2 operating mode dialogue that sounds like we
3 versus they. Government versus industry
4 versus third-party consultants versus
5 research. I don't believe, given the
6 strength and capability of this panel, that
7 this is the intent of comments articulated
8 this morning. There is every reason to
9 believe that an effort to work
10 collaboratively in a team mode with
11 government, industry and third parties
12 working side by side is possible. Please
13 consider regulatory text that requires
14 alignment in final decisions by regulators,
15 product developers and third parties who may
16 be alternatives assessment certifiers."

17 Her second comment:

18 "I agree with the gentleman who
19 suggested that we learn from those companies
20 who have been performing alternatives
21 assessment as part of their product
22 development processes for many years. There
23 are a number of companies who have performed
24 these critical, anticipatory reviews for many
25 years. Good customer service would have

1 required this. Green chemistry simply taking
2 the reviews and potential actions up a notch
3 or two.

4 "Bottom line, consider sponsoring a one-
5 day workshop when volunteer company
6 representatives come in to share their
7 product development processes for panel
8 consideration. My guess is plenty of
9 learning will take place both ways. Let's
10 not redesign without using the learnings in
11 existence."

12 From Kristie Sullivan:

13 "The discussions held by the panel so
14 far are quite interesting and informative.
15 Clearly DTSC has assembled a diverse group
16 with the depth and breadth of experience to
17 help them implement these new laws.

18 "These comments relate to issues around
19 hazard data. Currently most hazard data is
20 collected using animals. However, the field
21 of toxicology has begun a paradigm shift that
22 aims to move away from this toward a more
23 protective, more human-relevant toxicity
24 pathway assessment approach that is designed
25 to get at a chemical's hazard activity

1 upstream of the frank toxic effect. The
2 advantages of this approach include the
3 ability to assess chemicals more quickly,
4 assess potential for low-dose effects, and
5 determine differences in susceptibility in
6 the population.

7 "Additionally, bodies such as the
8 European Chemicals Association and the OECD's
9 task force on hazard assessment are
10 recommending a more holistic weight of
11 evidence, iterative analyses of all existing
12 information, and moving away from traditional
13 minimum toxicology data sets. An example is
14 the OSIRS program which aims to discover
15 optimized strategies for risk assessment of
16 industrial chemicals through integration of
17 non-test and test information.

18 "As the panel members are making
19 recommendations about the chemical
20 prioritization process and the web-based
21 clearinghouse to Cal-EPA I would urge you to
22 consider this shift that is taking place and
23 be sure your recommendations accommodate the
24 new information that will be obtained from
25 these methods and processes. A good example

1 is the ACToR database, and I am glad to see
2 you looking at that already. I am also glad
3 to see the OEHHA proposal for having the
4 clearinghouse link early indicators and toxic
5 effects. And also to interpret the data gaps
6 that manifest instead of just leaving an
7 empty space.

8 "While we do want to cast a wide net in
9 terms of the potential hazards a chemical
10 might pose I would echo one of your Chairs'
11 comments that you do not necessarily need all
12 data points for all chemicals."

13 One more paragraph:

14 "Keeping the regulations flexible enough
15 to be able to work with what you might call
16 non-test information such as that from QSAR
17 models or high-throughput genomic screens, et
18 cetera, will ensure that the Green Chemistry
19 Initiative is truly able to take us beyond
20 the 20th Century."

21 And I have one more. It's just about that long.

22 From Tom Lent, policy director for the Healthy Building
23 Network.

24 "I would like to comment and follow up
25 with suggestions on two themes from this

1 morning's session. I would like to encourage
2 actions to facilitate inventory disclosure
3 and facilitating quick action in the face of
4 the daunting task of good alternatives
5 assessment.

6 "On inventory and disclosure I strongly
7 support the development of a California
8 alternative to the MSDS sheet. A California
9 Chemical Content Inventory, the CCCI, that is
10 connected to a public database for easy
11 access. It should be more consistent and
12 complete than the MSDS in its listing of
13 chemical content. Link that chemical content
14 to what data is known and the assessments
15 that have been made. Link chemical content
16 to other government and NGO authoritative
17 listings as well as raw data.

18 "Make this information accessible and
19 understandable to the general public in a
20 digestible way to provide education and
21 harness market power to help move this
22 process along. On facilitating action soon
23 the California MSDS is a good start. Public
24 disclosure of both content information and
25 what is currently known about hazards will

1 help move markets.

2 "Also need to develop a tiered system of
3 alternatives assessments that reflects tiered
4 scoring of chemicals of concern to move high
5 concern chemicals out of commerce quickly.
6 High priority chemicals should not require a
7 full-blown, full data alternatives assessment
8 before initial action is required by the
9 regulatory process. Rather build on a quick
10 scan system for assessment that are already
11 developed for pointing to lower hazard
12 chemicals and alternative non-chemical
13 design, based on intrinsic hazard and within
14 the limit of current knowledge.

15 "We must keep the pressure high on data
16 acquisition and fuller assessment.
17 Replacement of high concern chemicals with
18 chemicals with less than sufficient data that
19 are poorly assessed is a reality that will
20 have to be allowed to get the process moving.
21 But use of chemicals without full data must
22 be time-limited to keep the incentive to fill
23 data gaps. They must still be considered as
24 potentially high hazard until data is
25 gathered and assessed.

1 "Additionally, the Healthy Building
2 Network supports the inclusion of upstream
3 chemicals and consideration of occupational
4 and fence line community exposures."

5 Thank you, Mr. Lent.

6 PANEL CO-CHAIR GEISER: All right. So I am going
7 to basically take a little prerogative of the Chair and
8 change my directions here a little bit. And that is, we
9 have about six minutes left and I said that we would have
10 some time to talk.

11 We have two people who really had their cards up
12 at the close of the last session, who as you might have
13 noted, have put their cards back up. So --

14 MS. BARWICK: They never put them down.

15 PANEL CO-CHAIR GEISER: They never took them down.
16 All right, very clever.

17 With permission of the group I would suggest we
18 ask Richard and Ann to make very short statements but let's
19 proceed on. Richard.

20 PANEL MEMBER DENISON: Thanks. And I'll cut this
21 shorter than I would have otherwise.

22 I do want to come back to two things. One is
23 something Tom Jacob said that I think would potentially be a
24 useful role for the panel in terms of dealing with this CBI
25 or trade secret information. And he rightly points out that

1 there is an effort and a trend really toward pushing
2 decision-making away from just government down to others
3 that can make -- do make decisions every day about
4 chemicals.

5 The challenge I think that is posed is that the
6 very reason that is happening is a loss of faith in the
7 ability of government to handle all of this and the need to
8 enlist other actors. And so I think that is potentially in
9 conflict with the notion that we hide information from those
10 decision-makers that they would need to make good decisions.
11 But I would endorse his idea that this may be an area worth
12 us talking through.

13 The other thing I want to circle back to is this
14 idea of tiers. And the more I have thought about it. You
15 know, I am not so sure that we are talking about tiers where
16 we try to rank things high, medium, low, or high, medium-
17 high. Mike talked about five tiers, you know.

18 But I do think that we ought to be thinking about
19 categories in which we put things. And that doesn't
20 necessarily mean that they are ranked in some kind of order
21 but that they have different distinct characteristics that
22 warrant different kinds of actions taken on them. Chemicals
23 that lack information, et cetera. So I want to toss out an
24 alternative to the word tier that may be category or
25 classes.

1 Finally I just want to say, when I step back from
2 this straw proposal, and frankly from the legislation
3 itself, there are four major pieces to this that each have
4 independent value as well as value when they are linked
5 together. Identifying chemicals of concern, prioritizing
6 chemicals of concern, doing alternatives assessment and
7 imposing regulations as appropriate. Each of those things
8 has a value in and of themselves.

9 And to Mike's point earlier about the ability of
10 the market to move on the basis of information, those first
11 two blocks of action under regulations will do enormous
12 amounts to help create the alternatives and/or avoid the
13 need for regulation just by having the market aware of what
14 is going on up front. So that's the last point I kind of
15 want to leave with.

16 PANEL CO-CHAIR GEISER: Thank you, Richard.

17 Ann.

18 PANEL MEMBER BLAKE: So my comments are
19 specifically towards the alternatives analysis so I will
20 make that brief as well. What I wanted to do was echo and
21 strongly support Richard Liroff's suggestion that we look at
22 industries, and I think a web comment as well, that we look
23 at industries that have attempted to do alternatives
24 analysis. And Mike, with due respect, trying to do
25 alternatives analysis for something with a handful of

1 formulated chemicals isn't particularly straightforward
2 either as we have discovered. So I think there is something
3 there to be learned.

4 And I think there is a more broad suggestion that
5 we look at existing models. Not just for alternatives
6 assessment but -- Also I wanted to say, Rich, thank you for
7 without prompting mentioning all the industries that I have
8 worked with so I appreciate that. We can discuss terms
9 later.

10 And then just sort of a quick comment on the
11 California MSDS. I agree with Tom Lent that there is
12 potentially some value to that but I would also caution that
13 we don't create something that separates the California
14 market. Think carefully about how it might drive a broader
15 market.

16 And we are looking at an existing law that is
17 being implemented, the California Safe Cosmetics Act that
18 will request companies to declare carcinogens, mutagens and
19 reproductive toxins in their ingredient lists. And that
20 seems to me like it would be leading towards something like
21 a California declaration of chemical content. So that may
22 be something we want to watch as that implementation
23 proceeds.

24 PANEL CO-CHAIR GEISER: All right, thank you.
25 Well that closes us up exactly on time. This engine has run

1 very mechanically and very well. And I think it closes up
2 the amount of work that we have come here to do. So I am
3 going to turn this over to my Co-Chair Bill to sort of wrap
4 up for us.

5 PANEL CO-CHAIR CARROLL: Thank you, Ken. I think
6 we also have to ask one more time if there are additional
7 public comments.

8 PANEL CO-CHAIR GEISER: Sorry, yes.

9 PANEL CO-CHAIR CARROLL: Surveying the crowd and
10 seeing none, correct? Very good.

11 Then Kathy, the floor is -- I'm sorry.

12 MS. BARWICK: Just checking to make sure another
13 comment didn't come in on the web.

14 PANEL CO-CHAIR CARROLL: Okay. There it is.

15 MS. BARWICK: I'd been wondering about that sound.

16 PANEL CO-CHAIR CARROLL: Kathy, why don't you --

17 MS. BARWICK: I'll go ahead and do some --

18 PANEL CO-CHAIR CARROLL: If you would like go
19 ahead and start.

20 MS. BARWICK: Great, thank you. Thank you so much
21 members of the public for making your comments, we really
22 appreciate that.

23 I want to just talk a little bit as your staff
24 about just a few logistical things.

25 Notwithstanding my remark yesterday we are

1 thinking in general about convening this group again some
2 time in the fall. And I am not going to be more specific
3 about that because we don't know exactly when and exactly
4 what the agenda would look like. But I know that this
5 meeting has been so incredibly informative, and I want to
6 speak on behalf of my colleagues writing the regulations,
7 that I'm hoping it makes their job just a little bit easier
8 and we really appreciate that. So we are looking at having
9 something in the fall. Another physical meeting, probably
10 here in Sacramento.

11 I would like to offer the possibility that we
12 might want to convene some teleconferencing meetings. And
13 for those of you in California, we have a number of regional
14 offices where we can host in a public location your
15 participation.

16 But I would like for those of you that might not
17 be able to take advantage of that opportunity to be thinking
18 about a location that is accessible to the public that we
19 could public notice for you that you would be able to
20 participate in those kinds of meetings. It can be a
21 Starbucks. I think that's where Dr. Carroll will be calling
22 in from. I'm not sure that we have an restrictions about it
23 other than it be a publicly accessible location.

24 I was talking to Peggy yesterday about the
25 possibility of having very specific, focused

1 teleconferencing calls to advise staff on specific issues
2 and she thought that would be pretty useful. So if you
3 would be thinking of that. Don't be surprised when
4 something pops into your mailbox from me saying, we would
5 like to talk to you about this. So try to think about that.

6 And you may be receiving individual staff
7 contacts, either from me or from the regulatory staff, with
8 specific questions. I am going to be tracking those in
9 terms of what the content is with respect to complying with
10 Bagley-Keene because Joe is pretty much looking over my
11 shoulder at all times.

12 Richard, do you have a quick question about that?

13 PANEL MEMBER DENISON: In terms of what
14 constitutes a publicly accessible space. Let me just --
15 would my office, my organization's office, if it were
16 noticed and open to anybody to come in be --

17 MS. BARWICK: Sure.

18 PANEL MEMBER DENISON: -- such a thing.

19 MS. BARWICK: Yes, I think so.

20 PANEL MEMBER DENISON: Okay. It doesn't have to
21 be a Starbucks.

22 (Laughter.)

23 MS. BARWICK: No. No. Actually, with respect to
24 Starbucks --

25 PANEL CO-CHAIR CARROLL: It was a suggestion, it

1 was not meant to compel anyone to do this. Although the
2 promotional opportunities are just endless for this.

3 MS. BARWICK: This may be -- I don't know if this
4 is appropriate or not but I would prefer it be from a
5 locally-owned coffee shop by a local entrepreneur. So
6 whatever. So I just wanted you all to be aware of those
7 potential opportunities for us to get your feedback.

8 And then Jeff -- let's see.

9 Oh, one more thing. I think I mentioned the
10 possibility of this. I have had several reports come in
11 from Green Ribbon Science Panel Members. And my plan is to
12 have a location on our public website, on the Green Ribbon
13 Science Panel website, where we will have a resource page
14 specific to that. So that if you send me links to reports
15 or copies of reports that you would like to share with your
16 colleagues they will be posted there, and of course
17 available to the public as well.

18 So I encourage you to continue -- Richard, I have
19 got several e-mails from you that I was planning to put in
20 that spot when it comes. And Lauren sent something and I
21 think Roger had something that he wanted to share. So I'd
22 like to do that. So you might want to take a look at that
23 website once in a while. We'll let you know what goes in
24 there.

25 I think that's it for me. Jeff has just a couple

1 of words he would like to say.

2 PANEL CO-CHAIR CARROLL: Kathy, hang on one
3 second. Mike, is your question appropriate here?

4 PANEL MEMBER WILSON: Yes, it's a question to you,
5 Kathy. I found it really helpful when you actually sent out
6 those reports to us.

7 MS. BARWICK: Okay.

8 PANEL MEMBER WILSON: More actively. I just know
9 from my work situation, the more passive approach of hoping
10 we get to a website to look for resources is probably, you
11 know.

12 MS. BARWICK: Okay.

13 PANEL MEMBER WILSON: It's not the most robust
14 possibility.

15 MS. BARWICK: Not that I think I will be posting
16 anything that you are not already aware of. But let me do
17 this. If someone requests that I post something I'll send a
18 note out to the entire group just directing you to our
19 website saying, you know, Mike asked me to share this with
20 you and here it is. Does that work?

21 PANEL MEMBER WILSON: That would be fine, yes,
22 thank you.

23 MS. BARWICK: And you guys are probably getting
24 multiple notifications on these things anyway but it's just
25 electrons.

1 PANEL CO-CHAIR CARROLL: Fine, thank you, Kathy.

2 Jeff.

3 DR. WONG: I know how hard it is to get a hold of
4 Mike, I call all of his numbers all the time.

5 PANEL MEMBER WILSON: Thank you, Jeff.

6 DR. WONG: I just wanted to say on behalf of
7 Director Movassaghi that we would like to thank your
8 institutions, your organization, your companies and
9 yourselves for the time that you have committed and that you
10 will spend off into the future. It has been wonderful and
11 we don't think that we could be successful without you.

12 Secondly, again on Director Movassaghi's behalf I
13 would like to thank the regulatory team, Peggy, Don, Rob,
14 Bob, Xioaying and Nancy and of course Sara for their
15 participation today.

16 And lastly I would like to thank all the support
17 staff, Maya, Radhika. Of course Joe, Yolanda, Hortensia and
18 Mike for, again, the logistics.

19 And the last thank you is to Kathy for all of her
20 hard work.

21 (Applause.)

22 PANEL CO-CHAIR CARROLL: I guess that pretty much
23 brings us to the end here. There was an opportunity here
24 for me on our cue sheet for me to summarize the meeting. I
25 suppose that means I should start at the beginning and take

1 about the next six hours to do that and I don't think I
2 will.

3 I will say I think that each of us, considering
4 that I doubt that any of us as individuals knew everyone on
5 the panel when we walked in the room, I think we leave with
6 a very useful, collaborative, respectful relationship. And
7 I think it was a very good start for a group that I expect
8 will be working together a bit over the course of the next
9 few years.

10 I would also like on behalf of the Co-Chairs to
11 thank Director Movassaghi, Chief Scientist Wong, all the
12 staff, all of the staff who participated and did such a
13 wonderful job in putting this forward. Also to Kathy who
14 has been Yoda to this particular group of Jedi. She is a
15 bit taller of course but I'm getting at the intellectual
16 relationship.

17 Also thanks to the panel, to all of you.

18 To the public who has been present and worked
19 through with us. The public on the webcast.

20 And to both of my Co-Chairs who sweated the
21 details so that we could have a good and effective meeting.

22 Unless there is anything else for the good of the
23 organization I would adjourn the meeting.

24 Seeing none, thank you.

25 PANEL MEMBER BLAKE: Just a word of support to the

1 Co-Chairs on behalf of all of us.

2 PANEL CO-CHAIR CARROLL: Thank you, deeply
3 appreciate it.

4 (Applause.)

5 PANEL CO-CHAIR CARROLL: Thank you, thank you.
6 With that this meeting is adjourned.

7 (Thereupon, the Green Ribbon Science Panel
8 Meeting of the Department of Toxic Substances
9 Control was adjourned.)

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CERTIFICATE OF REPORTER

I, JOHN COTA, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Department of Toxic Substances Control Green Ribbon Science Panel Meeting; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting, nor in any way interested in the outcome of said matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 15th day of May, 2009.

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