STATE OF CALIFORNIA

ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GREEN RIBBON SCIENCE PANEL

MEETING

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

SIERRA ROOM

1001 I STREET

SACRAMENTO, CALIFORNIA

WEDNESDAY, OCTOBER 14, 2009

9:07 A.M.

PETERS SHORTHAND REPORTING CORPORATION

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A P P E A R A N C E S

Green Ribbon Science Panel Members

Ann Blake, PhD

Bill Carroll,PhD, Co-Chairperson

Bruce R. Cords, PhD

George Daston, PhD

Tod Delaney, PhD

Richard Denison, PhD

Arthur T. Fong, PhD

Ken Geiser, PhD, Co-Chairperson

Lauren Heine, PhD

Dale Johnson, PhD

Michael Kirschner

Richard Liroff, PhD

Timothy F. Malloy, J.D.

Scott Matthews, PhD

Roger McFadden
Corporate Express

Kelly Moran, PhD

Oladele A. Ogunseitan, PhD, MPH

Julia Quint, PhD

Deborah Raphael, MA, Co-Chairperson

Megan R. Schwarzman, MD, MPH

Michael P. Wilson, PhD, MPH

DTSC Staff Present

Maziar Movassaghi, Director

Jeff Wong, PhD

Peggy Harris

Maya Akula

Kathryn Barwick

Yolanda Garza

Michael O'Docharty

Nancy Ostrom

Donald Owen, Jr.

Joseph Smith

Bob Boughton

Evelia Rodriguez

Also Present

Sara Hoover
Office of Environmental Health Hazard Assessment
OEHHA

John Ulrich
Chemical Industry Council of California

Joseph Guth
Science & Environmental Health Network

Dawn Sanders Koepke
Green Chemistry Alliance

Klaus Berend, European Commission Fellow
University of California Berkeley

Miriam Gordon
Clean Water Action

Andrea Ventura
Clean Water Action

I N D E X

I N D E X

P R O C E E D I N G S

MS. BARWICK: My name is Kathy Barwick. I am a senior scientist for the Department of Toxic Substances Control. And I am staff to Dr. Jeff Wong, who is the chief scientist for DTSC. And I am staff to the Green Ribbon Science Panel. And my job this morning, besides welcoming everybody here, members of the Green Ribbon Science Panel, as well as members of the public. We are grateful to all of you for your interest and support for our green chemistry program.

I am going to do a very brief agenda review so that everybody knows how the day will go. And my apologies to those of you who have to turn around to see me. This is a little bit challenging this morning.

So, if you take a look at your agenda we're going to -- actually, I'm going to do some housekeeping things, agenda review. First, just so that you know how to find the restrooms -- it's always an important piece of information -- you go out the door, turn left, all the way to the end of that hallway. And you'll find them there when you turn to the left at the end of the hallway, they'll be right on your right there.

On your agenda we have decided that we would like to have the introductions of the Green Ribbon Science Panel prior to Maziar's opening remarks. So Dr. Wong will start

that process.

And then we're going to hear from Acting Director Maziar Movassaghi -- pardon me, I had practiced that and I had it right. And he's going to give you some thoughts about where we've been with the straw proposal and how we got where we are now, so that you'll have some increased understanding.

The rest of the first part of the morning will be given over to staff presentations. Peggy Harris and her staff working on the straw proposal.

And the way we've organized this, because it's a very complicated proposal, what we'd like to do and what we've planned for is a series of short presentations And members of the Green Ribbon Science Panel, you'll notice you've got some cards at your desk there.

And if you have questions of either a specific or broader nature about the proposal, if you would please write your questions on the card, one per card.

And the strategy is then that during lunchtime staff is going to organize those questions so that they can start the afternoon discussion with a brief response to some of the questions that people have about the proposal. So just one per card so that we can move the cards around and organize them per topic.

I'd like to point out that our staff presentations

include specific questions for the Green Ribbon Science Panel to consider. Those are specifically the questions that we've brought you here today to give us advice on.

So we'd like you to note particularly the nature of those questions, and focus some of your energies this afternoon on giving us some insights there.

After the morning break we will have a 45-minute public comment period. We have some public comment cards. Maya, where are you? Okay, you've seen Maya. She's got the public comment cards.

We're going to limit people to two minutes per person for their public comments. And we want to remind you that these comments are to be made to the Green Ribbon Science Panel Members, rather than to DTSC.

We do have upcoming DTSC input opportunities. Next week on October 21st there will be a public workshop here in Sacramento. And there will be other opportunities, as well, for you to provide your comments to DTSC.

The purpose of the public comment period this morning is so that you can provide your comments to the panel so that as they provide their advice and discussion this afternoon, that conversation will be informed by the concerns of the public.

So, Maya will be here all morning. And if you need to see her and get a public comment card, please do

that. Note also that the public comment period is before lunch. It's a pretty tight timeframe.

You're going to hear the presentations; there'll be a short break, 15 minutes. And we'll need to have your comment cards as soon as possible during that break, if not at the beginning, as soon as possible, so we can organize those public comments.

We have 45 minutes scheduled for lunch. And as another housekeeping issue, there's a cafe down on the first floor here. And, of course, there are numerous restaurants around the plaza, places where you can get a quick sandwich.

After lunch, DTSF Staff, Peggy's group, will provide some clarification on the questions that we received from the panel members as a result of the morning session.

And then we have several hours for the Green Ribbon Science Panel to discuss and advise DTSC. We've organized that into sections that parallel the presentations this morning.

In the afternoon we have a short presentation by Maziar on partnerships. In the context of the straw proposal he wants to hear your thoughts about how we could maximize the use of partnerships in order to implement our green chemistry program.

Because we thought the straw proposal was so important to provide you lots of time for discussion, we

don't have time on this agenda for discussion and advice on the partnerships. And I want to let you know that we plan to schedule a conference call in late November, early December that will be a public meeting for you to provide your input to Maziar on the questions that he poses during the partnership presentation.

We'll have a short update from Sara Hoover from the Office of Environmental Health Hazard Assessment on SB-509, toxics information clearinghouse that work on hazards. And, again, we just have time for the presentation, but I do want to let you know that we are now tentatively planning another physical meeting of this group in late January where the primary discussion will be the toxics information clearinghouse. So we don't have any dates for either of those subsequent meetings, but we just wanted to let you know what the future planning was in that area.

So, once again, the presentations this morning, we're going to go really quickly, one after the other. And we want you to put your questions and comments -- panel members, on those cards so that we can organize our response for right after lunch.

Co-Chairs, did I miss anything there? Okay, good. The co-chairs will be like last time, they'll be a rotating responsibility for facilitating the meeting.

And I think that's it, and so I'd like to bring

Dr. Jeff Wong up for the brief introductions.

DR. WONG: Thank you, Kathy. Welcome to all of you. My job is to do the introductions, and we'll do this very expeditiously. One thing, as a piece of housekeeping, we have asked for the air conditioning to be turned up. And all of you who followed my tie rule, you're much more comfortable.

So, first, the chairs, we have Dr. Bill Carroll from Occidental Chemical Corporation. We have Dr. Ken Geiser, who now took off, from U Mass. And we have Debbie Raphael from the Department of the Environment for the City of San Francisco.

And now I would ask that maybe starting with Dele, that each of you introduce yourself and your affiliation.

DR. OGUNSEITAN: I'm Oladele Ogunseitan, a professor in public health at the University of California Irvine.

DR. QUINT: I'm Julia Quint, retired from the California Department of Public Health; former chief of HESIS in the occupational health branch.

DR. CORDS: Bruce Cords, Vice President of Environmental Affairs for Ecolab.

DR. JOHNSON: Dale Johnson; I'm on the faculty of UC Berkeley, and CEO of a biotech company, Emiliem.

DR. LIROFF: I'm Richard Liroff, Executive

Director of the Investor Environmental Health Network in Falls Church, Virginia.

MR. KIRSCHNER: Mike Kirschner, President of Design Chain Associates, a consultancy in San Francisco.

DR. DENISON: Hi. I'm Richard Denison, senior scientist with Environmental Defense Fund based in Washington, D.C.

MR. McFADDEN: Good morning. I'm Roger McFadden, Vice President and senior scientist for Staples.

DR. HEINE: Lauren Heine, senior science advisor with Clean Production Action.

DR. FONG: Art Fong, senior scientist for IBM Corporation.

DR. DELANEY: Tod Delaney, President of First Environment, an environmental consultancy specializing in LCA work.

DR. DASTON: George Daston, Procter and Gamble, Cincinnati, Ohio.

DR. MALLOY: Good morning. My name's Tim Malloy; I'm a professor at UCLA Law School, and my tie is very comfortable.

(Laughter.)

DR. BLAKE: Ann Blake, principal for Environmental and Public Health Consulting. And my tie is also extremely comfortable.

(Laughter.)

DR. WILSON: Mike Wilson. I'm a research scientist at the Center for Occupational and environmental Health in the School of Public Health at UC Berkeley.

DR. MORAN: I'm Kelly Moran, President of TDC Environmental, LLC.

DR. SCHWARZMAN: Meg Schwarzman, family physician and research scientist at UC Berkeley School of Public Health.

DR. MATTHEWS: I'm Scott Matthews. I'm a professor of environmental engineering and public policy at Carnegie Mellon in Pittsburgh.

DR. WONG: Very good. Welcome, all. All right, with that we have our staff that are here. But first I'll introduce our Director, Maziar Movassaghi, right there.

We have Evelia Rodriguez, Nancy Ostrom, Don Owen and Peggy Harris. They'll be the ones that are dealing with the development of the straw. And then -- yes? Oh, I forgot Bob Boughton; he's not sitting at the table and he's not wearing a tie and he's not wearing his name tag.

(Laughter.)

DR. WONG: And then over here we have our counsel, Joe Smith, who will be reminding us of many rules that we have to follow.

So, with that, again, welcome, to all of you. And

with that I'd like to again introduce Maziar Movassaghi, who will address the Green Ribbon Science Panel. Maziar, please.

DIRECTOR MOVASSAGHI: Thank you, Jeff. Good morning, everyone. I want to thank all of you for taking the time to travel to sunny Sacramento. For those of you who missed the storm last night, we scrubbed the air and scrubbed the water. The streets are a little messy, but it seems to be a cleaner city.

This is our second meeting and it is an important meeting. But before we jump into the straw proposal and regulations, I wanted to highlight some of the activities the department's been involved with beyond just implementing AB-1879 and the straw proposal.

For time constraints I'm not going to get into it. There's some poster boards outside, but we want to draw attention to some of the work we've done in the nanotech arena on plastic marine debris, trying to implement green chemistry principles to address those issues. And also some of the wonderful work we've done with the UC system in developing tomorrow's workforce that are going to accelerate and work on these arenas.

So, during breaks and lunches I would like everybody to take a chance and look at those, because those are some very good work.

Now, regarding the straw proposal. Let me be very clear. The straw proposal is not, let me repeat, is not the official proposal from DTSC. We've had hundreds of hours of workshops in both phase one and phase two of the Green Chemistry Initiative. We've held a number of meetings. We got a huge set of good ideas in written and oral communications. But we got very little in the form of regulation, the language of regulation, the structure of regulation.

And it was apparent as we were even internally going through our learning processes that it was important to try to capture all of these ideas in the regulatory structure for folks to be able to see, digest and react to. That's what we've heard again and again and again.

So what you see before you is a straw proposal that captures a number of different proposals and visions and ideas of how California can implement AB-1879.

What is California's unique contribution to this dialogue across the globe is really the attempts to try to create a robust, innovative and implementable alternative assessment model.

There are folks out there doing the research, creating the list of lists. Our contribution is the alternative assessment model. So, as you hear discussions today, I really would appreciate your comments to be those

that are constructively geared towards DTSC to allow us to focus a pathway within the regulation that gets us to this robust, innovative and implementable alternative assessment.

There is a chance that it might be one of the pathways that we've concluded in the straw proposal. It might be multiple pathways. But that's the real focus here, folks. It's the alternative assessment piece and one that's functional, pragmatic and implementable.

I also want to remind everyone that this Governor has been very clear that the Green Chemistry Initiative is to be a market-driven initiative. So therefore you see one of the principles that is included in the straw proposal, no matter which one of the pathways you see, is one where I call it somewhat like the IRS model. Where industry is going to be doing a lot of the work, and the public sector's going to come in in an auditing and enforcement function.

That might also inform you as you advise us about which one of the pathways or which combinations are most effective in how to create an alternative assessment model that allows for innovation in the marketplace.

As far as some of the next steps, this is intended to the audience out there, there is going to be a workshop next week. That's a very wonderful opportunity for us to be able to interact. But the meeting here today is really for the Green Ribbon Science Panel to advise us and have a

discussion about how to create this robust, innovative and pragmatic alternative assessment.

So I very much look forward to the discussion today. I am going to have to briefly step out this afternoon for a meeting, but I will be available and I will be here for the rest of the day. So, thank you.

MS. BARWICK: Thank you very much. And now we'll turn it over to Dr. Bill Carroll, one of our co-chairs, who is going to facilitate during the first part of the presentations this morning.

CO-CHAIRPERSON CARROLL: Good morning, everyone. And thank you, once again, for coming. I want to reinforce a couple of things. We're going to go through the presentations from staff at this time. Each presentation will be approximately 15 minutes.

We're going to ask that you not interrupt the staff with questions; that you use the cards for questions. And I'm speaking to the panel members here. The goal here is to keep us on schedule, as we have a relatively busy day.

What we will do with those questions from the science panel will be to aggregate them and attempt to address them, if not specifically, in general, for a number of topics where they might be grouped together. And we will do that later on in the day.

So, I have one other check as far as cellphones

are concerned. Ask you to turn them off or put them on stun, unless you have a really boss ringtone whereupon I'd ask that you have people call you all the time.

(Laughter.)

CO-CHAIRPERSON CARROLL: So, with that said, let's go ahead. Peggy, would you like to start us off, please.

MS. BARWICK: We do have the webcast up now, so, everybody, you're on camera.

MS. HARRIS: While we're getting that up I'm going to be talking off of the flow chart that you've all received. You met the team earlier. We've all put in a lot of effort to put together this straw. Any comments that you have we don't take personally. We welcome your comments.

What I'm going to do is quickly walk you through an overview of the whole process that we've laid out in the straw. This will give you an opportunity then, as each person gets up, to give you a much more detailed discussion of each aspect of the straw. You'll be able to at least put it in context.

So if you have questions as a result of my presentation most likely they will be answered in the more detailed discussion that will follow that Don, Nancy and Evelia will be providing.

Within the presentations that you will see from each of the team there are a couple of questions. Those are

embedded in the presentation materials. So as staff are going through the presentation they will draw your attention to those questions. And then those would be the subject of at least some of your discussion this afternoon.

I will repeat what's been said earlier, is that in the workshop that we will be having next week we will be going through these questions and many many other questions. We will be drilling down on many many aspects of the straw in the workshop next week.

So, to begin with the flow chart, at the beginning or top of the flow chart you see the box that we would identify and prioritize the chemicals of concern in products.

We have identified in the straw 11 different product categories. Nine of those product categories are those that we had identified as those we felt were most likely to present a risk to sensitive subpopulations.

There are two additional product categories that are chemicals, specific chemicals. And one is a list -- chemicals that appear on a list of lists. Now, I will say, for those of you who are sort of following along with what we've done, we started off really with the product category, the nine categories.

Because we received significant stakeholder input that they really believe we should be considering chemicals,

not product categories, we have included those, as well. But Don will be talking much more about that in his presentation.

The next step in the process is we have included a series of 12 hazard traits. What we're requiring the manufacturer to do is to look at each hazard trait and identify for the chemicals or chemical ingredients in the product categories, or in the 12 categories -- 11 -- 12 categories -- sorry, 11 categories -- whether or not any of those chemicals exhibit one of those hazard traits. If they do, then that would be a chemical of concern. We will be asking more questions about that in today's presentation and also in the workshop.

The next piece that we have is the prioritization piece. Then once you've identified the chemicals of concern, which is based on the comparison to the hazard traits, we have laid out a series of three different priorities in the straw.

One is based on whether or not there's a potential for a release. That would be priority one. Priority two is if, in fact, there's a potential for release, that that has been mitigated for use. And priority three is -- but there still could be a disposal concern, let me clarify -- priority three is that it does exhibit a characteristic of concern, it is a chemical concern. It does exhibit a hazard

trait, but both the use and the disposal exposures have been mitigated. And that's what we've laid out as priority three. That takes you through the hazard traits and the prioritization.

We have identified one year to complete this process. Clearly, in the workshop we have next week we're going to have a discussion about those timeframes. But, for purposes of the straw, we laid out one year.

The next step in the process is the alternative assessment process. The first step of that process is to identify all potential alternatives. And those are functionally equivalent alternatives. And Nancy will be talking about this is more detail.

Then there's a comparison of the consumer product and the potential alternative, first based on the hazard categories. And then based on an identification and evaluation of potential hazards, exposure pathways and the lifecycle. So that's the third piece. And, once again, Nancy will be going into that in much more detail.

We have suggested in the straw that if the safer alternative is not chosen as a result of this process, that this process be repeated in a two-year cycle.

The other thing we have included as part of the straw is a alternative analysis report. And I'll get to that again at the close of my discussion. And Nancy will be

talking about that in more detail.

The third part of our process is the response action. So, after you have completed the alternative analysis, then based on the priority of the chemical in the product and the exposures, or if the safer alternative is chosen or is not chosen, based on the lifecycle impacts, then we have laid out a series of timeframes for the product to be banned. We've also laid out specific scenarios for when notification or labeling would be required.

For purposes of next week's discussion we will have really much more in-depth discussions on the specifics of the response action and their applicability. And whether or not there would be certain categories where it would be appropriate for us not to have a ban. And so those discussions will happen in much more detail next week.

The other thing we've built into the response action process is, if, in fact, as part of the lifecycle process there is a impact identified for other media, such as greenhouse gas, that there be a notification to the appropriate board, department or office of that.

The last part of what we have built into the response-action discussion is really related more to the overall content of the requirements of the straw and its variance process. We've identified a process from point A to point Z, and we recognize there will be situations where

what we have laid out is not appropriate for a specific case-by-case basis.

So what we have suggested is a variance process to allow, on a case-by-case basis, the applicant to come in to us and make their case for why the timeframes don't work, why the specific requirement doesn't work, why perhaps there's a impact for another media as a result of the selected alternatives. So we tried to lay out a process for that. There will be much more discussion about that next week, as well.

The last thing I guess I'd like to point out is that we have built this to be self-implementing. We believe that it is the manufacturer who knows the most about the product; they know most about the ingredients in the product; they know most about what the potential alternatives might be.

So we have laid this out as a self-implementing process. We tried to build in transparency. We have built in a ability for the department to do a call-in. We've built in for the department to be able to impose specific alternatives and specific responses if certain risks or exposures become -- we can become aware, and we believe it's necessary.

And as Maziar indicated, our intent would be then to audit throughout the process to make sure that it is

being complied with according to our regulations. And, as I said earlier, each of the other folks of the team, as they're going through the discussion, will be going through this is much more detail.

We have laid out a supply chain process as part of this, so that as the information is being transferred from the manufacturer throughout the process through the consumer, that there is a transfer of information. We will be having an in-depth discussion next week about that supply chain and who the information really needs to go to. So just because the discussion doesn't happen today, it will be happening next week. So, I'm putting in a plug for you all to participate next week.

So, with that, I have given you a very brief overview. We have laid out a process that from beginning to end is three years. We recognize that there may be some discussion about that next week. And we will welcome those discussions.

The other thing I guess I'd want to point out is there is a separate bill, which is SB-509. And while we laid out specific hazard traits as part of this, as a straw, those specific hazard traits that we have suggested will be modified or superseded as a result of full implementation of 509. At least that's what we have suggested as part of the straw.

So, with that, I'm going to go ahead and turn it over to Don. As I said, Don will be providing much more detail on the discussions related to the identification and prioritization of chemicals of concern.

I just thought of one more thing I really should have said is when we, at least originally, identified these nine product categories, our intent, and it still is in the straw, and makes some sense to us, is that we would start off with a group of product categories or chemicals. And then augment this over time. But that would be done through other future rulemaking. So this was intended to be step one. And there would be subsequent steps to augment this list.

So, with that, I will turn this over to Don.

CO-CHAIRPERSON CARROLL: Thank you very much, Peggy. Don, the podium is yours.

MR. OWEN: Good morning, panel members, co-chairs, interested stakeholders here, and those listening on the web. My name is Donald Owen. I'm pleased to be here this morning to fill in for my colleague, Dr. Robert Brushia, who is the principal author and architect of the first part of the straw proposal. Which is the process by which we identify and prioritize chemicals of concern in consumer products.

Acting Director Movassaghi and Peggy have given

you an overview of how we got to where we are. I'm going to talk in more detail this morning about how we begin in the process; to what this straw proposal would apply; and how we use information through the initial steps. And leading to, as Dr. Wong and Acting Director Movassaghi had said, to the really innovative part of the law that we are attempting to implement, which is alternatives analysis.

CO-CHAIRPERSON CARROLL: Don, could I interrupt you just for a second --

MR. OWEN: Yes.

CO-CHAIRPERSON CARROLL: -- to remind the panel that you do have copies of the slides in the handout if some of these are difficult to read.

MR. OWEN: In your package there are copies of this slide. I believe they were in black and white to make it simpler to read. So, I'm currently on slide 4, which is the process overview. In a simplified part with more detail about the first step.

As Peggy said, this is a process by which those who must comply with it begin the effort, so it is self-implementing. The manufacturers, those who have the ability to design and manufacture products and thereby determine what their inputs are, control and decide and balance factors. And determine how and in what way the ingredients in chemicals they use will influence public health,

ecosystem health and waste streams.

So the first step is manufacturers determine if their product or chemical is within the scope of the straw proposal's applicability. As the Acting Director said, there are three principal ways by which a consumer product enters this process.

The first are the nine product categories that are listed in the regulation. The second pathway are specified chemicals, also listed, and enumerated in the regulation. And thirdly, those chemical ingredients which are identified by authoritative bodies in other nations or governments on lists of lists, for shorthand terminology that derived from the workshop. And those criteria for those other lists are specified in the regulation.

The second step is with existing information about the chemical hazard, or the hazard for a chemical or group of chemical ingredients in a product, the manufacturer, he uses that information about his or her product to begin the categorization step.

If there isn't data on one or more hazard traits, then this straw proposal would require the manufacturer generate that information, or cause it to be generated by someone else.

So the manufacturer then determines if the chemical fits into one of the hazards or exhibits a hazard

trait. And then must characterize his or her products with respect to those chemical ingredients.

Then the last step is the prioritization step. Peggy gave you a quick overview of what that involves. And I'm going to go into more detail about each of those.

Going a little bit out of order. Returning to the how do we begin, the pathway to start. I mentioned --

CO-CHAIRPERSON CARROLL: I'm sorry, Don, this is then slide 3, is that correct?

MR. OWEN: This is slide 3, one back from the previous slide. It's entitled: is product or chemical in the scope of this straw proposal.

The first pathway are the nine product categories. These are consumer products, excluding those that are exempt in the law, itself. Just for reference purposes those are prescription drugs subject to the FDA process; dental amalgams and other dental appliances subject to a particular provision of California law; food, which is also specified in the Food and Agriculture Code in California law; mercury lighting; and durable medical appliances, which are specific terms. Those are all categories of consumer products that are exempted in the statute, itself.

With that, we heard from a number of stakeholders, process through our workshops from this august panel in April of this year on how to go about devising the beginning

of the straw proposal.

The categories that were chosen for consumer products represent those which we believe have high use in California and have the potential for exposure, significant exposure to sensitive subpopulations.

So the first category are those products, consumer products designed for use by or for infants and children. The second category is products designed for use in K-through-12 schools where children are present the majority of their workday.

Thirdly, products designed for application directly to or for on the human body. Fourth category are clothing, linens, textiles, things we wear. Fifth one are home furnishings, including but not limited to, mattresses, sofas, tables and other things we find in our home environment, including those where our children are when they're not at school.

The sixth category are cleaning products, soaps, laundry detergent, others. The seventh are those which are specifically designed to release a scent, a fragrance, a deodorizer, obviously for inhalation and other exposure pathways.

Eighth are those that are designed to prepare, store, or dispense food. Food packaging is not exempt in this statute. And the ninth category are any consumer

product which is designed to reasonably anticipated to release a chemical during its use or disposal. Some examples: automotive brake pads; tires; fireplace logs; glues; solvents, et cetera.

So the first nine categories are consumer product categories based on high distribution and commerce, and the potential for exposure to sensitive subpopulations.

As Peggy said, this is an initial start. We would envision revising the list of product categories or their scope and definition in subsequent rulemakings. We will be asking you specific questions about this entry pathway today.

The second pathway are those specified chemicals in the regulation. Those are the ones, if you refer to the straw proposal, that you find on page 2. Just quickly I'll read some: arsenic, cadmium, chromium, chrome VI, lead, lead compounds, mercury, uranium, bisphenol A, phthlatex compounds, diacetyl, triclosan, sulfur dioxide, nitrogen dioxide, methyl isocyanate, and then some PFOAs,

Those are the list of specified chemicals we heard throughout the workshop process that were of high interest. They are listed here as part of the straw, as one of the potential entry pathways.

Thirdly are the lists of lists. The law directs us to make use and reference the work of other governments,

nations, authoritative bodies and the scientific for purposes of implementing this law in California. In part because all of that work continues, and we need to build on the best of the knowledge around the world. And we need to move to the important piece here, which is alternatives assessment.

So any chemical ingredient that the manufacturer knows is present in his or her product, which may be on one of those lists of lists that are specified from page 3 through about page 5 of the regulation would be captured. So those are the three points at which we begin.

As I said, nine categories of consumer products; 16 designated or specified chemicals of concern that are named precisely in the regulation. And thirdly, any chemical which appears on a list of lists that's identified in the regulation.

Which turns to the first question that we will ask you to give us your advice this afternoon. What are the pros and cons for each of the three different identification pathways, either individually or collectively? How do these work? What is their scale?

And then if you have recommendations, what specific changes would you make and why. This is our first question. This is a very important scope question. It tells us of the rule development team; how big we are

beginning, what some of the challenges we will confront with this approach or multiple approaches; and what information may be available to feed through the subsequent processes which are the most important processes of the alternatives assessment leading to regulatory response.

The second question is a question we've heard a lot of discussion about at workshops. We are phrasing it in this rather awkward way for legal reasons. The law gives us parameters for findings we must make if we were to do such a thing. So I'll read the question and explain a little bit about what we -- some other words that might help you understand it.

What are the pros and cons, including a possible exemption for a chemical or chemical ingredient in a consumer product which presents first, an insignificant level of hazard or for which exposure is adequate control through product design and manufacture?

Another way this question could be stated is: is there a de minimis level, a trace level, a consideration for impurity for naturally occurring chemicals that may be found or present in a consumer product? And if so, how should those be handled in this straw proposal? So a fairly detailed question that has many layers of meaning.

As I said, the statute directs that we reference and use to the maximum extent feasible available information

from other nations, governments and authoritative bodies that have undertaken similar processes with respect to chemical identification, hazard and even regulatory response.

The statute also directs that we must do so in a way that minimizes costs and maximizes benefits to California's economy.

In our straw proposal we set forth a fairly broad definition for an authoritative body. One which characterizes chemicals pursuant to a process in which stakeholders are able to participate and communicate in written or oral comment; and that the authoritative body publishes its characterizations of chemicals via the web, press release, government regulation, credit report, monograph or similar publications. It's a rather large and broad definition.

Which leads to our third question: essentially who should be an authoritative body. But more specifically the question is phrased, and I'm going to rewrite it on the fly to make it a little more informative: What are the pros and cons of the definition of authoritative bodies? What specific changes, if any, would you advise to the department?

What are the pros and cons of using information or decisions from other authoritative bodies for assessing

hazard information; identifying prioritizing chemicals of concern; or thirdly, even triggering a regulatory response.

That third bullet, triggering a regulatory response relates to my colleague, Evelia Rodriguez' presentation later this morning. And is a discussion point. So, when an authoritative body acts, if you could advise us on how the information they use and the decisions they reach can inform not only the beginning of our process, but the end of the process, as well. If that would be appropriate.

And then the final question on the authoritative bodies is: in what other ways can we use them in maximizing information and decisions they make; and maximize the benefit to California.

A little bit about the data requirements. Much was said throughout the earlier phases of the Green Chemistry Initiative and through our workshops about the prevalent lack of information. The companion law, Senate Bill 503, which establishes the toxics information clearinghouse, if the portal through which this information would become accessible to anybody. To a manufacturer, to someone in the supply chain, to a consumer, to government, to authoritative bodies.

As that's being created, though, the question is where is the data and what is it. For the purposes of application and implementation of the straw proposal, we set

forth a requirement that the manufacturer must, within one year of the start of the process, generate the data or collect documentation sufficient, based on information accessible elsewhere, as defined, about the chemical and chemical ingredients in their product, and the hazard traits they possess.

Let me be clear. This is not ingredient disclosure. A manufacturer knows what he or she, what chemicals are present in their product. It's taking that list of chemicals in the product and finding the information about what hazard traits that they possess, in order to implement the process we've set forth in the straw proposal.

Manufacturers, if they must generate additional data because its absent or unavailable, may rely on suitable testing methodology through peer review journals, determination made by authoritative bodies, and some of the evolving new techniques or quantitative structural activity relationship models.

So we define a broad approach to authoritative bodies; set forth the process requirement to generate and use information; and also to disseminate that information to the clearinghouse and the supply chain.

Let me talk a bit about the hazard categories. These are not a fourth bucket or way to enter, but this is the next step in the process. Once a product has been

captured, or a chemical that could occur as a single product, itself, or in multiple products, enters the system, we ask that the manufacturer compare the chemical ingredients in his or her product against ten hazard categories.

Toxicity is the first, including acute. Single exposure target organ, a lung or brain. Repeat exposure target organ and acute aquatic toxicity. We set forth serious eye damage, germ cell mutagenicity, genetic toxicity, reproductive toxicity, carcinogenicity, endocrine disruption, respiratory sensitization, skin sensitization, bioaccumulation and lastly, hazardous to the stratospheric ozone layer, as the hazard categories for which the chemical ingredient must be assessed.

This is derived from the globally harmonized system of classification and labeling for chemicals set forth by the UN, and implemented through the European Union's regulatory system. The values you see in the draft straw proposal are essentially those figures taken from the regulation, the European regulations, for the purposes of these hazard traits.

Once a manufacturer has identified those chemicals in his or her product, determined which hazard traits, categories may be present based on the regulatory values set forth in the straw proposal, he or she must prioritize for

the next step of action.

The first priority, as Peggy mentioned, is those which are anticipated to be released during use or disposal to which humans are being exposed.

The second priority is will be released during use -- will not be released during use, but may be released subsequent to use in disposal or recycling.

And thirdly, which are contained or controlled and not released during use of disposal.

Prioritization here is the mechanism by which different decision points and information are required in the two subsequent steps, alternatives analysis and regulatory response.

So it's a quick overview of where do we begin; three separate pathways. There are specific product categories which are exempt. And then we're asking you three questions about where do we begin, principally focusing on the three different pathways that start. How chemical ingredients are determinants in the sense of trace de minimis impurity naturally occurring. And the hazard categories, as we've used, from authoritative bodies. And how we might use authoritative bodies in those identification prioritization steps. And as I said, later in Evelia's presentation on regulatory response.

Thank you for your attention this morning.

Welcome your clarifying questions on the card, if you'll pass those to the co-chairs, we can begin.

And now I'd like to turn it over to my colleague, Nancy Ostrom.

CO-CHAIRPERSON CARROLL: While Nancy is coming up -- thank you, Don -- while Nancy's coming up, I would also remind the members of the public here to be filling out your requests for opportunities to comment. Simply a reminder of what Kathy had brought up to you earlier.

Another suggestion I would like to make to the panel is recognizing that this afternoon we're going to ask you to focus your comments on the specific questions that DTSC has asked us.

What you might do, just for convenience, is dog-ear the presentation where the slides are with the questions, so you could easily remind yourself, as you generate your own interventions for this afternoon.

Okay, Nancy, all set?

MS. OSTROM: Yes.

CO-CHAIRPERSON CARROLL: It's all yours.

MS. OSTROM: Okay, so alternative assessment with lifecycle thinking. I actually amended my presentation a little bit this morning, also, on the slide. So, hopefully it won't be too disorganized.

As Peggy pointed out in her overview, and she did

a really good job of providing actually a fair amount of detail for the alternatives assessment, this, in general, describes what we were trying to do with the process that we set up with the alternatives assessment.

The statute lays out that it needs -- the alternatives assessment is performed for the consumer products that contain the chemicals of concern. And here's my typo, high priority. It should just say prioritized chemicals of concern. At one time the prioritization system looked a little bit differently.

And there was a time when we thought we might use the prioritization system in the alternatives assessment. But when it changed, it didn't make a lot of sense in terms of alternatives assessment to have a different process for different priorities, the way the priorities are laid out now.

We looked at the way the priorities are laid out now, as Don just described. I couldn't think of any instances where the information we were getting from the alternatives assessment we wouldn't want as part of any of those priorities.

So, it's just -- these are identified and prioritized as chemicals of concern. So any consumer product that's laid out in the product list that Don described that contains the chemicals of concern, that have

been prioritized, must enter the alternatives assessment process.

And then the second important aspect of this is that the alternatives assessment is conducted by the manufacturer. And we did this, as Peggy pointed out, that we thought the manufacturer was in the best position to know what was in the product, or at least to get that information if they didn't know.

And also to best define what appropriate alternatives to the product or the chemical of concern would be when they're evaluating the alternatives.

So, we focused on the manufacturer. Now, that's not to say that a retailer or somebody else in the supply chain could do an alternatives assessment if they wanted to. But it's not required. It's only required of the manufacturer.

And then the other thing we wanted to do with the alternatives assessment was to talk a little bit about transparency of the results. And we realize that in our process we don't address the CBI issues, and that 's something we will get to, and I'll talk a little more about that.

But the way we address the transparency issue was to have the findings sort of summarized in a report. And originally we envisioned that it would be posted to the DTSC

website. I think in the straw proposal it's even more vague than that. It just said posted to a website. We're not wedded to it being in any particular place. Just that some summary of the findings of the assessment is available to the public so people can understand what was considered and what was evaluated and what was rejected and why.

And then the other aspect of this was that if the chemical of concern is still present in the consumer product, or even in one of the alternatives, perhaps an alternative has a different chemical of concern, then the alternatives assessment continues. As long as the chemical of concern is present in one of the subject consumer products, alternatives assessment needs to continue on in an ongoing basis and sort of a regular basis.

So, as Peggy mentioned, we retained the step-wise proposal that we brought to you way back when we met earlier. But it looks different, so perhaps you don't recognize it.

So the first step is to identify potential alternatives. And here we have a definition in our proposal for what a potential alternative is. And it's primarily change in chemicals in the product. Or perhaps a change in the process for producing the product. Or a change in design. Some of those are included within our definition of what a potential alternative could be.

And then crucial to the identification process of the potential products are the sort of ideas of functional equivalence and the performance factors. And we've defined functional equivalency as an alternative that performs the same function and the original consumer product.

And the manufacturer is the one who determines this. And the manufacturer should also lay out the process we've established or come up with at this point. Ask the manufacturer to specify performance factors. And this is going to be different for different products. It's a very difficult thing to generalize for us. And that's another reason why we have the manufacturer doing this.

For their product, what is essential about their product in terms of its performance that makes it unique, that makes it essential, you know, and makes it a product that they produce. And those performance factors are going to be considered when they decide what the functionally equivalent alternatives are.

It's important, when you think about functionally equivalent alternatives, to realize that this is a floor and not a ceiling. These are -- we laid out this process to say that these are the alternatives a manufacturer must consider. Those that are functionally equivalent.

If there are other alternatives that they want to consider, that is fine. They can expand it beyond that.

But this is sort of the floor that we laid out to establish what they must do.

In the second part -- so, in that first part they identify alternatives. Perhaps there are alternatives that don't meet the functionally equivalent criteria, then they don't consider those. So that's one aspect of narrowing. That's the first step where we talked about how we would narrow those alternatives that go ultimately to the full-blown alternatives assessment.

And the next step is the comparison of the hazard categorization. And this also evolved over time as our categorization identification process evolved.

It became very difficult to compare across hazard categories. And I'm sure you realize why that is. That becomes apparent very quickly. So our hazard categorization has really been limited to those instances where the alternatives have the same hazard category or categories as the original product. In that instance, I admit that that's probably fairly rare.

But in the instance where the alternatives have the exact same hazard categories, if an alternative has any additional hazard categories -- and these are the hazard categories that we've identified that Don just talked about for the categorization, identification and prioritization process. So if any alternative has the same hazard

categories as the original product, and an additional one or two or more, then that alternative is eliminated because it's presumed to have additional hazard categories over the original product. And it's not going to be the preferred alternative.

So if -- through these two steps of narrowing the alternatives, if the alternatives are identified at that point in time, if there are more potential alternatives identified, it moves on to response action. Evelia will talk about that. There's an appropriate place in the response action section. We would ask that these findings are documented and all the bases for those decisions are laid out. That there's a report to DTSC, some notification to us.

And that the alternatives analysis process begins again after two years to see if there are additional alternatives which have come on the market since then. Or if there have been changes in the original product, technical specifications or the performance factors that might open up new alternatives to consider.

So those that do make it through go into the full-blown alternatives assessment where the hazard categories are considered. And some exposure factors are considered. And all the lifecycle factors are considered.

And these are some general requirements that we

laid out in our process for the alternatives assessment analysis. And this was our effort to sort of address the quality of the analysis. And these are fairly, you know, sort of basic acknowledged qualities that support, you know, a sound analysis and supportable conclusions. So these are laid out, this is a summary, but these are laid out in a little bit more detail in our process.

Now originally we mean that with this group. We discussed the model of the super guidance approach -- to the analysis and how that would work. And we spent some time looking at how that super guidance document is used and implemented and enforced. And it is a good model.

But unfortunately, it's specific to the CEQA law. And the CEQA guidance actually carries the weight of -- they're actually considered regulations. And we actually decided not to follow that model because it would have made our regulations really really huge.

And so one of the things we're thinking about instead is also having guidance, but it wouldn't be -- it would be peer guidance, it wouldn't be regulatory or required. So that's something worth thinking about.

So in the alternatives assessment, as I said, we consider the hazard criteria values. Now here we're using the same hazard criteria that we used in the identification and prioritization phase.

Originally we had some different criteria. And then decided for simplicity and for straightforwardness and ease of use, but they should be the same. Date of collected pursuant to section for the chemical of concern. And then they also require that it be collected for alternatives assessment as part of the hazard categorization comparison that we talked about earlier.

So this information, some of that that is available, should already have been collected; and should sort of cut down on the amount of additional data collection that would be required.

If there are additional hazard categories -- and, again, the exposure criteria and values that we came up with are very crude. And so if there are suggestions for others, you know, as Peggy said, we're very willing to take suggestions.

The last -- this is probably -- okay, talk faster -- okay, let's get rid of this -- because this is Bob Boughton's section and --

(Laughter.)

MS. OSTROM: And it is the piece that has changed the least. I think it's still qualitative. We can be quantitative if you want to. The most important aspect of this is to establish the system boundaries and to establish, you know, those aspects of the lifecycle that are different

between the consumer product and the alternative.

So, for example, if you're looking at an alternative that's mainly a chemical substitution and it's not even that different, perhaps it's just a slight tweak of a chemical, and the sourcing of the chemical and any other aspect of your process remains the same, you get to hold all that stuff constant that remains the same. And only those aspects that are changed are the parts that you analyze. So that helps hold the actual full-blown analysis down, and keeps it manageable. And I'll let Bob jump up and describe anything else he wants to later.

The lifecycle impacts, these are the ones that were laid out in the statute. You've seen this before. The ones in the regs go on and on for a couple of pages. And I didn't want to make a slide that just described something that you've probably already read. But we're looking at, you know, all of the lifecycle impacts that we anticipate would be important to consider.

This is sort of the place in the process where we lay out and compare our findings based on all those impacts that we looked at, the health criteria impacts.

These impacts sort of divide up into those four main categories, the hazard and exposure, the eco, resource pollution impacts and economic impacts. They sort of naturally fall into those four groups.

And in this table I didn't lay it all out. I didn't copy the complete table. It would have been impossible to read. But anyway, all those impacts are wrote out here.

And the findings from the analysis. Here's where all the alternatives are compared to the original product in terms of this. And so if there are numerical figures that have been -- if some quantitative analysis has taken place, and there are numerical values for some of those impacts, those can be put in.

If there aren't, if it's just greater or lesser, then we have an analysis that puts in plus/minus, question marks, that type of analysis. Again, it's a more qualitative approach.

And then the comparison of the alternatives, comparison where the rubber meets the road here, where we compare and select the alternatives. Who decides whether or not an alternative is better or preferred, or based on this analysis, based on the findings of the analysis.

And in our process we have the manufacturer making that determination. Again, they're the ones who decide what factors to consider in terms of the performance of the alternatives. And so we also have them making this decision in terms of the findings of the analysis.

We anticipate that in some instances it will be

very clear. For some alternatives, they will be clearly superior in many of the impacts. And maybe some alternatives will be clearly inferior in most of the impacts. We anticipate that could occur.

But we actually anticipate that most of the alternatives will fall somewhere in a grey area. Some impacts are better; other impacts are worse. And so because it's a judgment call, and it seems specific to all the different processes and all the different products that we anticipate will be evaluated, we feel that it's really up to the manufacturer to make that determination and to justify it. To justify their decision based on the information that they collected and the findings that they made.

So we don't have a findings report. And we don't ask that the entire alternatives assessment, all the data be submitted. But we do require that it be made available upon request so DTSC -- I'm going really quickly -- have the ability to request that information.

We do, though, require in our process that some sort of summary of the findings be made available, that it be made publicly available; that it justify all of the determinations. And if any changes are made or any alternatives are selected, that it include some sort of implementation plan and schedule for that.

And, as Peggy mentioned, one year the supply chain

documentation. And then if no preferred alternative is selected, it's repeated in two years.

And here's my question. The comparison of alternatives, should we specify a preference for health and safety attributes, or other attributes? And part of this is the grey area question where a lot of impacts fall into this grey area. Should there be a rating for health and safety attributes?

And then the other part of this question, if it is mostly qualitative, if the analysis is mostly qualitative, can we, how do we establish a rating? We looked at lots of different sort of models for decision theory, and most of those do require some sort of rating. And so we're wondering if you have advice about if we do decide to apply a rating, how do we do that in the face of nonquantitative results.

And I'll end there.

CO-CHAIRPERSON CARROLL: Thank you very much, Nancy. Evelia, I think the floor is yours. I won't even bother to mention that we're five minutes behind schedule. That would be crass and awful of me to do that.

(Laughter.)

MS. RODRIGUEZ: Good morning, everybody. My name is Evelia Rodriguez, and I am tasked with revising and writing the regulatory response actions for this regulation.

AB-1879, which is the law that gave us a mandate to write these regulations, listed a range of regulatory responses. These are the nine that they provided DTSC.

And as we were trying to write these regulatory responses in a framework that allowed self-implementation, it became apparent that some of these just did not lend themselves to implementation. That it might be construed as a delay tactic.

If they couldn't get additional information, would that be enough to delay a response action or any part of the regs for another year, another five years?

So what we did was split it into two different categories or response actions to try to address that issue.

The regulatory response, which is section 20, is divided into four different subsections. One is general applicability, general requirements. The second part is criteria for the self-implementing response action. The third is the actual response actions that are self-implementing. And the fourth is the regulatory response actions that DTSC may impose or authorize a manufacturer.

Now, the applicability captures any consumer product that contains a priority chemical of concern. After you've come out of the alternative analysis one of the conclusions may be that the consumer product continues to be used in the marketplace. So, if you still are manufacturing

a product with a priority of concern, you are captured in the response actions.

A second scenario may be that you will be implementing an alternative, but that alternative also contains a priority chemical. Or that alternative has a significant impact. You are also captured by the response actions.

So the off-ramp, of the get-out-of-jail card, is a manufacturer implement a safer alternative without a priority chemical, or without significant impact.

Another general requirement is if you are required to implement a response action, submittal of an implementation plan. And in the regulatory language you will see all of the elements that are required as part of this plan.

And what I've done is split it into two parts. Kind of general information and then a more plan-specific information, more detail.

The first part will be sent electronically to DTSC as a notification. The entire implementation plan also needs to be put in a public webpage. And, again, we have no specifics as to how the manufacturer would go about making it accessible to the public at large.

Now, we're also requiring that this information about the implementation plan be added to the supply chain

documentation.

Now, if, for some reason, DTSC would like to impose a response action we have two criteria where DTSC would be obligated to act. One is the manufacturer had not taken a response action. It's pretty clear. We would come in and review what work has been accomplished, and then decide at that point what would be an appropriate response action.

The second one is if it comes to light that the continued availability of a consumer product poses a risk to human health and the environment, DTSC would be acting on that information.

Now, we've built into the language some considerations. In other words, these are issues that DTSC would have to evaluate before taking any of these actions. And one is the nature of the hazard and potential risk. The effectiveness of the response action, the consistency is a level playing field issue, and duplicative requirements that other agencies might have.

Now, this is the one that I anticipate the most comments on, which is the prohibitions. I want to be clear here that we are not failing a chemical. What we are doing here is restricting the use of a chemical in a product that poses a risk.

So, what we tried to do here is tried to spread

out the timeframe. And tried to address whether safer alternatives exist or they don't exist.

Now, I want to be clear about alternatives. You could have no alternatives. You could have no potential alternatives, and Nancy described a potential alternative as being functionally equivalent or of having an equal performance.

You could have an alternative that may not be safer. Now, we've defined safer in our regulations. And safer has two components. It has to reduce the risk or exposure, and it can't have significant impacts. So while you're trying to reduce hazards, you also cannot create a regret.

So my question is labeled 2(c), but it's my own question. And it's actually the third part of that third question that Don posed on the slide that he had. Which is what are the pros and cons of the definition of authoritative bodies for triggering regulatory response.

I have bifurcated the priority one into priority one with a ban. And that ban is dependent upon another authoritative body implementing a ban under their authority.

Now, is that appropriate? Should we call out a specific authoritative body that we want to peg this on so someone isn't looking through umpteen governmental agencies? Or so it's clear that we don't mean a regulatory agency,

say a city that bans a specific chemical. So this is where we need a little input from the panel.

Labeling. Under response actions and criteria I've kind of combined section (b) and (c). If the product that we end up with actually has attributes with significant impacts, and product is the implement potential alternative, if there's still an exposure risk we're going to require a label.

If there is some type of management required at the end of life, we're going to want a label to let the consumers know that it needs to be managed in an appropriate manner. Or if there's risk to workers, we'd want a label on there that explains to them that a eight-hour-a-day, five-day-a-week exposure might pose a greater risk to that individual than it would be to the normal consumer.

Now, if there is an end-of-life issue, we have a listing of end-of-life management options that a manufacturer would have available to decide on. And it's a way in which we make a manufacturer a little more sensitive to the externalities of disposal issues.

Now, there's additional notifications put into the response actions. And this is a way to let our sister agencies know if there's significant impacts when we evaluate those attributes, and how those impacts may affect their regulatory authority.

So, if there's end-of-life management issues, we want the Integrated Waste Board notified of it. If there's exposure risks to workers, the Department of Industrial Relations needs to get notification. Now, remember, the notification is part (a) of the implementation plan.

The greenhouse gas emissions or air quality is a notification to our Air Resources Board. Water quality impacts, notification to the State Water Resources Control Board. And ecotoxicity risks to the Department of Fish and Game. And just in case we miss anything, if there's an impact that needs a notification to another agency with regulatory authority over that issue, it needs to be sent to them.

Now, the DTSC first response actions are for additional information, restrictions on use, research and development, green chemistry funding and other response actions that relate to goals of our regulations.

Once you have made it through this entire process you're done. But, if for some reason, you hit a snag and there is insufficient time to gather the information for the chemicals of concern, or you need additional information to complete the alternatives assessment, or if one of these response actions does not meet the needs of the company, the manufacturer may petition the department to modify or waive provisions of the regulations, provided there's efforts to

comply with the requirements, and a written narrative demonstrating the good faith effort to try to meet the requirements.

The department must also make findings in order to allow a petition, or approve a petition. And one is that the chemical hazard is found to be either below significant risk, or below MADL, the maximum allowable daily levels. A chemical is insignificant, a consumer product is insignificant, the exposure during the use is insignificant, a consumer product is properly regulated by another governmental agency which provides the protection we are looking for.

Petitions must be sent by certified mail. We are going to post it for a 45-notice from the public. Make it available on our website, along with any scientific support. We're going to disclose the draft for written comments and we will revise and respond to comments. Final decision will be posted on our website and published in the California Regulatory Notice.

And that's it for my component of it. This is my presentation.

CO-CHAIRPERSON CARROLL: Very good. Thank you, Evelia. And thank you all for showing your crisp and uncomplicated nature of this material.

On the other hand, if there are clarifying

questions that you would like to ask, that's what the cards are for, and I would ask that you use those. We'll collect those cards and, once again, collate them and address these questions after lunch.

Joe, I think that brings us to the break. I believe at this point you have something to say?

MR. SMITH: Yes. As I'm sure the panel members are aware, the meeting today is subject to the Bagley-Keene Open Meeting Act.

In the context of the meeting today what that really means is that discussion among the members of the substantive agenda items today should be limited while the panel is in session.

Discussions outside of the session should be limited. Try to stay away from the substantive issues. What we're trying to do is avoid a serial meeting where groups of small meetings or small discussions by the members, outside of the meeting proper, lead to, in the end, the result being a discussion amongst a quorum.

So, during the breaks, during lunch, any socializing tonight, please stay away from the substantive issues that you've discussed today.

Secondly, as was mentioned earlier, there is a public workshop process that DTSC has initiated. As individual members you are allowed to provide your

unsolicited comments as a part of that process.

In order to avoid Bagley-Keene concerns, we ask that if you are going to do that, do not cc your other panel members on your individual comments.

What DTSC will do, however, is if you submit a comment as a part of the public process, we will post your comment on the Green Ribbon Science Panel website, because we're sure that there are members of the public out there that would want to pay special attention to what you may have to say about the other aspects of the straw proposal that's before you today, and that, unfortunately, we're not going to have time to address as a part of this session.

So that's the approach we'd like to take, and that's it.

CO-CHAIRPERSON CARROLL: Thank you very much, Joe. Okay, one other point. We will take a break at this time. We still have 15 minutes by this clock. We will start at ten minutes to 11:00.

For those of you who have cards that you would like to submit, please do so, to Kathy.

When we come back we will start with the public comment period, which will still occupy 45 minutes. Very good. Thank you. See you in 15 minutes.

(Off the record at 10:32 a.m.)

(On the record at 10:50 a.m.)

CO-CHAIRPERSON CARROLL: Once again for the audience, for the Green Ribbon Science Panel, for people who have accidentally wandered into this room to get out of what used to be the rain, please take your seats.

(Pause.)

CO-CHAIRPERSON CARROLL: Kathy, the floor is yours.

MS. BARWICK: Yolanda?

MS. GARZA: Yes.

MS. BARWICK: I'm going to turn it over to Yolanda Garza, who is one of our public participation specialists and the project manager for the green chemistry program.

MS. GARZA: Thank you and good morning. This is our interval in our time for public comment. And we thank you both on the web, as well as here, for attending.

We can read your comments. There is still time to provide us or Maya your speaker's card. I do have a number of comments that will be read by the presenters.

Please note, it will be two minutes long. And we do have cards to remind you of the time interval that's passed. And that's it. And if you can please make sure to sign in, while it is optional, we would provide you information on our listserver.

The first speaker we have is Mr. John Ulrich with the Chemical Industry Council. Good morning.

MR. ULRICH: Good morning, members of the panel, Chairman Carroll, Chairman Geiser, Madam Chairman Raphael, thank you very much for this opportunity.

I want to commend the DTSC Staff, number one, for a very difficult task, getting this straw proposal together. This is very difficult in any stretch of the imagination.

I had the opportunity to speak to you in April. I mentioned to you at that time that the Chem Council was very in the passage of the green chemistry legislation. We've been supportive of the Governor's Green Chemistry Initiative. We continue in that vein. And we are committed to making this a working process.

I would like to say, however, that this particular straw proposal in its entirety, and my comments refer to it in its entirety, is overwhelming. It's overwhelming in scope and breadth, and it's stretched throughout the product chain, and also in its cost.

We do not believe that this process that has been described is going to be workable. When we started the process of passing green chemistry legislation, prior to the -- pardon me, the amendment that identified the green chemistry legislation that was passed and signed into law, over five metals and two other compound classes, thalates and dibrominated fire retardants.

Today we have as many as 10,000 chemicals and

hundreds of thousands of products that are identified. We're on a two-year cycle and ultimately the end game is prohibition.

We don't know what we don't know, but we can be certain that as chemicals are substituted for additional compounds, we are going to find that they, too, are going to wind up being within the process.

We have to find a way to prioritize. We have to find a way to make this simpler. It has to be cost effective. The program that we have before you today will not incentivize innovation. It will impede innovation.

Thank you very much.

MS. GARZA: Thank you, Mr. Ulrich. Our next speaker we have is Joseph Guth. He's with the Science and Environmental Health Network.

MR. GUTH: Hi. I'm Joseph Guth. I'm the Legal Director of the Science and Environmental Health Network, which is an environmental health NGO.

I want to just make four quick points. First is I also regard this proposal as very ambitious. It's broad in scope. However, I think that's appropriate. The implementation problems are substantial, but I would urge the Green Ribbon Science Panel to focus on ways to maintain a broad scope in terms of the products and the chemicals that are involved. But consider more kinds of

prioritization perhaps, either in the types of chemicals or the timeframes that are required.

I mean I do think it's important that all this work be done on products that are existing. It hasn't been done after all these years. It needs to get done. It's going to take some time to get the products, the existing products in commerce analyzed in this way. But I think it's appropriate given some of the practical prioritization that might be needed.

Secondly, public availability of information and the decisions that are made is critical source of oversight. And I think that the dissemination provisions are too weak, and they're subject to CVI claims. The CVI claims will defeat public availability of information. And since the department, itself, is not going to be making these decisions, it's just going to be all this information; and decisions will just get put into, you know, a drawer with very little opportunity to discipline or scrutinize the process.

Third, burdens of proof are not specified in the regulations. The industry needs to do the work, but exactly how they deal with uncertainty in the data is not specified. We believe that manufacturers, for example, should be required to demonstrate that their chemicals are not chemicals of concern. That's the way a burden of proof is

articulated. So the department retains far too many burdens of proof.

And then my very last comment is that the data requirements are quite vague. There's a lot of discretion allowed by industry as to what data they will provide to meet, to determine whether it has the criteria met. If minimal data is provided, then the whole process is defeated. The decisions about whether a chemical is a chemical concern will be poor and so will the alternatives analysis. So we need a robust mandatory data requirement.

Thank you.

MS. GARZA: Thank you, Mr. Guth. Next up to speak is Dawn Sanders Koepke. Dawn is with the Green Chemistry Alliance.

MS. KOEPKE: Thank you. Thank you to DTSC for convening this meeting, and thank you for the panel members, for your participation and attention, as well.

The Green Chemistry Alliance has been working vigorously to try and provide feedback and proactive resolution to some of the concerns we've had with the framework and where we find ourselves now.

As John Ulrich had mentioned, the Green Chemistry Alliance does have serious concerns with the framework as it's laid out now. That said, we are still committed to working with DTSC on moving this process forward. It's

certainly in all of our best interests to make sure this is a workable process and we're committed to moving in that manner.

Some of the specific concerns that Green Chemistry Alliance has -- just for reference the Green Chemistry Alliance is a coalition of industry interests, associations, individual companies and the like, a number of consultants, as well. So I put that out there for consideration.

Some of the specific concerns and understand I have a short amount of time, we're very concerned about the scope of the program, the three-tier approach, with products, chemicals, lists of lists being the first and foremost problem we see with this. We think that it could result in the program failing under its own weight.

Concern over the wide variety of hazard traits. No limitation to intentional ingredients, specifically with regard to chemical ingredient definition. Concerns about that.

Also concerns about a lack of a de minimis concentration or some framework for evaluating risk and exposure upfront. We think that that's critical.

Also, no prioritization except for in the case where just defer a ban to, you know, a later timeframe. Massive product and alternative lifecycle analysis to be complete in a short timeframe.

But the quality and approach that there are concerns with regard to leveling the playing field in that. Have a whole host of other points to raise, but hopefully some of my colleagues will do so.

Thank you.

MS. GARZA: Thank you. Next up we have Klaus Berend. Klaus is with the European Commission. He is a European Commission Fellow at UC Berkeley.

DR. BEREND: Yes, thank you. I also would have a lot of comments, but in the interest of time and as we were instructed by the Chairperson in the morning, to concentrate on one, I will focus on the beginning of the process. And my question is, or my comment is more on the feasibility of what is envisaged.

With the hazard traits that have now been proposed and the lists of lists, you look at thousands of substances of concern. And one would say if everything is a concern, nothing is of special concern. So that is something, a proper prioritization that could certainly be improved.

Same for the selection of the substances then in terms of the exposure. We have the three categories in the proposal, the direct exposure, the exposure at the end of the lifecycle or no exposure.

But then the actual obligations that flow from that, the alternatives analysis, are identical for all these

three priorities. So maybe that would also be a way to select chemicals for an earlier action compared to others for later action.

So, main comment on all of this is the feasibility, what is feasible within the given amount of time, taking into account also that for many substances the hazard information is not easily available. And many other information that is required in the alternatives analysis is also not easily available.

So, feasibility, that is my main comment here. Thank you.

MS. GARZA: Thank you. Next we have Miriam Gordon. Miriam is with Clean Water Action.

MS. GORDON: Thank you. I want to thank the agency for its significant effort to date. Much is good in the straw proposal, but we have several concerns.

In particular, as Joe mentioned, the concern about confidential business information and trade secrets. There's one provision in the straw proposal that is, I think we would like to have more clarification on how that works in reality.

And I think it fails to address a concern about the fact that this entire program rests on manufacturers obtaining information from the chemical source suppliers. And where there may be confidential business information and

trade secret claims from the suppliers of the chemicals.

For example, if you have a product that contains a fragrance and you're a manufacturer and you're trying to find out, to get data on that fragrance, that fragrance is a product. And the supplier, chemical manufacturer, may claim confidential business information. So there may be a hold-up in getting data at the very front end, I think.

Another concern is the lack of transparency and public participation in section 6. The whole process of determining whether a chemical or a product is in the scope and requires alternative assessment. There's no opportunity for the public to review and comment. There are no public participation measures articulated at all.

And finally, just a general concern that in this proposal, and the agency seems to lack significant approval and oversight. There's no process articulated for DTSC to determine the adequacy of the manufacturer's prioritization, and the alternatives analysis.

For example, just the question of determining what the product has no exposure. That will -- we think there's going to be significant disagreement between the public perspective and the industries there. And would love to see DTSC have a greater oversight in that process.

Thank you.

MS. GARZA: Thank you very much. I have now with

me four speaker -- or four comment cards that I will relay. If I have made errors please raise your hand and feel free to come up and correct me.

The first one is Alelie Funcell from Renewable Energy Center. She says, "For authoritative bodies, in addition to government agencies, I would like to recommend that the department consider a third-party organization with experience in auditing and certification and testing disciplines to review the self-implementation processes of the manufacturer.

Third-party certification or auditing bodies to conduct review and audit by which manufacturers implement conformance processes which is a common practice. And it's a very effective practice and implemented in many industries.

She also gave some examples such as semiconductors, PV, solar industries in particular, medical, et cetera. So that was that comment.

The next one is from Randy Fischback from Dow Chemical. He says: What is the responsibility of the manufacturer to identify every alternative across the globe? How would they do this? What is the liability for missing an obscure product somewhere? Has anybody estimated the cost for doing all of this testing and alternatives analysis for any one product offering, let alone dozens?

The next one is from Nathaniel Sponsler from Gap, Incorporated. His comment is: Larger retailers, in particular apparel retailers, offer thousands of new and unique styles of clothing each season. As such, the definition of a "product" in the regulations should allow for grouping and categorizing of similar products that share the same chemistry and manufacturing processes. Otherwise, even good faith efforts to comply will come up short.

And finally we have Andria Ventura with Clean Water Action: We have deep concern over issues of -- sorry, okay, come on up. I like your purple writing, though, it's very pretty. So I'll introduce Andria Ventura.

MS. VENTURA: Hello. I'm Andria Venture with Clean Water Action, and also a member of the Change Coalition. I just wanted to make two points.

One is that we do have deep concerns over the emphasis on exposure and release. We have, for a long time, been saying that we recognize that the level of exposure in the population, particularly if you're talking about vulnerable populations, maybe one way to start prioritizing chemicals there.

We recognize that we have to start somewhere. There are so many chemicals out there. And exposure may be a good place to start.

However, we do not believe that ultimately

exposure and the release potential of chemicals from products' use, their manufacture or their disposal should be the basis of alternate regulatory decisions. It should be based on the fundamental hazards posed by that chemical.

The reasons are twofold. One is that you are basically talking about, in a situation like that, is a containment strategy. And that simply has never worked. Ultimately the chemical is still out there. And it's going to, you know, raise its head at some point. Also that does not drive innovation, per se, for alternatives.

And related to that, my second point very quickly, it's not really clear in reading this straw proposal, to me, exactly how we're going to actually drive the development of safer alternatives. I see that we're basing a lot of regulatory decision on what's out there and what's available now.

And coming back in two years, we haven't found a safer alternative is not actually driving the development of something that is ultimately going to be a safer ingredient or chemical product. And so we have some concerns with that. I think that that is something that this panel can and should be wrestling with.

Thank you.

MS. GARZA: Thank you. That concludes our comments from the public. If there are any last-minute

comments we will entertain them.

At this time I turn this back over to the Chair and Kathy.

CO-CHAIRPERSON CARROLL: Thank you very much. Kathy.

MS. BARWICK: Thank you, Yolanda. And thank you, members of the public, for your thoughtful comments.

We have a few extra minutes before we break for lunch, and in the interest of utilizing that time effectively I've asked Sara Hoover from the Office of Environmental Health Hazard Assessment if she would be willing to give her update on SB-509 before lunch. And she graciously agreed to do that.

Sara, do we have your presentation here? Okay, just going to walk around the room one more time and find out. I thought I'd just ask it now.

CO-CHAIRPERSON CARROLL: Kathy, let me add that that this is a substitution of Sara's time from this afternoon, which we had allocated for 4:40 to 4:50. And we're bringing her forward at this time to accommodate a couple of schedules, ours and hers.

Sara, you're sort of on that same timeframe, correct, about ten minutes or thereabouts?

MS. HOOVER: Yeah.

CO-CHAIRPERSON CARROLL: Very good.

(Pause.)

CO-CHAIRPERSON CARROLL: While we're waiting to get the slides up, we should also mention that this topic will be the topic of discussion of the Green Ribbon Science Panel at our next physical meeting, which we project to be in the end of January.

MS. HOOVER: Thank you for moving me up. That's helpful for my colleague, Melanie Marty, who wanted to be here for the presentation.

What I'm going to do today, there's only ten minutes so I'm just going to give you a very brief update on where we are in our process.

And as was mentioned several times, there's going to be a full panel meeting on this topic, the topic of both our hazard trait research, as well as the work that's being done by the DTSC clearinghouse team, what they're working on in developing the structure of the clearinghouse. And we're having some collaboration, but they'll be talking about their work at a later meeting.

Just to introduce myself, Sara Hoover. I'm Chief of the safe alternatives assessment and biomonitoring section in OEHHA.

Just to remind you a little bit about the background for the context, the toxics information clearinghouse was established by SB-509 and here are some of

the characteristics of the clearinghouse.

The main issue being it's supposed to be available through a web portal. And it's supposed to be operated at the least possible cost to the state. So that's obviously a big concern in California.

Our particular mandate is given here. On or before January 1, 2011, OEHHA shall evaluate and specify hazard traits, environmental and toxicological end points, and any other relevant data that are to be included in the clearinghouse.

So what I'm going to talk about today is just our approach to meeting this mandate and some of the activities that we've been undertaking since we last talked to you in April.

But before I do that I just want to give you what kind of terminology we're using here. So, just for simplicity sake we're using the term hazard trait to incorporate the range of data, information relevant to human health and environmental hazards, as well as exposure potential. Which includes traditional end points, emerging end points, physical/chemical characteristics, structural features and other indicators of hazard or exposure potential.

So when I use, see I use some of these terms interchangeably, but the over-arching term we're going to

use is hazard trait.

So, in terms of our general approach to meeting our mandate what we're going to attempt to do is to develop a prioritized interrelated framework of hazard traits to the clearinghouse. And what do I mean by this?

I mean we're going to be doing some work on prioritizing hazard traits. So what are the most serous hazard traits? We're also going to be working on showing how these hazard traits interrelate. So, for example, you might have a battery of geotoxicity assays which will give you strong concern for carcinogenicity. So that's one of the things we're going to be working on incorporating.

Now, I'll talk later a little bit about some of our initial hazard trait research. And obviously many people, many stakeholders during the initial phases of the Green Chemistry Initiative, as well as many organizations, realize that in spite of all these extensive identification of chemicals of concern, there's still huge data gaps.

And one of the things that -- and so a lot of people have done work on this, and I'm going to mention that later, but that's not really going to be our focus.

One of our -- the main focus of our research is going to be trying to move forward the approach of using indicators in the absence of full data. And I'll talk about some workshops we're planning in that regard.

So, in terms of a brief overview, the last time I talked to you about the January 29, 2009 workshop that we conducted, which was a preliminary discussion on hazard traits, end points and other data. There's a report available on our website, and I'll be touching on that.

As I said, I'm going to talk about some initial research that we've done just with regard to hazard trait information sources. Ongoing consultations we're having with outside groups. A scientist survey we have planned.

I mentioned to you that we had applied for a grant from the UC Toxic Substances Research and Teaching Program with UCLA and UC Berkeley. And we did win that grant, so we're going to be implementing that with a workshop series.

And then, again, kind of reiterating the concept of developing the hazard trait framework.

So the January 29, 2009 workshop was extremely helpful. It was just an initial kind of kickoff discussion of our work. We had a great panel. Some of you were on that panel. And some discussion from the public. And this report basically summarizes some of the key input we got at that meeting.

Now, we got input both on our element of the clearinghouse, which is establishing the hazard traits. We also got input relevant to the DTSC clearinghouse team, in terms of setting up the structure of the clearinghouse. So

we provided that input to them. This just talks about how that's related to hazard traits specifically.

So, again, to reiterate, we were advised that we should cast a broad net for hazard traits and inputs, but also should prioritize them. And the kinds of things I listed on my earlier slide are very much in line with what stakeholders advised us to consider as being a hazard trait.

We were advised to look at emerging science in sensitive subpopulations, to seek approaches to address data gaps. But I want to be really clear here that there's also an evaluation of gaps that needs to be done. Not every -- not all the missing information is a data gap. So that's something that also needs to be considered. And to gather up case studies to exist with our hazard trait research.

Now, as DTSC alluded to, there is a little bit of a time disconnect to what's been happening. So they're moving forward with trying to set up their regulatory framework. And we're doing our research kind of at the same time.

And so as kind of trying to help them with their process, we did some initial research just on hazard trait information sources and associated lists. So we focused on traits and inputs that have been identified both by regulatory agencies and stakeholders as being a serious concern. We did make a focus on California-specific sources

of information that are not always considered.

In general, the results that we got in our initial research on looking for information sources and lists are really similar to work that's being done by a whole host of other organizations, including UC Berkeley, CREH, Good Guide, Clean Production Action, State of Maine, et cetera. There's lots of work being done in that area. And pretty much people are working at the same kinds of sources.

We provided a summary of this initial research to DTSC. I really want to emphasize that that was an initial effort. And we're continuing to review and update information sources and to start researches ongoing overall.

So, in terms of so many ongoing consultations, we're talking to lots of different people. We've been working with UC Berkeley and UCLA. We've been meeting with Good Guide and other groups with relevant databases, including EPA. We're going to be talking to the Healthy Building Network and others. I've been involved with the Interstate Chemicals Clearinghouse; with specific contacts with the State of Maine and Washington, who are working on similar kinds of issues about looking at chemicals of concern.

We also had the great good fortune of being in touch with the European Commission. Klaus Berend is here on a fellowship for the first semester of this year; and we've

been getting a lot of valuable advice from Klaus.

The Green Ribbon Science Panel, as we said, we're going to be consulting with you in more detail in early 2010, and other stakeholders. And I really want to invite any stakeholders, if you want to talk to us and provide your input, please feel free to contact me. I give my contact information later.

Now in terms of a more formal consultation, we're planning a survey of scientists. And we're planning to survey key scientists in state and federal government, industry, nongovernmental organizations. And we're going to be developing specific questions and elicit opinions on the highest priority hazard traits, end points and other data, relationships. And the scientists' opinions on scientifically valid indicators of hazard. So this is going to be one element of input to help shape our recommendations on hazard traits and use of hazard indicators.

In terms of the workshop series I mentioned that's been funded, we're now actively planning the series. The first workshop has been set for March 15th to 16th in Sacramento. So I invite anyone interested. And it'll be a public workshop. Please feel free to attend. It'll also be webcast.

The focus is going to be -- first, the keynote speakers will set the stage in terms of state of the science

for toxicity and hazard screening methods. But as I mentioned, our real focus is going to be on indicators. In workshop one will be looking at human health indicators. Obviously we can't look at every end point, so we've chosen some specific end points to consider.

And one of the goals of that workshop is we're looking at can we move forward with using human health hazard indicators. And trying to get real good advice on things that robust enough to move forward with.

Workshop two is in late May of 2010, which will be in Berkeley. And there we're going to switch the focus to environmental end points and exposure potential. So, again, we're going to be using these findings to help shape our recommendations.

So, just to reiterate here, in terms of developing hazard trait framework, our goal is a prioritized interrelated framework for the clearinghouse, with recommendations on using hazard indicators.

We're planning to develop a draft framework and recommendations based on our research, workshops, consultations, survey and any other input we receive.

And then we will be holding public workshops to seek comment on our framework and recommendations.

The goal is for us to complete this work by late 2010.

Now, I can't invite you to ask questions at this time, because I've used my ten minutes. But will look forward to having a more in-depth discussion with you in early 2010.

CO-CHAIRPERSON CARROLL: Very good. Thank you, Sara, thank you very much. And particularly for being flexible on the timeframe.

Kathy, I guess the floor is yours to at least for now to ramp us up to lunch.

MS. BARWICK: So I just have a couple of announcements. The Green Ribbon Science Panel, you should have all received some information from Carol Riley about lunch. And that will be in room 2550. And Dr. Wong will help you find that room at lunchtime, which we will break in just a few minutes.

I did have a request about transportation options this afternoon to the airport. I put a piece of paper on the desk over there. If you are leaving this afternoon and need a ride to the airport, we can try to help organize that.

CO-CHAIRPERSON CARROLL: Kathy, I have one question while you're working there. Sara, your presentation would be available --

MS. HOOVER: Yes.

CO-CHAIRPERSON CARROLL: -- to us. And I would

ask that it be sent to use explicitly, please.

MS. HOOVER: Great.

MS. BARWICK: So if you are planning to go back to the Sacramento Airport this afternoon, so we can organize transportation, just put your name and maybe flight time on that piece of paper. And then we'll figure that out for you.

So, the GRSP is invited to room 2550. We will convene again at the end of lunch period at 12:15.

CO-CHAIRPERSON CARROLL: And, Joe, do you need to say grace before lunch?

(Laughter.)

MR. SMITH: No, --

CO-CHAIRPERSON CARROLL: All right.

MS. BARWICK: Joe has said what he's going to say, I think. All right, thank you, all, very much.

(Whereupon, at 11:24 a.m., the meeting was adjourned, to reconvene at 12:15 p.m., this same day.)

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AFTERNOON SESSION

12:20 p.m.

CO-CHAIRPERSON CARROLL: Here's kind of the way this is going to go for the next few minutes. We have the question-and-answer, actually it's more of the answer session. Remember, you submitted questions. This is the opportunity -- we've collated the questions, this is the opportunity for the department to attempt to answer questions more or less by category. But to the extent that they can be specific about questions, they will do so.

And so, Kathy, how are we going to do this? Who's the leader for addressing -- Don will? Okay, Don, you have the cards?

MR. OWEN: Yes.

CO-CHAIRPERSON CARROLL: All right. Then I guess I'm just going to turn this over to you. I'd ask you to take the podium for the microphone and we'll how it goes. Peg, go ahead.

MS. HARRIS: Yeah, let me start. We did go through all of the comments that we received. We went through and categorized them; prioritized them in terms of true clarity questions. And Nancy is going to begin with those that dealt more with her section. So we did it sort of by section.

So hopefully we provide the clarity that you need.

In some cases they were open-ended questions and our regulations don't necessarily address it. We'll try to point those out, and we invite you to provide us comment. And we invite you to participate in the workshop next week to discuss these issues in more detail.

MS. OSTROM: Okay, so the first question dealt with an example of the functionally equivalency. And the example is that if a manufacturer makes a glass bottle, they don't also have to consider a plastic bottle for an alternative. Or vice versa.

So, earlier when I was speaking of how they define functionally equivalent, that was the intention of that definition.

A couple of questions that sort of dealt with a similar issue. Assuming a chemical concern is a carcinogen and the functional alternative that is identified is biocumulative if the alternative chemical disqualified, or the alternative contained that chemical disqualified, no. And that's what I was saying before.

It was very difficult to compare different hazard categories. So we didn't do that. So the instance where the alternative would be disqualified is if the chemical of concern in the product is carcinogen, and the alternative is considered -- is a carcinogen, and the alternative is also biocumulative. It has one additional chemical or hazard

category. In that instance that alternative would be disqualified.

And a related question was comparing -- excuse me, hazard categories, considering them to be equal in comparing them for the purposes of evaluation. And, again, we're not comparing within -- among the hazard categories, only within.

In this question it says a proposed alternative in the same hazard category is regional and belongs in another, how do you quantitatively rate the level of hazard. We don't. And that's, you know, that's one of the kind of issues I think with doing qualitative analysis. And, again, if you have additional comments, other ways of doing that.

And then economic impacts to the consumer is part of the rulemaking process. We do consider economic impacts.

Okay, Peggy says group them. So this whole group of questions has mainly to do with transparency in the alternatives analysis process. And what the summary report looks like, how detailed it is, and how does the public or competitors or collaborators might comment.

And we don't really have a process laid out in our suggested process right now for comments. We do have sort of a process where the department will look at comments that come in. We have our own comments. And we can require additional analysis. We can require various activities.

But it does require a proactive activity on our part. So, again, if you have specific suggestions for how we would do that, again, that would be interesting.

I'm not supposed to solicit, sorry. Then there were a group of questions that dealt with how we compare the alternatives. Do we just add up the hazards? What steps does the manufacturer follow to determine if something is a safer alternative. And similar questions for how that works.

And that really leads into the question that we're posing to you for the discussion today in terms of part of the question is -- we framed it as do we prefer -- establish a preference for safety and health impacts.

Another way to look at that would be how, you know, we've laid out a very simplified system for rating impacts. And we admit it's very crude. So if you have suggestions for better ways of doing that, we'd like to hear that.

MS. RODRIGUEZ: I received just a few questions on response actions. One was what is meant by significant impact. And this question speaks to Nancy's section. If you look at the response action that she has under section 17, she requires that even if you do a qualitative or quantitative, that you determine what is significant for your product.

So, although we haven't defined what a significant impact is, it is required in the regs that the manufacturer determine what is significant.

And again, I want to remind everybody that what you're comparing, though, is against a baseline of your product. So, if your alternative has a significant impact, not whether your product has a significant impact. I want to make that clear.

The second question is about authoritative bodies. So, if California will -- California automatically restrict BPA without evaluating alternatives, if a specific government has banned a specific chemical and specific product.

And the answer is not without evaluating the alternatives. You have to go through the alternative assessment in order to trigger a regulatory response. So you cannot jump to regulatory response without evaluating alternatives.

Third question was about additional notifications. If there is a worker exposure potential, but the worker is not in California, what do you do in those instances. And the answer is it wouldn't apply. The notification is only if there's an impact in California. So, no, you wouldn't be notifying our Air Board that there is an air impact off seas.

Simple question about what happens with falsification of information or noncompliance. These regulations are subject to our authority under the Health and Safety Code. And under the Health and Safety Code we have the $25,000 a day per violation enforcement policy.

There are other tools in our Health and Safety Code that are not -- that do not lend themselves to green chemistry. They are specifically for hazardous waste. But that one over-arching authority is there.

And the last one is what is the basis -- on what basis do products containing COCs for which no alternative is identified direct to a lesser regulatory requirement. Doesn't this create a strong incentive not to identify an alternative?

And the answer to that is there's different tiers of alternatives. There is where there's absolutely no alternative in existence. There is a potential alternative with an impact. And then there's the safer alternative. And the word safer alternative is defined in our regulations. And that is a reduced hazard or exposure with no impacts.

So part of the reason that the ban schedules bifurcates the difference is to give some additional time when you can't find a safer alternatives with no impacts.

Now I'm going to pass this to Don.

MR. OWEN: I received several dozen cards.

(Laughter.)

MR. OWEN: They follow four broad categories: Definitional, jurisdictional, an explanation of the front-end process, how it works, the three entry pathways, and then a little bit more about hazard characterization.

Starting with the first question, who is a manufacturer? There were three that asked that question. It is defined on page 5 of our regulation. Manufacturer means any person who imports, manufactures, assembles, produces or that packages, repackages or re-labels under their own brand name, a consumer product.

Consumer product is defined in the statute, very broadly. With the exception of the four, five statutory exemptions, which are also consumer product categories.

With respect to jurisdiction, there were questions about how does this play with the safe cosmetics act, kid safe act, cars or fuels? The answer is our statute provides that we shall not overlap, duplicate, supersede other jurisdictions.

So since we lack an informed baseline about how consumer products that contain chemicals are regulated by everybody else in the world, we leave open for someone who believes that they are not required to comply because there is a preemption elsewhere, to tell us that.

With respect to the three pathways. The questions pertain to two things. How does it work? Which I'll try to explain very briefly now. And then the rest of the questions actually are restatements of our first question. And so I'll defer those to your discussion on question one.

Of the consumer product categories, if you manufacture a product within -- a consumer product within one of those categories, you must assess its chemical ingredients against the hazard traits that are specified in the regulation -- if, for any chemical that is present in that product.

On the 16 chemicals that are defined, those chemicals, as products, themselves, for sale or use in California, and any other consumer product that contains that specified chemical, must also be assessed through the rest of the process.

That's also true of a chemical that is identified pursuant to the list of lists. So the pure chemical, as a commodity in consumer product sale or use in California, without regard to whether it's industrial, business or home application, in itself, is a consumer product.

So to differentiate again, any chemical within a product that fits within the denominated consumer product category, so those first nine, intended for sale or use by children and infants, K-12 schools, linens and textiles, et

cetera.

The manufacturer must assess all of those ingredients him or herself against the specified hazard traits.

And finishing up, there were questions about how that works with disclosure. Our proposal, the straw proposal, does not require a manufacturer to disclose the chemical ingredient, but rather the hazard traits the one or more ingredients may possess. So you're describing the hazard categories to which the consumer product presents those hazards.

And our statute also answered for us the question about confidential business information. The intrinsic hazard trait of a chemical as an ingredient in consumer product is not subject to assertion of confidential business information or trade secret under this statute.

So the other questions that pertain to the three pathways, and whether they were too broad, vaguely defined, go to scale, scope, phasing. And I'll defer those to your discussion on question one and question two.

MS. HARRIS: Okay, so as I said earlier, we went through prioritize, tried to identify the needed clarification. Hopefully we've done that. We invite you to address some of these issues in the four questions.

And if you think there are issues outside the four

questions, we would definitely like to hear from you, and we would welcome you to comment to us, and not only identify the issue, but the potential recommendation.

We do have a workshop next week. We are accepting comments till November 4th. So I'm putting in another plug. So even though you can't get your issue raised this afternoon, you still have an opportunity and we still want to hear. Bill.

CO-CHAIRPERSON CARROLL: Okay, thank you very much. I guess at this point we should move to the question section. And then, Ken, I guess it's your turn.

CO-CHAIRPERSON GEISER: Well, thank you. At this point we move to kind of the work of the actual panel. We've had a presentation this morning -- obviously you all got here -- we've had a presentation this morning that included step-by-step going through the straw proposal that you've seen.

It may have many different responses to that. As we, the co-chairs, tried to think about this over the phone in our planning, and also yesterday when we met, we figured you'd have clarifying question kind of things which we hope this picked up some of those.

We assumed you would have big framework type questions, like does the framework make sense; does the logic of it make sense; and things like that.

We're actually -- hopefully that isn't the nature of what we're being asked to look at, though. We're being asked to look at the specific questions now. In order to try to get at some of those things, we're going to try to open these questions up a bit so that they pick up some of the larger framework kinds of things that you may be thinking about.

As we've listened to some of you in the last couple of days, you've called us and asked us questions and presented your concerns and all, we realized that some people still -- started out fairly confused by the reading of the straw proposal. We hope that that part has been taken care of.

There's other kinds of things like the workability of this; is this too big; and things like that. And I'm going to try to channel that into this next hour that we're going to really focus on scope. And I'll get to that in a minute.

But let me just say a few words about how we're going to run this. We have about an hour and 45 minutes, I think, for this first section, which is really supposed to deal with the first two questions that the panel is being asked, that were being put forward by Don this morning.

The one having to do with lists, which is the first one we're going to do. I'm thinking we're going to

use about an hour on that and sort of see where we are at that point.

And if we've sort of exhausted the set of ideas and comments and thoughts that the panel may have, we may move then to this question about what to do about the minor exposures of either thresholds here and things like that. But Bill and I are going to sort of try to keep it in touch with that, to figure out where we want to make that transition in this.

A couple of words. We had, I think, a very good and very healthy and constructive set of comments at our earlier panel meeting. As you know, people really did work hard to try to be constructive. I would urge you, even if you still have some major doubts about this that you wish you could voice, just things like -- things I heard like, are they crazy, do they actually think this would work. And other such things like that.

Maybe hold that kind of thinking.

(Laughter.)

CO-CHAIRPERSON GEISER: There may be another place for it. Obviously they wouldn't put it forward if they didn't think something like that.

But more, let's kind of get into this and see if we can offer some specific things that might help it to work; might help when our colleagues go forward, that they

aren't being looked at as nearly committable. And that we really can try to get this tailored down.

Maziar, this morning, mentioned that the straw proposal really isn't the actual regulation that's going to be put forward. It is the proposal in an interim position. It is the creation of the hard-working staff here, plus listening to a lot of comments. But it is very much in formation; it's very much still undergoing development.

So, please, as you do this, sort of think about how to take this very big picture that includes lots of different ideas and lots of different pieces in it. And think about how can we hone this down to a very workable program that really can be put out here in the next year, that really does move forward with the spirit of the Green Chemistry Initiative.

Now, saying that, I think it's also important not that we don't want to lose the big vision of that initiative. And so, you know, it's one thing to try to get this thing to be very workable and very specific, but it's important to maintain that larger vision that has been put forward by the department, and I think that many of us feel pretty sympathetic with. So it's attention on how to do this. And I think that's what our task here is at the moment.

So my recommendation here is that we're going to

spend about an hour. Please use your cards, setting them up like this if you wish to speak. And I will try to keep some sense of a queue.

I'm going to ask you to be specific. I'm going to ask you to be brief. I'm going to ask you to be constructive. And if you're violating any of those things, I may sort of whistle or sort of try to help you by asking you do along those kind of questions. But I think that's what we're trying to get at here.

Any questions on the process? Tim.

DR. MALLOY: Thank you, Ken. I just have to say I'm a little torn here. So I understand the limitations of the one-day format. And I have great respect for the efforts that you have obviously put into this to make it a useful and kind of exercise that gets answers to questions that the staff is concerned about.

On the other hand I can't help but to feel that there's a value to having all of us in a room in the sense of the interactive element of it. And I just get the sense that there are many larger questions equally as important, or perhaps I think more important, than the four questions, the limited four questions.

I mean there is one question about response actions, I think; one question about alternatives assessment. And I feel that the format that we've got here,

where we're limited, essentially constrained, you know, within reason, to these four questions is over-limiting and doesn't really take advantage of having us all in this room.

And I certainly understand the idea that there's other opportunities next week. There's the workshop and we can submit individual comments.

For me, personally, you know, I came here this week. I really can't afford to take time off from other obligations to go to the workshop next week. And even if I did, there wouldn't be the same set of people here on this panel to interact with. Certainly there would be other people who would be wonderful to interact -- I'm not trying to diminish at all the value of the workshop. But I think that there's a dilution of the value of the panel by approaching it that way.

And I talked with Kathy about the cards, submitting the clarification questions. Frankly, I didn't really hear answers to my questions. I'm guessing a lot other people around here didn't hear answers to their questions.

And yet I feel, gee, I can't even address those questions. And I think some of them, for example, the whole idea of the self-implementing approach and how that's going to work; the definition of consumer product; the definition of safer alternative. I mean things that are kind of core

to this project.

I kind of feel like we're being asked to not address those in any direct way, to try and fit them into four individual questions. And I find that frustrating. On the other hand I want to be constructive and think, okay, so you have a problem with that; what do you do about it.

And I guess I have two things I'd like to say. One is I'd like to hear what other people, suggestions people might have about how to help you figure out how to run this part of it. And kind of, if that's an appropriate thing to do, to take some time to do that.

One suggestion I would have would be to put some time aside to, you know, I don't know how long that would be, where people can kind of brainstorm and identify the areas in which we think we would like to spend our time.

Certainly we want to answer questions that are important to the staff. On the other hand, I think there's a lot of people here with a lot of experience who may actually see things in here that are important questions that maybe the staff hasn't asked, or hasn't had time to ask, or hasn't thought about yet, so on and so forth. And I think that is one of the things that is so valuable about all the people around this table.

CO-CHAIRPERSON GEISER: Tim, I thank you for that. And I think you've put into words what I'm assuming other

people feel, as well. And so I don't want to sort of dispel the tension in that, because it's certainly what we, as the co-chairs, felt when we looked at the same dilemma that you're posing.

The problem here is that these folks need answers to some specific questions, and they really want us to do that. We have a very limited amount of time. And I think that what we'll see is -- there's three things that come to my mind along this line, there are three suggestions.

One is obviously any of us, as individuals, have a chance to present ideas, concerns and all, as individuals, to the state at any time. And so that -- that was mentioned this morning. So that's one thing that doesn't make it feel very comfortable about why did we come here then. So I understand that.

The second thing is, as you'll see, we're going to try to take these very specific questions -- I'm about to describe what the question is -- but I'm going to expand it a lot to get at the whole scope question, which is what I think this first area is about, what the scope is. So that we can have a real discussion about scope.

That may still be unsatisfactory. So, I'm going to also just suggest we create a bike rack of things, big questions that you may still want to have answered, or want to make comment about, as a member of the science panel.

And we're just going to say, okay, that one's there. Let's see what we can do with it toward the end of the meeting, or what we're going to do with those. So I would urge you to reference those when you make your various statements here.

But I think that our dilemma was if we have a very large discussion about the kind of big picture stuff at this point we would not get to answering the questions and all. So, I'm not sure that it will be totally satisfactory to your comment. But those are the ways I would suggest we move forward.

Anything else on the process? Richard. And then I am going to move.

DR. DENISON: I mean I just have to say, I am at a total loss here about this decision. Major decisions that underpin every aspect of this entire proposal have been made. And they're not in the statute. And they have been made in a manner that sets the entire proposal up that you're saying we are supposed to skip over, accept clearly as givens, and dive into the weeds.

And I just -- I mean none of the solutions you've talked about has a place to vet those, talk about them, and share the experiences assembled around this table, are even vaguely close to sufficing, in my view.

Fundamental decisions about the whole structure of

this thing that have not really been -- I mean, Maziar touched on a couple of them in your initial comments this morning. But beyond that they are -- I just don't see the point of getting down into the weeds before that has been talked about.

And I understand the time constraints, but I think no matter what perspective you bring to this, all of us have these fundamental issues that seem to have been decisions made without, you know, any discussion certainly by this panel. The entire self-implementing aspect of that, and what does that mean, you know, is a decision -- there's nothing in the statute that requires that.

And, Maziar gave one reason for it, but I think that's worth a lot more discussion. Is one example.

DR. BEREND: Your co-chairs are about to caucus.

(Laughter.)

(Pause.)

CO-CHAIRPERSON GEISER: All right. Thank you for your patience, and also your comments to help us frame things. I think we are sensitive to all of this. And I think we are struggling to meet the needs of the department.

Just the way the department has said to us, if we feel like it would be the most valuable to have a block of time here, right at the moment, to talk about the bigger things that are on your mind, we should move forward with

that. And we'll just try to truncate, to some degree, and squeeze some of the other questions down.

So, both Tim and Richard, and many others of you who wish you probably would have said some of the same things, thank you.

Let's take 40 minutes here and see where we are. Again, I'm trying to manage this so that we do get to these questions which they really do want answers on. But let's take 40 minutes and try to talk about the bigger things that are on your mind.

Let me say a word about that so that I -- try to frame this. We saw here in straw one a kind of an approach that was the department's looking at this, at that moment in time. The department's worked a lot since that on their various committees. I think there were six committees or something like that. They've worked out a lot of things.

And they put forward what is really a pretty different approach. It's an approach that relies on products, focusing on products; it's one that relies on a great deal of self-implementation by the firms; it shifts a lot of burden. It's very much driven by information, by information development, information transfer and all. And it relies on the department to kind of set a framework.

But the department stands back from it until fairly late in the game, in which case then the department

has various authorities which it uses.

Now, that's a framework that's there. And I think what we should do is have a conversation about that framework.

Now, there's two kinds of ways we can have this conversation. One way is just to be alarmed and concerned and trying to raise your fears and all. Another is to try to figure out a way to offer productive and constructive ideas on how to do this.

We are a science panel, and I would like us, urge us to try to work as closely as we can to helping the staff really come up with good solutions.

So, if you can, please, even though you may be driven by a great deal of concern about the unworkability or some other way you define it, try to speak to the specifics of what you think would improve it.

Let's have an open discussion for the next 40 minutes on the bigger framework that you see here. How do you think it could work? What can make it better? How can it better, in Richard's sense, align with what he sees the statute really says has to be done? However you want to do this. But let's keep this -- let's open this up.

And so, George, we open with you.

DR. DASTON: Thank you, Ken; and thanks for indulging us. I think it's important for us around the

table.

So, you know, when I start thinking about what the spirit is, the spirit is to, you know, really come up with greener alternatives that make a difference. And I think a lot of us have been engaged in that kind of activity in one sense or another. And what we've realized in doing that is that in order to make something that's a better alternative, we're really looking at a number of different dimensions.

We're looking at human toxicity; we're looking at environmental toxicity; we're looking at environmental fate; we're looking at energy usage across the lifecycle of the product; we're looking at what happens in disposal and recycling. And I probably don't have all of the dimensions there.

Each one of those has a certain level of complexity to it that has to be assessed. And to try and have a very simple system where we just say it has this hazard, it doesn't. It has this aspect, it doesn't. And then just adding them up and picking the one with the lowest number, really, I think, completely misses the point of evaluating each of those aspects and determining for which the hazard is significant, and which the hazard is trivial.

And so I think that that's really the level of detail that I would like to see in this process, is to really evaluate each of those dimensions such that we do

come up with alternatives.

Now, in order to do that the right way, I think that we've got to make sure that the scope is limited to the point where it's possible. So I think that we will need to have some sort of significant prioritization process for chemicals and products that we really think are going to make a difference, the kinds of chemicals that are concerned and the kinds of products that have the largest exposures for the groups that are talked about.

And so I think that we would want to work on those kinds of principles, and really just get down to what we mean in terms of groups of chemicals. And I think we'll make a difference that way.

I'll stop there. I think those are the general points I wanted to make.

CO-CHAIRPERSON GEISER: So I'm hearing you say reduce the scope and be more specific about the amount of attention to these steps.

DR. DASTON: Yeah, I mean I think that where we've put the added emphasis is on, you know, delving into the steps. So it's not reducing the scope of the effort, it's reducing the scope of, you know, chemicals, products.

CO-CHAIRPERSON GEISER: Art.

DR. FONG: Yeah, just to follow up on what George is saying, and to touch on the very important concept of

feasibility, which our European colleague mentioned this morning.

You know, in terms of like how DTSC can get appreciation and to come up with a format or structure of doing alternative assessments, is it possible for DTSC to actually do a beta testing of an alternative assessment? So they, in fact, know what problems, potential problems might be, and the resources and the time that's involved.

Again, the timeframe, you know, from this morning, Peggy's presentation about one year an alternatives assessment.

Let me just give you an example. Dr. Lauren Heine and I are on the DPA DFE project looking at alternatives assessments for tetrabromo, a flame retardant in printed circuit boards. And we've been doing this for three years. And we're nowhere near finished.

And within that alternative assessment there's a small component looking into combustion byproducts of -- we're talking about, again, one specific flame retardant and seven viable alternatives. And this is with the cooperation of over, what, 20 or 40 industrial partners.

So we actually had the resources to get the kind of information, you know, the data gaps that we've talked about, which was accessible to us. Even given that, it took us -- it's been three years and it's still ongoing.

And within that there's a smaller component which we're interested in, combustion byproducts. We have to come up with $75,000 to look at the combustion byproducts. And that's nowhere near enough money.

So, I think, you know, it's possible. Maybe DTSC can do a beta testing; select a product and a chemical and go through this process. And then we'd have a much better understanding of what's really involved. And then they can come up with a better approach and framework that the manufacturers can work with.

Because, you know, there's been a lot of talk about shifting burdens to manufacturers. I can tell you that looking at this straw proposal, we would have no idea how to comply.

So I think if DTSC has a better appreciation of what's really involved, and that will really give us the direction that we need. That gets, again, your comment about feasibility. I think it's right on target.

CO-CHAIRPERSON GEISER: Okay, thank you, Art.

DR. FONG: Thank you very much.

CO-CHAIRPERSON GEISER: Thank you. I hear that as part of George's, the same take your time, work out the details before you do this beta testing. Okay. Tim, and then Richard.

DR. MALLOY: I also want to thank you for being

flexible with the concerns. I want to just do two things really briefly. One, I wanted to say here's three or four issues that I think we ought to talk about in the 40 minutes. And then I'm just going to talk about one of them. And I'm hoping other people will talk about the others.

And I also wanted to thank the staff for the straw proposal. I mean my comments about wanting to talk about these other issues has nothing to do with the work you've put into this. And I appreciate what you have done.

So the issues, I think, that we really should be talking about is the definition of consumer product. And that has downstream effects throughout the reg. The self-implementing approach, the applicability of these regs to occupational uses of industrial, commercial and consumer products. And particularly the variance process, which I see is possibly very mischievous.

I want to address directly the self-implementing aspect. We talked before about it. There's a market component to it, a philosophical component that the market ought to do this. I think it also has a cost effectiveness thing, you know. Obviously with the state budget the way it is, we can't really expect DTSC to do all this. So in a way it seems like a cost effective way to get this work done.

My reaction to it, though, is essentially it's a general permitting scheme that we're talking about here,

right. So, we set up general conditions, and then the companies go out and they implement it. And they report to you, and you take action if you need to.

And we've seen, like stormwater general permitting, has been really problematic with enforcement and companies actually doing what they should be doing and the environmental effectiveness of that.

So I want to just say there's four things, I think, this straw proposal ought to look at more closely. That is the clarity and implementation through objective standards. Consistency across decisions made by companies. You know, when we have the similar, roughly similar outcomes by different companies looking at similar products, it seems like not the way it's drafted right now.

And enforceability of some of these provisions, the vagueness of them makes, I think, enforceability quite difficult.

And then oversight, particularly given the budget problems in California, whether DTSC can really effectively provide oversight.

And my concrete suggestion that I'd like to put out on the table is -- and I think one of the commenters had mentioned this, is I think thought should be given to the use of third parties who would be involved in either performing the alternatives assessment, or certifying the

performance of the alternatives assessment.

And that these third parties ought to be subject to some type of licensing or review by the department. That's one thing that ought to happen.

And then, of course, the department would still retain their ability to come in and revise your question and outcomes.

Secondly, I think there needs to be clear and specific guidance about implementing the alternatives. There was some discussion about we looked at, I think, that notion and thought that you would end up with regs that were really huge.

And I can understand that; nobody wants unnecessarily long or complicated regulations. But if they are regulations that provide adequate guidance and objective standards and consistency, then I think the size shouldn't matter.

And I think Art's notion of beta testing makes sense. And I think there ought to be some type of beta testing that then leads to the development of an applicable guidance that can assist companies in doing these things.

The last point I'd want to make about the self-implementing things, I think it's imperative that the notion of the value choices that are made in the tradeoff judgments should not be left to the individual judgment of individual

companies.

Those are tradeoffs being made across dimensions that are not limited to internal company concerns, but rather social, broad social concerns. And that society ought to be -- they ought to be vetted, publicly discussed. And that those tradeoffs need to be integrated into the guidance so that, for example, the one question, hey, I'm going to talk about one of the questions.

The question about do we weight, according to health and safety concerns. My answer to that is yes. But we need more than just a general preference. We need very clear guidance about how we resolve all the various tradeoffs in performing an alternatives assessment.

That's really hard, I agree. But I think that's something that has to be done. We don't want it to happen on an ad hoc basis, you know, hundreds of different circumstances that nobody's really looking at in a systematic way.

Thank you.

CO-CHAIRPERSON GEISER: Thank you. Richard and then Kelly.

DR. DENISON: Thanks. And I also appreciate the re-orientation of the agenda here. I do want to go back and in my comments to two other things Maziar said at the outset.

One is that this is really all about alternatives assessment, and that that is the fundamental core contribution here. And the other is the basis for the self-implementing aspect of it and market-driven aspects. And then I want to push back gently on those.

I think that if you look at the statute and you look at the power that it has in potential, it's not just alternatives assessment. And, indeed, the uncharted territory that that represents is a huge challenge here, as we've already been hearing.

I think what is at least as important about the statute and perhaps one of the reasons why it was divided into two distinct regulatory processes is the power of the State of California identifying and prioritizing chemicals of concern. That, alone, starts the market working, if just that gets done.

And I would argue that to the degree we're talking about reducing the scope and so forth, that is not where you want to be reducing the scope. Where you ought to be reducing scope is in the uncharted territory of the alternatives assessment piece where I think the kinds of ideas that have been talked about, narrowing that down, getting some experience, moving forward with a much stronger role for government in that process is critical to getting that right. And if there's going to be a reduction in

scope, that's where it ought to happen.

I think the role of government in doing the identification and prioritization cannot be over-stated. And I am very concerned about the aspects of this proposal that we've put that into the hands of companies who either don't have the information necessarily, the expertise, or frankly, the objectivity.

And that gets me to the second point about self-implementation. I think there are two big gorillas in the room. And I certainly appreciate and agree with Maziar's statement that there is an aspect of this where manufacturers know best. In some cases and in some ways I think that's true.

But the two big gorillas in the room are, one, they also are the ones with the greatest vested interest in maintaining the chemical they're using. And that has to be acknowledged. And the public credibility of this whole process has to deal with tapping the expertise of manufacturers, and recognizing that they have a huge potential conflict of interest.

It's even enhanced a thousandfold in this regulation when you start putting in differentials between the incentive someone faces not to find an alternative because they get a lesser regulatory outcome being applied to them if they don't find an alternative.

Things like that, I think, have to be thought through. And the notion that this is all to be put in industry's hands to make those difficult judgments by companies who often, themselves, don't have the environmental expertise or the access to the information they need to make those decisions, I think, borders on an abrogation of responsibility, I think.

The last thing I would say is that there is clearly something else, I think, going on here that needs to be talked about. And that is the constraints of the State of California's budget crisis on the decisions being made here.

We got to get that out in the open. And I think there's a number of ways to think about dealing with it. One is to recognize that you're putting in place something that's going to have decades worth of implementation. And the budget situation is a today and now problem, but it may not be something that persists forever.

So, again, I think we need to think about this in the context of how do we lay out a process where we can put the building blocks in place today, to lay out a longer term vision and framework and pathway to where we want to ultimately get.

So we've got to deal with some of those issues upfront, and not simply assume that if the state doesn't

have the money to do anything right now, just clear off, put it all onto the industry.

CO-CHAIRPERSON GEISER: Thank you, Richard. I'm hearing people say take more time, develop this more carefully over time and all. We also have a deadline that we're trying to meet, that are statutorily there that we have to deal with.

So I think another way to think about this is what needs to be done between now and that deadline. What can be done after that? There's a whole phasing thing I'd like people to think about speaking to, as well.

Kelly and then Julia.

DR. MORAN: I have a lot of thoughts and comments, but I'm going to try to make a few that I think are constructive. Before I start, I do also want to compliment the team. This is a very difficult process you're trying to navigate through, particularly the lack of budget on your end. And I just really appreciate the creative thinking that's gone into approaching this.

One thing I want to say, there have been some comments about how the net is cast here. I think it is important to do one thing in terms of concept that is included in this draft, which is to cast the net broadly, both in terms of chemicals and products that would be looked at. The trick is how to make that do-able.

So I think that there is a good thought here in trying to insure that manufacturers who are selling products here in California are taking a look at their products.

But I think that the comments about prioritizing those products or those chemicals with the most potential for harm really getting some higher level of detail is an important suggestion for how you might move forward.

A few specific things. Tim mentioned the idea of certification of professionals, and I actually had that on my comment note before he made that. And I have some specific suggestions on that that I can send you offline.

But the idea that there would be a requirement for training and certification and that one would be putting their certification at risk if not doing this properly might be a way of helping insure the quality of these within the various limitations the department's trying to navigate through.

Another major theme of my thoughts are that I think that -- I understand the struggle that you're going through with the CEQA model. But I think you've drawn the line too far to putting too much detail in the regulations. And I think you really should be giving some thought for how you want to structure the regulations versus guidance documents. Because of the inflexibility of regulations, they can't grow and change as quickly.

But also I think that if the regulations, if you can try to think a little more about how can we create standards here, and less about how to do the thing, I think that would be very helpful.

Because then it becomes easier to manage and enforce, and more clear. But the how-one-does thing can grow and change as we learn through the experiences from some of the examples that we're talking about.

So, the third one, I just think, in general, the lifecycle alternatives assessment, I've been working in this field for almost 20 years, and I thought it was too hard, too. So I just want to let you know that I think there's some need for some work there on that.

And, again, I'll go back to the CEQA model. I think it would be very helpful to establish a set of questions to be asked and help frame through that. How much goes in the reg, more standards; how much goes in the guidance is another piece. But I think that that's very important.

Then finally, as part of the standards, one of the most critical decisions here is what's significant. And this kind of leads towards one of the questions we've got later on. I do think it is the role of government to define the significance criteria. I do not think that that's the role of the individual manufacturers.

Because what is significant needs to be viewed in a cumulative context. And the information to make that determination of significance is often not available knowledge, or readily available to particularly small- and middle-sized manufacturers.

So, I would recommend that you try to deal with that struggle of identifying what is significant. And make that part of the criteria that go in the regulations. And leave some of that methodology stuff to the guidance.

So, I hope those comments are helpful.

CO-CHAIRPERSON GEISER: Julia, then Bruce.

DR. QUINT: Yes. I -- actually I want to comment on, you know, providing some feedback on the question, because I think it gets at some of my major issues.

And, you know, the question asked about the different pathways for identification. The thing that I find most troubling in reading the straw proposal is the sort of both vagueness and just everything-but-the-kitchen-sink sort of what hits me in the face in terms of identifying, both in the identification of chemicals of concern.

And I'll give an example. The 16 designated chemicals that are pulled out have no idea what the criteria were for putting those on. There's diacetyl. It's actually mostly of concern in food, which is exempted from the

regulation.

So it's really good to get the, you know, to accept feedback from these public workshops, but again, you know, we need to have criteria throughout here, this process, for determining how we do things.

I had a specific suggestion about, you know, having, I think the government should be more involved in the identification and prioritization -- prioritization, can't say that enough -- of chemicals of concern.

Because if we do nothing else, if we have a prioritized list of chemicals of concern, and they are -- many of those chemicals are on those various lists, then I think we will have done a good thing.

And I would like specifically to have OEHHA involved in doing that. We have this robust group of scientists who have been doing this, and most of them have been around for 20 years, let's use them. And I think they are involved, but I'm not sure. The reg, you know, the statute, it doesn't spell out a role for them in this particular aspect of it. I would suggest that as a way to come up with something, and not have people look through 500 different sources to find out if their chemical -- the chemical is in their product.

And OEHHA is also developing criteria. I'm very confused about the criteria. Because in one part of the

straw proposal it says that the criteria that OEHHA is developing will supersede the criteria in the straw proposal.

So I don't want companies going out using criteria that might may be superseded. And this has to do with the hazard traits. And the hazard traits give me all sorts of problems, because far too many -- all of them are equal. You know, you can have an acute toxic in a product that evaporates into the air, which I would define as a release. And that has equal weight, maybe, to a developmental toxic or carcinogen that doesn't, you know, readily get released, or you can't show that it gets released.

So I think, you know, it's very good, I think, for the DTSC to try to harmonize what we're doing here in terms of manufacturer responsibility with the GHS. Because that really -- you don't want manufacturers responding to the hazard communication standard as being revamped in terms of GHS. So that's going to be a burden on manufacturers. And then we need to be in harmony with that.

But basically those hazard traits have to do with identifying things about chemicals that are of main concern, with spills, transportation, those types of things. And you don't want to have somebody doing an alternatives assessment, it seems to me, based on 11 traits that are all over the map, toxicologically. And that's what I see when I

see this.

So, I think, yes, narrowing. But I think developing criteria, actually, you know, not trying to do everything at once. Because I think there are people out there doing the right thing in terms of companies. And I think this could be a disincentive to some of the, you know, things that we want to move toward.

I think, you know, you actually got to -- if we have things too broad or too confusing, it will actually block those.

CO-CHAIRPERSON GEISER: Okay, --

DR. QUINT: And I didn't even talk about workers, but somebody else can.

CO-CHAIRPERSON GEISER: Thank you. Bruce, and then Dale.

DR. CORDS: Mine is, I guess, back to a scope question again, or a comment. The statute starts out talking about consumer products. But then numbers 10 and 11 of the 11 categories, to me that expands it to anything in commerce; be anything on a list of lists -- there's I don't know how many chemicals on here; I'm guessing somewhere between 7000 and 10,000, if you add all those lists together. Which basically puts any item of commerce in play.

Maybe I could use by example. For example, a

surgical scrub that has a skin sensitizer in it would be covered under this correct? I mean that's how I would read it now. Because it's applied to the body; it's an item of commerce.

But the problem with that is you're looking at something that, in terms of risk of exposure, you may get a surgical scrub three times in your lifetime, right? So how important is a skin sensitizer in a surgical scrub as opposed to a soap you use every day in your home?

So t's just that kind, I mean it's again, the scope seems to be way too large.

CO-CHAIRPERSON GEISER: Dale, please.

DR. JOHNSON: Well, first, on the straw proposal, we can't have this discussion without having a straw proposal. So, and typically to have this discussion, it has to be pretty complete; it's got to contain everything that's nice to have and not necessarily we have to have.

So, I think it's a great job to put it that way, because we can't even get to this point if we don't have a straw proposal.

So the question to me is how do you implement this. And what you have to look at is a practical way to get information and implement this, and probably do it over a phased type of approach.

So, I'm going to tell you how I would do it, just

as an approach. Number one, one of the most important things that you can get from this is to get complete listings of chemicals that are in the products that you're interested in.

So have the manufacturers put in the listings of the chemicals, without prioritizing them or anything else. So that you have a complete understanding of what you're dealing with. A database of the chemicals that are in the products that you're, you know, that the regulations deal with. So that's number one. And that's no burden on the industry, more or less.

The other thing is, and going back to what Bruce said and some other people, I have no idea if you did this list of lists category how many compounds you'd come up with. But what you have to do, I think, on a first phase is deal with a set of compounds that really would have the most impact on health and potentially the environment in the State of California.

And you may be able to get down to a list of around 50 compounds. And of those 50 compounds there will have been enough data to be able to do some kind of an assessment or regulation or whatever it has to be.

So, now you've narrowed it down as a way of prioritizing what that list of lists, or whatever it is.

Those are the ones that you start and implement in

phase one. Let's do something with those compounds. And then you really have to do this alternatives assessment. You really have to then start to engage the public/private partnerships in doing that.

And the way that you would do that is you would then prioritize that list of 50 compounds and say, okay, if these are in these products, let's get some kind of a public/private partnership to deal with compound number one. Let's start with number two with another group, or something like that.

So you just make it very practical as to how you can gather information and then start to implement this.

CO-CHAIRPERSON GEISER: Thank you. And, also, really very helpful to hear something that mechanical and that specific about what ought to be done. Please continue that theme. I think Michael, and then Richard.

MR. KIRSCHNER: All right, thank you. Yeah, I want to start by saying I agree with Julia and Maziar that, yes, this does look like the kitchen sink. There's a lot in here. And to reiterate what everybody else says, the first thing we have to do is focus and minimize what we're doing.

Because, as Bruce said, this 6.1(a)(9), (10) actually, does really expand the scope. I mean just the first substance listed, arsenic. Suddenly we're dealing with every piece of electronic equipment that is wireless,

cellphones, this notebook, all the notebooks around here.

The lead, that's in every piece of electronics, every piece of aerospace equipment, every military piece of equipment. And in all kinds of other things.

So, we really have to think about scope. On top of that, what Richard said is very very true, about the fact that manufacturers, once you get perhaps one level down the supply chain, two levels down the supply chain, away from the chemical manufacturers, themselves, the amount of knowledge and expertise available to do this sort of thing drops off dramatically. I mean it's nonexistent in most manufacturers, period.

The number of consultants and service providers able to help with this sort of thing is relatively insignificant. So, from a practical matter, the first thing we do -- first thing we really need to do to be able to actually make this work, is to narrow the scope; focus the activities; and just implement it, I think, relatively slowly.

Get this started in almost a prototype way, like Art said. And let's do a beta and see how this works. Because we're going to need to develop a lot of expertise within industry. We're going to need to develop a lot of expertise within consultancies and service providing organizations to assist with that. Because not everybody's

going to be able to hire people to do it.

But we also have to have the process well defined, too. And that's going to take some effort, because not all the data's there, either, to do this.

So I think fundamentally the first step is to -- we could define, I think, a kitchen-sink approach. But we have to phase the implementation. I don't have any good thoughts, yet, about how to do that. Perhaps somebody else will.

CO-CHAIRPERSON GEISER: Okay, Richard and then Dele.

DR. LIROFF: I have some general comments, and then some specific comments. And some specific suggestions.

In getting ready for this meeting I was trying to put my hands around this straw proposal; try to figure out what it meant. And in preparation I looked at some past examples and recent examples of alternatives assessment from -- Ken will be familiar with this -- the TURI Assessment of five different chemicals, a bunch of products, $250,000 appropriate from the Massachusetts Legislature.

It's very interesting to read through this brief document about how they went about doing it, and narrowed down. This is a specialized organization at the University.

Another one that's more recent, just within the last two weeks, Greening Consumer Electronics moving away

from bromine and chlorine. Apple and some other companies, the process they went through. The leadership decided we're getting away from elemental bromine and chlorine. And this describes the very very complex process they went through, the companies.

And I think it underscores the point that Art was making before about how complicated this can be. And so, you know, he used the word beta testing. I was going to use the word pilot test. That was the first thing that occurred to me when I saw these regulations.

I do appreciate the effort that went into give us everything and then we try to figure out, okay, how do we narrow it down.

Priority setting. Other people have spoken to priority setting. That's part of this process. You know, I was struck also by the absence of criteria in terms of setting the target chemicals. NOx and SOx, well, everybody knows they're nasty air pollutants. What's the relevance to consumer products? Maybe there is some. My lay impression is they're not all that relevant.

But what I was struck by was the omission of brominated flame retardants, in particular. And millions of dollars have been spent on lobbying that issue in the California Legislature. Yet it's not on the list. That strikes me as odd. And I think it speaks to the issue of,

you know, what criteria are being used in selecting these additional product chemicals of concern.

I share Richard's concern about the bias of manufacturers to defend their own products. But I'm a little bit concerned about assuming that there's government here and there are manufacturers there.

I mean we got the private sector, and they're the actors in the private sector, the companies that make the alternative products. We need to figure out how to, indeed, create these public/private partnerships because you got to bring the innovative information forward.

And I'm concerned that believing the analysis of manufacturers doesn't do it. If we can create some -- or institutions or what-have-you, whether they're California versions of the design for environment program, EPA or something like that, that's how to bring that information forward.

One last specific point -- well, two specific points, suggestions. One is if you have to set priorities, well, just for the heck of it, why don't you look at the chemicals that are in cord blood and amniotic fluid. I don't know what the biomonitoring in California shows. I'm not familiar with that literature.

But if you've got a starting place for chemicals, we know that is a vulnerable population there. There are

lots of vulnerable populations, that's one. There are bunch of chemicals, okay, fine, let's look at those chemicals. Let's try to figure out where they come from.

I guess food is off, bisaturate food is off the table, so to speak. But maybe there's some other sources of those chemicals.

In terms of finding the chemicals in the products that may be the sources of those, you know, there's a Walmart Greenworks Process, where Walmart is creating the database. They've offered it to Kroger, to Target, to every other retailer. They're trying to roll it out worldwide to retailers.

If you're focusing on consumer products, that's the place to go where the manufacturers are putting their information in. Yes, there are confidentiality issues there. But you ought to try to figure out if there's some sort of strategic partnership that can be forged between DTSC and Green Works. Because Walmart's basically said, look, this is going to help all of us. And so maybe that can cut through a lot of the analysis, by letting folks know, the State of California know, exactly where the chemicals are in consumer products of concern.

CO-CHAIRPERSON GEISER: Thank you, Richard. I'm going to have Dele and then Mike and Megan. And then I'm going to do a time check.

DR. OGUNSEITAN: Thank you, I'll be brief. I remember the necessarily nebulous nature of our discussion at the April meeting. The scope was intimidating. And I see the scope proposal that represented as a way to synthesize some of the information that we gave the department at the time. And come up with somewhat narrower version of the original proposal, the initiative.

We did talk about four things, you know: How narrow should the list of chemicals or products be. Who does the testing. How do we interpret the results. And what do we do with the results.

In the straw proposal I see elements of the attempt to answer these questions. And I would rather have us spend a lot of the time answering some of the questions that the department has posed. But the big-picture questions are also very important.

I think it's in refining these kinds of proposals that we move forward. It's not perfect, and it's probably never going to be perfect. But I'd just rather have those answers provided.

Thank you.

CO-CHAIRPERSON GEISER: Mike.

DR. WILSON: Thank you, Ken. And I also want to thank the staff in thinking broadly and boldly in responding to the need for comprehensive chemicals policy in

California. And for putting pen to paper and sparking some discussion.

I have a general comment, and then two core issues. And then an over-arching suggestion.

My general comment is that I think that this discussion about the structural underpinnings of this process is really important. And I probably don't need to tell anyone in this room that, from our work both here and abroad, there's a lot of attention on this process and what California's going to do.

And it's, I think, extremely important that we do get it right. And that when it's announced it is off on the right track. And so these questions about the structure of the regulation, I think, are really important. I appreciate having this discussion. And that some of the procedural ones may be more appropriately answered individually.

My two core issues. One is that one of the experiences that we have from the Toxic Substances Control Act is the problem of logical paralysis that are built into the law. And how that paralyses the process that we set out, as a society, to achieve.

And I see two of those in this proposal. One in the waiver process, wherein it seems to me that the fact that we have these enormous data gaps and hazard information, data gaps in lifecycle assessment and data gaps

in alternatives assessment, are going to make it -- lower the threshold for companies to apply for a waiver, given the enormity of the task that they're facing.

My sense is that what we would see if this was implemented in the short term would be a large stack of waivers arriving at DTSC's front door.

The second is in the area of alternatives assessment. And I think this gets, I think, to many of the speakers today's comments about self-implementation, that there's an inherent conflict where we're asking companies to identify alternatives to a substance that they've invested in, in terms of time and money. And then asking them to identify alternative to that seems inherently contradictory.

So then my suggestions are that, getting to what Maziar sort of charged us with, that do we have a market-based strategy here. And that, I think, has required fundamental tasks of government.

One is we have to insure that the market has sufficient information to operate. And the second is we have to insure that the production of goods doesn't come at the expense of public health. And these are the data gap and safety gap problems.

That requires transparency, mechanisms for verification, accessibility of information, its distribution to the economy, and effective oversight and enforcement.

And I think, as others have said, that allows third parties to step in and take some of the burden off of DTSC, and package this information in ways that's useful to all kinds of users: workers, consumers, small businesses and so forth.

And so what I would suggest is that at this point that we do step back to avoid implementing something that leads us into a paralysis prematurely. That we carefully scrutinize the numerous aspects of this regulation where transparency and oversight are compromised.

That we have to do everything we can to insure that information is driven into the market, and that it's verifiable and accountable.

And so then very specifically, I guess, that Don mentioned that in the very beginning, in the product scope, that where products are used in high volume in California, and also high distribution in California was another phrase he used, I don't see that in the regulation. But I think it's a useful idea, as Dale suggested.

And also in terms of certain narrowing the scope. And then, also, in narrowing the scope, Richard Liroff mentioned California's biomonitoring program. We are, with DTSC and OEHHA, conducting a study of umbilical cord blood and substances in that, with UCSF, with the 100 participants and so forth, that is ongoing at this point. And maybe a place to begin with some of what Art's describing as beta

testing, or pilot testing.

CO-CHAIRPERSON GEISER: Thank you, Mike. Megan.

DR. SCHWARZMAN: So one brief specific point, because several people have brought up the issue of what is the scope of this regulation based on the lists of lists that's named here. And we can submit separately to DTSC a brief analysis that we have of overlap of what would be contained, what chemicals would be covered by the lists of lists that's in the draft regulation as it stands.

But I would estimate that it's somewhere around 2500 chemicals, so it's not the 7000 or something, or 10,000 that has been sort of thrown about a little bit.

So, I would echo from the broadest perspective that this alternatives assessment should not be the primary end of the creation of these regulations. And that that can be an outcome of the introduction of information into the market.

And that the service that the department really can provide is in this effort to identify and prioritize chemicals of concern.

And creating the incentive to develop safer alternatives is accomplished by providing information. And so opening up the way that this straw proposal describes the alternatives assessment process, I think it's already been mentioned that it no only is there bias toward, but is

actually limited to existing alternatives. And I don't think that's consistent with the goal that the department has.

So, I believe that the alternatives assessment process should be opened up to third-party input for third parties to come forward and advance the possibility of an existing alternative.

But what again is underlying all of that is the transparency of hazard information in the market. So there is the provision in this straw framework to publish hazard criteria or the hazard data in a publicly available way on an internet site. I think that's 6.7.

But the idea that that is unlinked from the identity of the chemical completely diminishes its power. So, I think that's an essential link to make, is the transparency of hazard information linked to the chemical that we're talking about. Otherwise that hazard information is useless.

So, one other specific suggestion is, that's not going to be addressed by the questions that DTSC is proposing -- is posing to us, is the issue of how do we choose to phase in data requirements. That's something that has come up. The idea that a year timeline is not workable for all of the data requirements that are in here.

And one thing that I would propose is looking at

the timeframes in which we're going to see data become available under REACH in Europe. Because there are two things that will become available in that.

One is data that is publicly accessible on ECHA's website. So that's information that we can tap directly into. The second is test proposals. So for any required data that does not exist, companies at that date must submit a proposal for how they're going to develop that information.

So that will do two things for us. Other than direct access to hazard data, it will help us understand what the data gaps are. Because that will be chemical producers who have surveyed the available information and determined that they have to perform tests to develop it, and that they don't already have it.

And it will also be a proposed set of tests to develop that data. And we can assess whether those proposals are good and are valuable. We don't have to adopt them wholesale. But it's a source of information that we would be foolish to not set up a mechanism for accessing.

One final point is just to underscore this issue that without -- of the variance clause, that without very clearly articulated bases for requesting waivers, it's sort of a get-out-of-jail-free card that I think would undermine the entire rest of the point of the regulation.

CO-CHAIRPERSON GEISER: Okay. I'm going to check here. You have a strong advocate here.

(Laughter.)

CO-CHAIRPERSON GEISER: Scott.

DR. MATTHEWS: Thank you. I'll be very brief. I do most of my work in lifecycle assessment and supply chain analysis. And so my sort of thought is almost exclusively related to that.

Given how complex the supply chains are, I think the notion that an average manufacturer could tell you the chemicals in their product is false.

And given that, I don't know how you try to work around that, if you're trying to get them to do sort of acknowledgement upfront about its existence. And then on the back end trying to sort of credibly go through all of the alternatives.

So my thought with that is that they certainly could try to do something like that if it was a much more narrowed definition of what a chemical in a product was. And/or if you were putting a pretty strict definition on, say, you know, from direct suppliers, chemicals received in components to direct suppliers or something like that.

So, just a thought on how something like that could at least happen.

CO-CHAIRPERSON GEISER: All right, thank you.

With respect for the two cards that are up, which are my co-chairs, which I feel perfectly -- okay. Is that you, Roger? Okay. Roger.

MR. McFADDEN: Roger McFadden, Staples. Yeah. Companies have -- some companies make a few products and some companies provide hundreds of thousands of products. And so all chemicals aren't created equal. One chemical causes cancer, another chemical can cure it.

So, how do we go about -- and that's why we participate in this, because we see this as a great opportunity to help businesses who provide products to consumers. By the way, this has been driven by consumers in no small way, let's not forget this.

And many companies are positioned not as a manufacturer, but as a provider. We're asked consistently questions like what's in your products. To your point, well taken.

It all begins with knowing what's in the products. And if we don't have a comprehensive list somewhere of what constitutes in these products, it is very difficult for businesses to make business decisions day-in and day-out about what products we carry in our supply chain, what products we offer to consumers without knowing what's in them.

So, step number one should be let's get a database

and collect a list of the chemicals that are in the products, first.

Secondly, the question that consumers ask is after they ask what's in the product, they want to know, is it harmful to me. So, you see, the second step is after we collect this list of chemicals, is to then go about identifying the chemicals of concern that are in those lists pertaining to the specific products. Not necessarily that a chemical of concern in everything is bad, but at least consider the fact that it has been identified.

And then thirdly, the third question they ask us after we get past that one, is do you have one that's safer. Do you have a product that's safer? Do you have one that you can offer me that's less impactful?

See, that's the progression that I would like to propose that you work in. That's the order that I would propose that you work for. Whether it be in a pilot study, which I think makes a lot of sense; us scientists are used to that. We like to throw our ideas out and have them checked out and double-checked, and triple-checked. Nothing wrong with that; that's a very responsible thing.

But we may be jumping ahead of the gun a little bit because I don't think we know what are in the products that are in our supply chains. I frankly do not believe that. The companies that we work with do not know. And in

many cases the manufacturers that supply products to us don't know.

And so maybe the starting point is to back up a bit and say, do we really know what are in these products. And maybe begin to move in that direction.

CO-CHAIRPERSON GEISER: Okay, here's my suggestion at this point. I thank you for this. We've gone a little bit over an hour. I think a lot of really really good information got out. In fact, it was interesting to hear how many of the things sort of morphed over to some of the questions that were being put forward, as well.

I would suggest we continue with this conversation, keep it at a good broad level like this. But let's try to also comment, at least on the first question for the next say 10 or 15 minutes. And then we'll shift and take up the second question.

If you continue to have points you want to make about the larger picture, bring those in. But also try to have something to say about these questions. Because I do want to satisfy the staff that it's really tried to put some questions forward that we also are trying to do this.

So please remember, this first question is really about scale. It's about breadth. They've given us three different ways, they call pathways, whatever you want to call, of trying to figure out what chemicals are really on

the table. And they are different for different reasons. And the question is, should they use all of them, should they use some of them, is this the wrong way to go. Try to keep that in your questions, too.

So, if that's okay with you, I'll spend another say up until 2:00, and then we'll shift over and have Bill kind of walk us -- take the same level of discussion into the question that deals with the thresholds. Yes, does that sound all right?

Okay, then I am going to have Debbie and Bill, and then -- so, Debbie.

CO-CHAIRPERSON RAPHAEL: Okay. Well, so the reason this question is up here is because DTSC Staff fully understood that scope was an issue, right. And so they made this huge, and that's what we've been hearing a lot of people reacting to.

And I want to challenge all of us to not stop with, yes, it's too big; but, how do we make it smaller? I mean that's really what they're hoping to get from us. How would you narrow it? Not that you need it to be narrowed.

And there's something that Richard Denison sid that really spoke to me that gets to this, is this issue of where do we narrow the scope. And also to the point that we've been hearing about the need for pilots. When do we need pilots; when do we need beta testing?

I would agree with Richard Denison in that one of the -- and Mike and Megan, many other people who said that one of the most powerful things of this is this idea of information, and how do we get the information out into the marketplace so that our Governor's intent of making this market-driven actually happens.

And I would suggest that as we think about reducing scope we differentiate between alternatives assessment and regulatory outcome and the first ID and prioritize chemicals of concern. I think they are different and that they have different opportunities and knowledge points.

Every single person in this room has said alternatives assessment is really hard and really time consuming, and really expensive. And maybe we need to not make every manufacturer who may have a conflict of interest and be challenged financially, do that.

So, as we narrow scope I would propose that we do not narrow scope in terms of identifying and prioritizing chemicals of concern, because that's the information we need out there.

And to the point that, well, manufacturers don't know what's in their products, exactly. That's what we need to -- if there's one thing that we can achieve by this regulation, maybe that's it. And that where we do the pilot

testing and the alternatives assessment comes in a phased-in approach for alternatives assessment based on the prioritization of our chemicals of concern.

The regulatory outcomes, then, need to not stifle innovation. And I know that that's such a general statement, and you want to know, okay, fine, how do you have regulatory outcomes that promote innovation. And I would love some of the industry people here to comment on how we get to that, when we get to that part of it.

So, when I look at that question number one, and I say those nine consumer product categories, I think they're pretty strong. And I think they represent the idea of vulnerable populations. I especially like number nine, as a person who deals with waste, end-of-life issues. I think number nine is very strong, even if it broadens it. This is not where I would suggest we narrow.

I think the 16 designated chemicals, my suggestion for that, because the list of lists might not capture everything, then what we need to do is set criteria that are clear and transparent on how something gets on that list of chemicals.

Having said that, I know that gives a big universe of chemicals of concern. What we need to do then, the challenge is to look at how do we phase in the alternatives assessment part of it.

So that's my comment.

CO-CHAIRPERSON GEISER: Bill.

CO-CHAIRPERSON CARROLL: Thank you, Chair. And I want to speak to a couple of points. One is with respect to scope, which I take as being the core of question one. And a bit to the generalities.

First, with respect to scope. And just to show you that the three chairs have very independent ideas, what I'm about to say I think is just about exactly the opposite of what my esteemed co-chair just said.

Because I would like to speak against both the use of the lists of lists, and of the hazard categories for expanding the number of chemicals. And here's my reasoning:

If you look through the lists of lists what you find is that for about the first 19 categories, to me, by my reading, that's essentially what Maine used in assembling its list, which is approximately 1700 chemicals.

A colleague informs me that the chemicals classified by Canada's inherently toxic aquatic organisms is 5200. Now you can go ahead and add the rest of these, and you can add that enormous number of chemicals to consider.

Now, let's be fair. Not all of those are high-volume chemicals; not all those are tremendously important. But it's a huge list to winnow. So let's talk about things that might be important, goes to the hazard list.

I looked through the 100 largest volume chemicals that are manufacturer, 17 of which are polymers, so I took those off. Of the remaining 83, by my estimation, 44 of them would fall afoul of something on the hazard list.

Now this goes to some extraordinarily basic chemicals that we're talking about. And I'll give you one example. One example is sulfuric acid, which is the largest volume chemical made. And, of course, is an important part of the battery that powers your automobile.

So, go ahead and follow the process through, and on a logical basis you would be banning lead acid batteries for automobiles in ten years. Maybe this is a good thing. But what you don't have is you don't have a drop-in for the 30 million automobiles that exist, registered in the State of California. And I'm guessing that's going to be a problem.

So, this is what comes to me from the perspective of scope, is that if you define something that literally is that big, and even if you say but the important part is to set priorities among something that big, I agree with that. But how you squeeze it down to a number like what I think Dale suggested is on the order or 50 or so, which seems to me to be a reasonable sort of scale, at least to start with, to figure out how the process would work, to me is quite daunting.

So I would personally abandon the lists of lists and hazard categories as a way of generating a huge list of chemicals.

With that said, I also want to kind of support what George has to say. And the idea of going for a relatively limited suite of products that are particularly important and relatively limited suite of chemicals within that is probably a quite reasonable approach. And I think does address the spirit of the statute. And I'd urge us to consider that.

Let me jump the track to something else just for a minute. Richard, I might add that self-implementation is not seen by industry as an unmixed blessing. And the reason for that is because it looks to us, as we looked at the process, is it appears to us to be the never-ending story. Let's just follow it through.

Suppose you go ahead. You have the responsibility for self-implementation and you do this in good faith, and your materials, and another organization, whether it's a manufacturer or an NGO or others, submits an alternative assessment. Who wins?

And how does the process ever end? I'll tell you where it ends. It ends in the courts. And after it's all said and done, you will have an enormous litigation engine that results from this, primarily because there's no

referee.

So, in the end recognize that self-implementation may be seen as industry's nose under the tent. I'm not sure our nose wants to be there, under this particular tent.

But I would also add that if the issue is bias, I challenge you to find a process which human beings were knowledgeable that's not involve individuals' bias. Some people call it point of view. But a bias-free process simply doesn't not exist.

The key is to find a way of acknowledging that people have points of view, and having all the points of view out on the table, and not viewing them as inherent dishonesty in the process.

And, once again, I want to thank all of you for your comments, and particularly because you've helped us deal with question one. And perhaps it was one of the most important questions in addressing, also the general comments that you brought up.

Thank you, Chair.

CO-CHAIRPERSON GEISER: Let's see, Dele and then Tim.

DR. OGUNSEITAN: Yeah, the issues about how to narrow this fourth question on products is essentially, in my mind, equivalent to pilot testing. We're not going to do them all. We have a lot of historical evidence about where

products, chemicals in products have become problematic. We either regulate them out of existence or forced a search for alternatives. And in many cases the alternatives have also become problematic, and we go through the cycle over and over.

So, how we pick this category of products to be the best possible examples of how to implement this, I think, should be one of the guiding principles as we narrow the list down, if we want to do so.

One of the concerns I have with the specific list is in response to the questions that we put on postcards, there was a statement to the effect that if there is another law that governs the same product, a manufacturer can say that they should be exempt from this particular one.

And I see items number three, products that are designed for application directly in or to the human body. And seven, release fragrances or scents. And some other aspects that are related to what we already have with regulation of cosmetics.

And I'm not sure how well that has worked, and maybe we should hear whether that's working. The manufacturer can simply say, I don't want to be regulated under the Green Chemistry Initiative. I'd rather go to the cosmetics act, and then nothing really happens.

So that's, you know, collapsing some of this

probably will be a good idea.

CO-CHAIRPERSON GEISER: Okay, I'm going to move this to Tim. But I'm going to again throw out this little clue that I'd like people to address in some ways, and that is about phasing over time. One way to deal with the scale of this is to think about what ought to be first. I think this is where Dale was going.

And what are the -- done later, and as a way to deal with scale by thinking about timing. Tim, and then George.

DR. MALLOY: Okay. So I want to answer, get some comments on that question, and directly relating to phasing through the context of the size. I have to say, I like what you had to say, Bill, but I got to disagree with you on the notion that the way you address your concerns is by making the initial list smaller. I agree more with Debbie, and I think merging what Julia said with Debbie and some other folks is really the way to go.

Just a few things. So, one, I'm not a toxicologist or scientist, so I rely on other members on the panel to tell me if this is the right list. But I like the scope of the list. I think it should be broader rather than smaller.

And I'm not worried about how big it is when you add in what Richard said about prioritization. We've

drifted from the notion of prioritization. The way this straw proposal talks about prioritization, it's like we bring everything in, we do alternatives assessment on everything. And then we prioritize them for regulatory action by those three priorities. I don't think that's the way the statute's constructed.

I think the way the statute's constructed is you identify all these chemicals. And then based on information you prioritize them for action. And then based on your staging of the priorities, you start doing alternatives assessment and regulatory response.

And I think the straw or the regs, you want to get back to that approach, because that's what creates the problem here. And I totally sympathize with the folks from industry who are saying this is too big, we'll never be able to do it, certainly not in three years, so on and so forth.

So, I would keep it big. And I want to say a few more words about what it ought to look like. But before I get off of that point, I want to say something about why it's too small. Okay.

And I've said this before, and it seems like nobody wants to talk about it. But I'll say it anyway. Where is the occupational uses here? I can't get out of my head this picture I have of a worker at a chemical plant standing next to a reactor with all sorts of toxic chemicals

in it, and they're pouring things around. And that's not regulated at all, but if they get Windex out to clear their viewport on the reactor, that's regulated. And I just can't get that out of my head.

So I think that we need to be looking at more than just consumer products. Now, does that make it too big? I don't think so, because prioritization now will kind of pare that back.

So how would that work? Again, I'm not a scientist, so I'll leave it to you to figure out how to prioritize. Structurally I think that what we have to do is identify broad range of chemicals, and maybe that's it. And for all those chemicals there ought to be submission of use data, of hazard data. And that has to be to DTSC, and that has to be publicly available.

Now, I think there is an issue there with it's a badly written statute in so many ways that I couldn't get started. But one of the major problems, I think, here is the legal authority to require additional information on these chemicals.

Now the way this is written right now I think it might get around the legal authority by making everything a chemical of concern, and doing an alternatives assessment on it. So I won't go into the legal problems. But I think there are some real legal issues about whether you can get

that information under the statute, as written. And it might require some fixes.

But how I would structure it is identify the broad range of chemicals; the manufacturers or importers of the chemicals, not the products, are required to submit the hazard data to the department, to the clearinghouse, so on and so forth.

And then I think DTSC has to kind of belly up, or ante up, or come to the table, whatever euphemism you want to use, and they have to do the prioritization of the chemicals that are going to be required for alternatives assessment.

The statute requires the development of regulations that set out the prioritization procedures. Now, clearly, DTSC working with OEHHA before January of 2011, come up with a set of standards for prioritizing, you know, perhaps the first 50 chemicals or 20 chemicals within that framework. You'll have to ask them; but I have a lot of faith in them.

And I think like the stuff we heard this morning, I don't know, Sara, the stuff you were saying this morning makes me think that, yeah, maybe you could, on the basis of what they're doing with the end points. And you were talking about prioritizing hazard traits and whatnot. I think that that's what these regs ought to do.

And the prioritization is not just a scientific enterprise, it is a value, you're making value choices. And that's something that ought to be done with the regulators very much involved, not being made independently by business. And I'll bet there's a lot of businesses out there that would agree with that. That they don't want to be the one deciding what to give priority to.

So I know that's not very specific in terms of the science, but I think in terms of the framework that's how I would do it. And that's why I'm not at all worried with how broad the list of initial chemicals are. I think the more information we get, the better.

And I will finish this by saying I am not nearly as optimistic as Mike or Meg or other folks about getting information out on the market will lead to the diffusion of safer alternatives. It sure didn't work with energy efficiency. I don't think it's going to work with chemicals, which is why I think you need to keep your feet to the first on the prioritization, so that it's not just with the chemicals and then stop.

The regs need to have some clear requirement for continued activity here over the decades that I think Richard was talking about.

Thank you.

CO-CHAIRPERSON GEISER: Thank you, Tim. George.

DR. DASTON: So, I think the point about prioritization that I would make is, the general point is, you know, there needs to be a process. And however many chemicals get included in this, I think, is a matter for discussion. But there needs to be a process as to how they are prioritized.

I think we've heard a lot of good suggestions here in terms of production volume, in terms of potential for exposure, in terms of real evidence of exposure. And, you know, those kinds of things can be anything from an individual who's highly exposed to, you know, the fact that a million individuals are exposed to any. And those are all kinds of policy judgments that simply need to be set out in a process for which chemicals you'd want to go through first.

A specific question -- a specific comment that I would make about the question that's on the board is about the list of lists. And that's a real dog's breakfast of lists. It really needs to be vetted pretty significantly. I mean there are things on there that are highly quality controlled for which the process for putting something onto those lists has been robust. And then there are other lists there that are really just lists of, gee, you know, this is an interesting list of chemicals that we ought to look at further, like the OSPAR list.

And, you know, as we start going through this I think that we need to start paring down, or at least qualifying what we're considering, based on what we know about the quality of those lists.

And then as long as I have the floor, I'll just make a response to one of the things that was said about not having an interest in alternatives. And just speaking from my own perspective, I don't believe that's true. My company doesn't sell chemicals, we sell products. We're doing substitutions wherever they make sense.

I wouldn't want to -- I hear what you're saying and I understand the spirit of it, but I also wouldn't want to exclude industry from this process of alternative selection.

CO-CHAIRPERSON GEISER: Okay, I'm going to take a little chair's prerogative here. We have two people who have not spoken at all. And if you don't mind, I'd like to take them ahead in the queue. And this would be Ann and Lauren. So, Ann.

DR. BLAKE: Okay, I'm going to try and pull together a couple of different things and put them all into one comment, and address specifically something that's in question one. Obeying orders, here, by the Chairs.

Something I -- we keep talking about prioritization, and I'd like to point out something here

that may help staff move forward towards what prioritization could look like.

I think we've got an implicit prioritization here, and Julia referred to it in these 16 designated chemicals of concern. I would be very careful about this, be very very clear and transparent about your criteria, and why they're there.

And then as you start articulating how those chemicals got onto that list, I think you may start getting into some criteria about what -- you've got some prioritization criteria in there that are implicit.

One caution would be that those include things that are otherwise exempt by the statute, so I'd be careful of that, as well. There's a pesticide in there that I personally think should be on there, but be clear what those criteria are.

And then I'd like to address a comment that Evelia made that you cannot take -- currently you cannot take a regulatory action without going through the alternatives assessment process. And that's a sizeable concern to me. And I think one of the ways that you could use the designated chemicals of concern list, if your criteria were clear, is to be clear about what those criteria are that would take you around; that you have sufficient data to take a regulatory action without going through that alternatives

assessment to take some sort of regulatory action. You're making a gesture; we can talk more offline. So that also could be the first phase of specifying what your priorities are.

Let's see. And I think this might also be a place, and it could be another place that this could go, but this could also be where you might specify what is adequate data to take some kind of regulatory action.

So those are the pieces that I wanted to bring up.

CO-CHAIRPERSON GEISER: Lauren.

DR. HEINE: Thank you, Ken. I have, I think, more of a story than anything else, that speaks to the phasing. And it's not as clear as I'd like it to be, but I think in terms of whenever I've seen industry move toward greener and greener chemicals, they often start at the first step, which is moving away from chemicals of concern. And that's phase one.

And I agree that having an extensive list of chemicals of concern is not a problem. The challenge is, as Roger noted, finding out what exactly is in your product in order to screen it.

The next step of this sort of simplistic model is once you get away from chemicals of concern, you have to define which one is better. Here's stage two. You need a lot of data. How do you know whether a sensitizer, an

aquatic toxin, is better. And are you comparing known concerns to unknowns.

And then finally, and that's where, I think, part of the alternatives assessment comes in, but one thing, I think, is sort of missing from this project is what does good look like? How do you define a greener product? I don't see a place here for products that have been through significant review programs. For example, DFE certification programs. Is there a way for products that have already been through extensive reviews and are known to contain greener formulations, can they get a bye through a process like this?

And the story really has to do with ongoing work with Walmart, and the information tool that they have developed, where there's a big portal where all the manufacturers can input their product formulations into this database. And it's kept secure by a third party.

And then the chemicals are screened against a list of lists. And they are displayed by functional use. And I think that DTSC is really building on a number of these ideas.

And in the display you're comparing toothpaste to toothpaste, and shampoo to shampoo. And it's very easy to see that some have chemicals of concern, and some don't.

And Walmart did a screen of about 15,000 products

and -- I'm sorry, they put a score on anything that has a chemical of concern, and it gets points. And these are negative points. Of 15,000 products. About half of them had a score of zero. The other half ranged from something like 1 to 50,000 or something like that.

And the question was, it's very clear, if you're a competitor, is able to produce a similar product without getting a negative score, and you can, that's going to drive -- this is all tied to purchasing. It's all tied to purchasing. There needs to be a demand for these kinds of products. So how do we tie this into retailer demand, into government purchasing demand.

But also the other side, the first question that most of the manufacturers ask is, okay, now I'm zero, how do I demonstrate -- how do I show my product's really good. I don't use chemicals like that. I would have to start making rubbing alcohol with methanol to get a bad score. So what do I do to show that I have a better product.

And I think that's something we need to think about, too. And the phases are really moving away from chemicals of concern. And then -- that's stage one.

Stage two, comparing alternatives. And then defining what good looks like in creating a path for products that have already achieved a high level.

CO-CHAIRPERSON GEISER: Thank you, Lauren. We

have about eight cards, and I presume hopefully many of you want to speak to this question of this list and criteria for establishing the chemicals of concern.

I'm going to call on Dale next. But we have had one specific question from the staff, as well. And that is can people speak to the issue of what is wrong with a list that is specific chemicals. Be clear about what you think is right or wrong about having such a list, as well.

So, I'm going to ask Dale to go next here.

DR. JOHNSON: So I will address questions one and two. I'll do two first. And I think -- and this goes back to the actual diagram, because I think probably the diagram should be changed a little bit.

I think rather than, first of all, identifying the product category, it's more important to identify the chemical.

In many respects you don't have to reduce the size of what you're doing, or narrow down in the scope of the universe of what you're doing. Because you want to keep the universe as large and overall encompassing as possible to address every type of health hazard. But that's not the way you implement it, and that's not the way you start and phase in a program.

I can give you an example. I've been involved in discovery and developing drugs for cancer for a number of

years. So cancer is the universe. But you don't go after every cancer and you don't go after every mechanism. You got to get down to what you can actually do. And that's how you actually make an advance.

So, in this particular case, yes, you want to be able to keep the universe there. That kind of hovers in the background of some kind of, you know, some kind of a circular diagram of something.

But you want to get it down to what you can actually implement in relationship to a chemical hazard. And I'll go back to what I said before, the chemical hazards in this particular case are on human health, and then some what we would say very highly prioritized hazards to the environment.

And some of those could be the same type of chemicals. But from an environmental standpoint in many cases it's the physical chemical properties of the chemicals, themselves. And that's why you see lists of five to 7000 chemicals.

So I would say, and I'll go back, there's probably -- you know, you're probably dealing with several thousands of types of chemicals. But what you're trying to do is implement something that's very concrete, can be implemented within a certain time period. And I'll just use the example of get it down to 50 of the most important things in

relationship to the State of California.

Then move those into the categories that you've already set up, those nine categories are fine. There might be something that shows up a little bit later, or something that might be missing, but move the chemicals into those categories.

So now you can say, okay, of those 50 categories, 17 of those actually show up in kids. And they show up in kids, you know, there's biomonitoring data, in women of certain ages. So they show up in certain things. And that starts to get you an idea of maybe where you would go in the future with the next 50 lists.

And so I don't see anything wrong with the nine categories. But I wouldn't use that as a starting point. I would use the chemicals as a starting point, and move them into the list. And then, over time, start to develop this as to what's the next level of chemicals that actually then are most important to the State of California.

CO-CHAIRPERSON GEISER: Thank you. Okay, Michael, I think you're next here.

MR. KIRSCHNER: Okay. Actually I really like what Dale just said, that's good. That kind of kills a couple of birds with one stone, because you don't really want to reduce the length of the list. I think you want to consolidate this list, and I have this list of lists in

here, because you don't want every manufacturer going out to Google and trying to figure out what in the heck all these things are. They're not going to be able to do it.

So California does want to have some control. DTSC wants to have some control over this list of CFCs, -- COCs.

That said, there are a couple of specifics on this list chemical -- the list for applicability. I just want to point out they are details. But nine products designated, or designed to reasonably anticipated to release chemicals during intended use.

So, automobile brakepads. Very interestingly, the European Union, actually the chemicals agency, in their guidance in articles in REACH says, well, brakepads are not -- wear is not considered intended release. So there's a difference of opinion here. So any sort of wear, tires, not considered intended release. So that's an interpretational difference that might raise some hackles and raise some issues.

And, again, what I liked about Dale's point was that, in a way, it reduces the problem of having such an incredibly long list. Paragraph 10, any product that contains any chemicals, that's the whole universe, as has been mentioned.

So if we can prioritize some of those chemicals,

take some of these categories, just to start with, yes, that's a good way to narrow the universe initially.

One other issue that is in here. The chemicals are on these lists for reasons. There needs to be data behind those reasons. I don't think you want the manufacturers to go out and get hazard information on those substances, because it should already by there. And that, again, I think should be maintained by the state.

I don't see a reason to -- section 6.6 and .7 talk about having to go out and get all this information on all the chemicals in your product. All products are chemicals. They contain them. So, 6.6(a) doesn't make an awful lot of sense.

And finally, just to wrap up, as was said at the last meeting, as Scott just said, we do have to be careful about products with an enormous amount of chemical substances in them, and enormous and extensive supply chains. Because there is still, despite all the regulation that has been coming at product manufacturers over the last decade, their industry has absolutely failed, in my estimation, to put together a coherent methodology and process to deliver chemical substance information down the supply chain.

There are a number of reasons for that, not the least of which is confidential business information through

the chain. But there's also, as I said before, distinct lack of knowledge through the chain in interpreting any of that sort of information and knowing what's important. As well as the technical aspect of no systematic method or systematic computerized -- based format to take this information down the chain without it being corrupted in one way or another. It just doesn't exist.

Certain industrial sectors have certain ways to deal with that. They have their own little forms. But every manufacturing sector has exactly this problem, or very similar problem. Particularly, again, those with longer supply chains.

CO-CHAIRPERSON GEISER: Okay, Michael, thank you. I'm going to turn to Kelly here. What we're trying to do is close down at 2:30, so we have about eight minutes left. I have four cards up. So if you could try to keep yourself to a very short number of minutes, it would help in trying to get everybody in before the 2:30 time.

Kelly.

DR. MORAN: I just want to respond to the question one, and make a brief comment about prioritization.

So, for the categories of products I want to echo what Debbie said, I think that category nine is most important because that's the ones that are most likely to create exposures to human or the environment, and therefore

should be the highest priority.

And I just want to note to staff that the phrase, designed for use in, that's used in some of those categories, has been problematic in my professional experience in other regulatory programs.

For example, I think that you would find that most of the products that are used in schools are not marketed or sold or labeled as being designed for use in schools.

In terms of the list of chemicals, I would suggest that as DTSC thinks about this, that a potential approach for reframing that would be to establish a list of either chemicals or products that DTSC thinks are the top priorities for more detailed alternatives assessment in the near future.

So when reading that list that was what I took it to mean, even though it was just chemicals and didn't include specific products. But I would also -- the thing I thought was the gaping hole if that were the approach you took, would be flame retardants. Because I think that there's a lot of scientific data, human health data and actually public controversy that suggests there are questions and needs for assessment of alternatives in the flame retardant area.

In terms of the lists, I was distraught. I'm very pleased to see that there's been some attempt to try to

establish a categorization scheme for aquatic life. But I was distraught that there was nothing for other types of ecosystem end points, for wildlife and plants and birds and so forth.

And I don't think that you're going to find a convenient list for doing that, just as there's really not a convenient list for aquatic life protection. And instead the approach that entails using toxicity end points, similar to that that you've got for the aquatic life is going to need to be the way to go in that area.

And just as a sub-comment to that, I didn't understand the wording on the aquatic life approach where we've got those various toxicity end points. If you were thinking that it had to be biocumulative, as well as toxic, I would strongly recommend against that. Because many environmental problems are caused by pollutants that are not biocumulative, accumulation as sort of a couple decades ago.

And then finally, my comment on the prioritization. I differ in approach, but I think have some of the same thoughts from what Dale and Michael were saying. I think that the way to do this isn't to try to pick a list of chemicals that are the top priorities.

And the reason for that is my experience with consumer products is they're very specific environmental problems, there's very specific compliance problems

associated with these certain chemicals and certain products.

Most people in this room are busily thinking about some human might be exposed to something, and it's causing some sort of harm. And I think that's a concern. But there's some really specific things that are going on with specific products. And if we try to make a list of chemicals that are the top priority, we're going to cost the state -- I mean I know from just one product and one chemical -- hundreds of millions of dollars.

So we really need to be structuring this so we can respond to environmental problems associated with consumer products.

And that's why I have a couple of thoughts in terms of approaching this in a little different way. One is --

CO-CHAIRPERSON GEISER: Kelly, --

DR. MORAN: I'll try to wrap up, yeah -- so, real quickly, the first one is just that I do think it's important that there be some establishment that everybody who's making a product with a potential chemical concern be asked to look at it at a very low level, but at least be obligated to do a look at that.

More importantly, I think that DTSC is going to need to do something kind of like the ARB does with consumer

products, and establish a list of things that are the priorities for this year. And then establish next year the priorities.

And so create kind of a regulatory calendar. And some of those might be chemicals and some of those might be products. And to take public input on that. And most importantly, input from your fellow Cal-EPA agencies.

So that would be a way to establish priorities that are actual meaningful in association to exposures and impacts. And then that would be updated every year or every couple years as a way of moving this through. So that would be a different approach to prioritization that I think would link directly to the needs of the State of California.

CO-CHAIRPERSON GEISER: Thank you. Michael, two minutes.

DR. WILSON: Okay, I'm zooming. I'm going to come to the defense of the lists of lists, as a bare minimum floor. And that that needs to be supplemented with new substances based on new science.

And I say that because the process -- my point here is that the process of identifying chemicals in products has a critical role in the economy.

And a couple of years ago -- I'll illustrate this with a brief thing, I know, I'm 90 seconds -- that was two years ago at the California Manufacturers Association. A

consulting firm reported on the results of a survey of 300 of its client companies.

They found that a third of the chemicals and chemical products used at the 300 companies were improperly inventoried, were listed but not used, or were used and unaccounted for. Chemical toxicity was massively overlooked. And that combined, the 300 companies were unaware of the presence of about 55 carcinogenic chemicals. And there were 200 extremely hazardous substances used in chemical products.

So the role of the state in giving a means for companies to identify and prioritize chemicals of concern is a disciplining process that we've seen in other statutes, the toxic use -- act in Massachusetts, that's going to get companies focused on substances in their products. And otherwise they're simply not going to do it, as we've heard today.

So that's my sort of general comment. And then specifically picking up on Tim Malloy's point that what we've seen, at least in the industries where I've been working, vehicle repair and press operating and so forth, that the use of consumer chemical products is primarily in those industries by professionals, by professional automotive mechanics using end-labeled consumer products. Ninety percent of sales were to professional shops. And yet

it was a consumer product, brake cleaners and so forth, and press cleaners and so forth.

So, I'm hoping that there's a way to capture products used professionally as consumer products in the State of California, for that reason.

CO-CHAIRPERSON GEISER: Thank you, Michael. Lauren, two minutes. Is it Lauren? Oh, Roger, I'm sorry, Roger.

MR. McFADDEN: Real quick. One of the reasons that it's so important to look at what's in products is what we've identified -- I mean, again, when you're managing over 800,000 products that are being put into trucks with each other, the chemical interactions between those products often are overlooked.

We sometimes pay the price for that because we end up just happen by chance to get the wrong, you know, products together on the truck at the wrong time, we have reactions such as household ammonia and household bleach, for instance, making contact with each other. So that's something. I'm not trying to make a complex program even more complex, but that would be one thing to consider as a need.

The other one is the products; don't have any problem with the product list. I think you've done a great job. In fact, I should compliment the DTSC, excellent job.

Somebody has to start these things. You end up being the one that takes the arrow sometimes, but thank you for being courageous enough to do this.

More definition in the products. There's going to be some confusion about some of these product categories. Let's take fragrance as an example. A lot of fragrances are added to a lot of products that weren't intended to be a fragrance product, but are added into the product.

So, for instance, we would wonder would we then need to make sure that any product that had a fragrance of any amount associated with it, would that be included in this.

Also a lot of other things like school supplies that go into schools, crayons and pens and those type of things. Would all those be -- and I suspect they would be, just a quick -- so, again, greater definition in each of those product categories would be useful.

Thank you.

CO-CHAIRPERSON GEISER: Richard, two minutes.

DR. DENISON: Three quick things. One on bias in the role of companies. Just to make the record straight. I absolutely think that companies who are making these products need to be part of it. My objection was that they would be the exclusive arbiters of all of this, okay.

Two things. One reaction to the list of the 16.

It seems to me that this is an amalgam of three things. One is a bunch of chemicals that are already on the lists of lists. The first five, for example, are probably going to be on almost all of those other lists. That's redundant.

The second is sulfur oxide and nitrogen oxides, products of combustion, no business being here, I don't think.

And then the third is maybe you're trying to get at something like chemicals that are in the news, emerging contaminants that have been identified recently, not necessarily on lists yet.

I think that is a legitimate category to flag, but you need to be clear about what you're doing, and why those are coming out, and do follow up, for example.

Finally, I would really like a clear answer to the question that I think Ann posed, which is does DTSC believe that the statute prevents it from taking a regulatory action without going through an alternatives assessment. And I think you need to be very clear about that, because that's a huge concern that was raised at the last meeting; it's one that I think needs to be clarified if that is the legal opinion of DTSC or not. And maybe this isn't the appropriate time to answer it, but I would like to leave today with an answer to that question. Thanks.

CO-CHAIRPERSON GEISER: Thank you. Now I'm gong

to ask you to hold, and I'll pick this up -- or we'll pick you up as one of the first people in the next session.

I think we'd like to move to a break, and I think it is time for a break. I think people have worked really really hard. I want to congratulate you and thank you for all the effort. You in staff, folks at DTSC, you wanted some answers to these questions. You got answers to these questions.

(Laughter.)

CO-CHAIRPERSON GEISER: Let's take about a ten-minute break, no more than ten minutes. We'll come back into this room in ten minutes. It's a short break. Remember, if you can, don't talk about what we've just been talking about.

(Off the record at 1:31 p.m.)

(On the record at 1:43 p.m.)

CO-CHAIRPERSON GEISER: Two quick announcements we're going to do. And then we're going to ask if the staff would like to just respond for about ten minutes to some things that they've heard. And then we're going to move into the next phase of questions.

So, Kathy.

MS. BARWICK: There was a question about transportation to the airport soon after the meeting is over. There will be a cab at 5:00 at the 11th Street side

of the building. It's the employee entrance, and it's that direction. When you go down the stairs turn right and go out that.

I only have one person signed up for a cab, but I heard a rumor there were more. So it can hold about probably three people. So if you need to do that, that's where it will be.

And then we had a report from some staff here in the building that side conversations are being heard over the webcast. So, of course, side conversations are not allowed. But if you do have one, please turn the microphone off. Thank you.

CO-CHAIRPERSON GEISER: Thank you, Kathy, for that. All right, we do have one point of clarification from Mike Wilson on a reference that he made.

DR. WILSON: There was a question about the citation that I made from the 3E consulting firm about chemicals used at 300 companies being improperly inventoried and toxicity being overlooked and so forth.

And the question was were those findings endorsed in any way, or sanctioned by the California Manufacturers of Technology Association or the Chemical Council of California. And the answer is no. They were presented at the conference of those associations and the Industrial Environmental Association, but were not vetted or sanctioned

by those associations. Thank you.

CO-CHAIRPERSON GEISER: Thank you. All right, so I've been requested here is to provide ten minutes for the staff, themselves. They heard a lot of different things in all, and they would just like to respond to some of them. And Joe also had a legal clarification, I think, he wanted to make.

So, Peggy, do you want to just lead us into this.

MS. HARRIS: Yeah, we appreciate the input that we've received. I wished through the process, there have been many times where you've started to say something that I would have loved to have been able to follow up and get more detail as to what you were thinking.

So, in that regard, we would be really interested, as you've identified problems, and you'll be surprised to know that we, too, have probably thought about those problems. But to some degree we really need more input in terms of what the solution might be. So, I'm not soliciting, but we would be very interested to have more detail on your recommendation.

There was one area that I heard. We got lots of input on the prioritization concept, or the narrowing of the scope. It's not prioritization, but narrowing of scope.

One of the other things we began to hear about was more phasing in. Some of what you were talking about I

understand completely. Some of the phasing, like the beta tests, I would be very interested in how you would envision that to work in the regulation. We don't really have authority to require beta test in the reg. I know some states do have that. We really don't.

So, as you're saying that, what are you envisioning? I could see that translating to some sort of a phasing in, and what might that phasing in then begin to look like, would be something that I think we would be very interested in getting a little more clarification of.

And, once again, I think, as some of you were starting to comment, you were starting to get to, as what you identified your problem, you were starting to get to what the fix might be. And then you kind of got cut off because of the timeframe. I really would be interested in having more of that thought come through in terms of what you think the real fixes are, and the changes that we could make.

Some of you commented on things that I'm sitting here thinking, well, isn't that what we did. So clearly, we're not hearing always when you were sort of laying out some of the approaches that you think we should take. And I thought, well, didn't we take that approach. So that's an area that we would like to get, some of what you've done, verbally, would be very interesting to get in writing. Not

that we're soliciting.

One of the things I'm going to ask Joe to answer the question that Richard raised regarding the legal question of why we felt that we did not have the legal authority to require or go directly from response action from the prioritized chemical of concern.

And the second issue is the one of requiring chemical ingredients. I don't know if Joe is prepared to address that legal question or not.

But we also do not, and never have, believed we have the authority to require the ingredients in products. That's why we kind of moved away from this chemical-of-concern approach to begin with, because we didn't have the legal authority. The legislature didn't give that to us.

So that's why we tried to build something that did not take that approach. He's looking at me strangely, so maybe he's not.

Oh, the third party, yeah. The other one that Nancy reminded me that we would like to get more input on is this concept of the self-implementation. We heard that, and we also heard it in terms of a third party. I'm hoping Maziar does come back to talk about the public/private partnership, because we did think about this as being something, the support, the framework could happen as part of a public/private partnership.

We also envisioned having and building, in a separate reg package, a process by which we could develop something more along the lines of what -- has, where we would have a certification, you would have a verification, we would have a training. We just, given the timeframe, didn't really feel we could do that as part of this reg package. But we would be interested in hearing more about that concept, if that would meet your needs or not.

Anything else anybody wants to say? Okay. Joe.

MR. SMITH: Yes, with regard to Richard's question. We have been operating under the conclusion that the only way we can take a response action is following alternatives assessment. And we get that from section 25253(b) of the Health and Safety Code.

If you or anyone else has any thoughts on why the statute may read another way, I'd be glad to listen to them. But that's the approach we've been operating from.

CO-CHAIRPERSON GEISER: I'd rather -- if you could do it offline, Richard, thank you. That'd be very helpful.

MR. SMITH: And the other question asked?

MS. HARRIS: We heard several -- one of the things we should begin with was to identify chemicals -- one of the things that we heard from several people was this concept of identified chemicals, and find out what products contained what chemicals.

And that was the issue that we ran into when we started down the chemical pathway, is that the legislature didn't give us the authority to really require.

MR. SMITH: Okay. Well, that's not quite accurate there.

MS. HARRIS: That's fine, that's why we have legal counsel.

MR. SMITH: Yeah, good. I'm glad I'm of some value here.

(Laughter.)

MR. SMITH: Other than Bagley-Keene, which I don't want to diminish the importance of.

Okay. No, my recollection, the reason we switched was that when you look at the statute it's cast in terms of chemicals of concern in consumer products. So it authorizes us to take the alternative of approaching it from a product-based approach.

We have the discretion to go from the chemicals-of-concern approach, and like I think straw one was intended, was based on that approach.

But my understanding is that the concern that the department had was that was too broad. Chemicals of concern was too broad a category to start out with. So if we took it on a specific list of products and limited it to those chemicals of concern in those consumer products, we would be

consistent with the statute and be able to take a limited approach.

CO-CHAIRPERSON GEISER: All right. Thank you. I think what people have heard here is there's some questions that are answers to staff's questions, get other questions from them. But I'm really going to ask you to try to provide those to the staff either through a phone call or through other means. They were not solicited by the staff, but it just happens to be there.

So, with that, in order to stay online here we're going to move into the remaining questions that staff has directed us to. Again, try to keep your responses broad. I'm going to turn this over to Bill.

CO-CHAIRPERSON CARROLL: Thank you, Ken. And in keeping with the theme of snowboarding on the avalanche, we're going to move into question two. And I want to just walk through the time that we have remaining for the afternoon.

We're coming up on 3:00. Realistically we have for discussion of questions 2, 3, and 4 until approximately 4:30. Maziar has asked for approximately 20 minutes to talk about public/private partnerships. And then we have all the sort of hiking work that has to get done. And then we're out of here at 5:00. So that's kind of the schedule that we're going to have to adhere to for this period of time.

I think we're all sort of hoping here at the head table that from having invested the time early in the general discussion that we could perhaps focus down more on these specific questions.

And I think with the exception of the alternatives assessment, which has gotten quite a bit of play, we've not really touched the other two questions, the first of which is on the board. And I'll read it for you:

What are the pros and cons of including a possible exemption for a chemical or chemical ingredient in a consumer product which presents an insignificant level of hazard, or for which exposure is adequately controlled through product design and manufacture.

And I would ask whether there are members of the group who might have comments specifically about this topic.

DR. DENISON: Can we clarify that question?

CO-CHAIRPERSON CARROLL: Certainly, Richard, go ahead. Use your microphone.

DR. DENISON: Exemption from what? From all aspects? From specific aspects after it's identified as a chemical of concern, or a priority, or --

CO-CHAIRPERSON CARROLL: Mercifully, Don, you picked up the microphone.

MR. OWEN: Question 2 is focused at the front-end of the process, as a chemical or chemical ingredient before

will be identified as a chemical of concern, or a chemical of concern in a consumer product to navigate the remaining pathway. So this would be an exclusion upfront.

We pose it as a question, if there were such a one, what would that look like.

CO-CHAIRPERSON CARROLL: Thank you, Kelly. Thank you for getting us started. Go right ahead.

DR. MORAN: I'll just say very quickly on this one, so that we can move quickly through. I think that if the department defines with the appropriate significance criteria, a significant/insignificant level of hazard, that this might be possible.

But I don't think that that should be approached by so many percent, or so many parts per million or whatever, because it seems to vary by chemical how much is important and how it's used.

And the second one I'm very leery of because my experience is that, for one, something may be in a product and not be all that important in terms of exposure during its lifetime. But at end of life there's a problem with managing it.

So I would think it would be exceptionally difficult to come up with a definition that would actually work for the question, the second question that you've got.

CO-CHAIRPERSON CARROLL: Thank you, Kelly. Let me

just review who I have at this point. Did you want to intervene?

DR. OGUNSEITAN: Yeah, --

CO-CHAIRPERSON CARROLL: Hang on a sec, so I will take you next. Then I have George, Dale, Bruce and Julia and Richard. Please go ahead.

DR. OGUNSEITAN: My point was about the end-of-life option in the last bullet point Kelly made. But also because during manufacturing is not included in item 9 of the fourth question, these products. We did talk about during consumer use and disposal, but not during manufacturing. Which gets to occupational issues to some extent.

CO-CHAIRPERSON CARROLL: All right, very good. George and then Dale, please.

DR. DASTON: In terms of the first, I think it's almost necessary to have some sort of de minimis level below which we wouldn't be concerned. I mean I look at the first four or five items on the list of 16, and if you have a good enough instrument you're going to find those elements everywhere. I mean they're naturally occurring elements.

There are de minimis levels that are used by various regulatory agencies as precedents. And rather than go through them, we can just point them out to you.

CO-CHAIRPERSON CARROLL: Very good, thank you.

Dale and then Bruce.

DR. JOHNSON: Yeah. I mean this is -- there obviously would be an insignificance level hazard in some of these compounds under certain uses and so forth. So there should be some kind of an exemption clause.

However, it would require to have some kind of regular update. So these things change over time. The product could change or whatever. So there would have to be some kind of an established update to keep that exemption alive.

The second part, which is kind of interesting. As I was looking through this, I was looking through some of the areas where it would be favorable for a manufacturer to create a change or a process. And, you know, because you're always looking for the business model of why you would make something green.

And so this is one of the points, you know, it's kind of hidden in this particular point, but it's one of those points that if it was available from an information standpoint where they could change the product, change a process of the product, it would be beneficial for them to do it. And would end up with a greener product

So it's just one of those few things in here that shows an inducement to that type of thing.

CO-CHAIRPERSON CARROLL: Thank you, Dale. Bruce,

and then Julia.

DR. CORDS: To build on what George said, just to give you an example. Say you have -- and I think an example is a good way to look at this -- is a general purpose cleaner, we probably have let's say ten ingredients in it that are in there at greater than 1 percent.

The people who supply us the formulator don't supply products that are 100 percent purity, right. So you could probably look at another 30 compounds that are in there at, say, greater than .1 percent.

And then if you put your crack analytical team to work, you could probably find another 100 that are in there at say greater than 10 parts per million. So just to re-emphasize, there has to be -- we have to come to some insignificant level.

CO-CHAIRPERSON CARROLL: Very good, thank you. I have on the list Julia, Richard, Art and then Meg, then Michael. Julia.

DR. QUINT: Yeah, I think the criteria for determining what is a hazard has to, you know, we have to be very careful about that, because there are some things that are hazards, like upstream indicators of concern like thyroid function or whatever, that haven't really made it to a list, you know, established by various government agencies. So, I think we need to think ahead and be really

concerned about defining that well and set criteria.

And then for the adequately controlled through product design and manufacture, that is a point where, you know, you could have worker exposure. And we need to be also careful about what we are calling adequately control for workers. Because the standards speak very poorly to protecting worker health at this point. OSHA standards are notoriously out of date.

So I think this is an opportunity for us to really, you know, do something that would be protective of workers in this regulation. So, you know, I think, by itself, I mean, you know, taken as it's written about exemptions, I totally agree with, as long as we think carefully about the criteria and what we're really endorsing in terms of the exemption.

CO-CHAIRPERSON CARROLL: Thank you very much. Could I ask the three of you, if you're finished with your intervention, to put your flag down, please. It's a little distracting from up here. Good. Thank you.

Richard.

DR. DENISON: The reason I asked the question about exempt from what is it does seem to be a little circular to say that you would exempt a chemical from going through the identification of being a chemical of concern a priori. That's going to require a certain amount of data.

So any kind of notion of creating an exemption based on hazard, it would seem to me, would have to be limited to maybe two levels of this.

One is very well characterized chemicals where you have, in fact, looked for a whole range of hazards for those chemicals. And maybe it's something analogous to the grass list or something like that. Or something like molasses, which is on the TOSCA inventory, by the way; as a high -- chemical, too.

But I don't know, I interpreted this to mean something more like is there a level of that chemical in a product that would be deemed to be insignificant, given what you know about its hazard. And if that's the meaning, then I think with clear criteria, something like that might well be possible.

The exposure side, I am also much more wary of. I think we have a long history of missed diagnosing exposure, and making assumptions about what adequate control through product design is. Fifteen, 20 years ago no one would have ever imagined a flame retardant would have gotten out of a couch or a computer casing. And we know very differently now.

I think that one is extremely problematic, both because of the weak link that exposure information it represents, and the fact that that information is often not

standardized. There's not good test methods. It's not at a state, in the same way that hazard information is, for gaining some assurance. And it is so contact specific. One computer casing might be made in a way that is different than another. So, that one I'd be very wary of.

CO-CHAIRPERSON CARROLL: Thank you for that clarification, Richard. Art, I had you; do you no longer want to speak?

DR. FONG: Actually I do.

CO-CHAIRPERSON CARROLL: Oh, okay.

DR. FONG: Just want to emphasize the importance of harmonization with various EU directive exemptions, and the potential problem of causing compliance problems for manufacturing.

And I'm saying this not using that as an excuse for industry to, you know, not support green chemistry, but in fact I want to point out the fact that, you know, the implementation problems that we have. Also within the language of 1859, talks about harmonization, the importance of harmonization and the problems that it can cause if we, in fact, do not take that approach.

It's that, you know, we don't want to see the problems that we have with implementation be used as an excuse of various stakeholders to impede, you know, forwarding or progressing with green chemistry policies in

other states.

So, you know, this is an important issue. So I just want to emphasize what George said about harmonizing with existing directive and other regulations.

CO-CHAIRPERSON CARROLL: Very good, thank you, Art. Meg.

DR. SCHWARZMAN: I just want to express my opposition to the idea, the concept that we can adequately control any hazardous substance through what I understand to be the meaning of the design and manufacture.

This is for three reasons. One is the historical example of what we've learned from PCBs, which is a substance that we thought was not going to come into contact with people in any kind of normal use, and it's obviously a horrible environmental contaminant now with significant effects.

The second is the, you know, sort of emerging, increasing science on low-dose effects. Any saying that we can adequately control a hazard presumes that there is a safe level and a threshold of effect. And I don't think we can assume that about a lot of commonly used chemicals which may have low-dose effects.

And the third reason is because of cumulative exposure from multiple sources. So to decide that computer casings that are not a significant source of flame

retardants is sort of to ignore that computer casings, plus tvs, plus furniture, plus you know whatever the number of chemical -- of products there are that contain a chemical is very problematic.

CO-CHAIRPERSON CARROLL: Thank you very much. Okay. Mike.

DR. WILSON: On the second question, I think the exposure and potential exposure is useful in the setting of priorities for chemicals of concern that have been identified. But is inappropriate for granting exemptions for the reasons you've heard.

And what I'll add to that is that again what is adequate control. Does that mean putting workers in air-purifying respirators. How do we deal with very persistent, very biocumulative substances that are appearing in the far north in animals and humans.

And as we've heard, exposure controls are notoriously unsatisfactory. And so if we allow exemptions based on potential, or uncontrolled exposure, we then fail to motivate investment in safer alternatives.

CO-CHAIRPERSON CARROLL: Thank you. Mike, I have you next. Lauren, I had your flag up. Do you -- are you interested? Okay. Mike.

MR. KIRSCHNER: Just real quick. I'm in agreement with what Richard and Megan and Michael have said. I want

to emphasize the challenge presented by 6.19 saying products designed to reasonably anticipated to release any chemicals during intended use by consumers or after disposal.

It's that after disposal part that is the issue. That's the one that -- well, not all of us are talking about, but it certainly has been mentioned. And that's critical, because the manufacturers for most products, there's not a producer responsibility requirement that they manage the control through the disposal process. Even those that do, outsource it to somebody else.

And ultimately there's plenty of examples of industries and manufacturers not having control through that level. Even though you might have the best technology for managing recycling and acquisition of certain materials, or managing certain materials through that process, you can't guarantee it. So -- certainly not yet.

So I'm really not -- I guess I agree with the chorus that doesn't really understand how you're going to achieve adequate control of exposure. You're going to have to define that fairly concisely. And provide that manufacturers have -- demonstrate a closed loop system of control.

CO-CHAIRPERSON CARROLL: Thank you very much, Michael. Lauren, and then Tim.

DR. HEINE: Thanks. I think part of the work

that's being done by DTSC and OEHHA is it's not just an individual hazard, but combinations of hazards that are of concern. So that you may be able to modify, for example, an aquatic hazard with a rapid biodegradability.

And so I think some of that work will evolve over time. And you may be more concerned about carcinogens, particularly that are persistent, or bioaccumulating. So I think there are elements of combinations of hazards that will either augment and make a little hazard more significant, or perhaps make a moderate hazard less significant.

CO-CHAIRPERSON CARROLL: Thank you, Lauren. I have Tim as the only flag up left. And then as -- I'd like to summarize, and also make a comment, if I might. Tim.

DR. MALLOY: Thank you. The older I get the harder it is for me to remember things. So, forgive me if I'm like repeating something somebody said. I'm trying to keep track so that I'm not repetitive. But I might have missed something.

I guess, I hear all the concerns about how would you define it, and exposure control doesn't really work historically and so on and so forth. Although I guess I could, I'm less pessimistic about the notion that in certain circumstances you might take into account notions of exposure, I think, as a practical matter. In many instances

you probably will end up doing that.

Although the tone of the statute and even the language of the statute is directed, as Mike said, at substitution prevention rather than management, in those terms.

And so the problem I have with this, in addition to what everybody else has said, is number one, I don't know, maybe somebody addressed this, but it really depends on me, when you say something like this, who decides and in what context. How is it decided.

So if it's self-implementing and somebody just decides they're subject to an exemption, I'd say no. But if it has to go through a public process, it requires input, and there is appeal and so on and so forth, so I'm more comfortable with it in that kind of context.

The thing that really worries me about this is I view this -- this is like a black hole exemption, right? I mean this is the exemption that could suck the entire regulatory program right into oblivion. Because it seems to me that -- I made my own flow diagram, and being a lawyer, mine's like six pages long, and whatnot.

But what I get out of it when I get to the end is that when you look at the response actions there's room for exposure control in certain areas. But most of it is about substitution, and forcing people to substitution. Very

little exposure stuff. Mainly where there is an alternative with significant impacts, or some worker stuff and so on and so forth.

My reaction to this is somebody can get around any of these bans, any of these things, just by exposure control. And, to me, that seems like you're changing the whole focus of the statute by making it a statute about risk management rather than a statute about hazard reduction and prevention of toxics.

So, I think it's a game changer to have an exemption like this, beyond the implementation problems that we've all talked about.

CO-CHAIRPERSON CARROLL: Thank you, Tim. And I'll finish up on this that most of the discussion, of course, has been on the exposure side of this. But I would like to go back and reiterate the idea that was touched on at the beginning by Richard in terms of the amounts of materials that may be present and present an insignificant hazard.

And here's specifically an example that I want to go through. In the process of making PET, from which you're going to make soda bottles, you'll start with ethylene. You make ethylene oxide first, which is a carcinogen. Then ethylene glycol, and then the polymer, which is PET.

Unless there is some sort of consideration of an exemption for minimal amounts of material, you would

probably have -- I could not, as a scientist, tell you that there was not a single molecule of ethylene oxide that remained in that PET, even though your sense as a chemist, and your calculation, would tell you that it is extraordinarily unlikely.

And even if you asked for it to be detected, it may well be below detection limits, and yet you may still have a molecule or two there.

Now, whether that presents a significant enough hazard to the public, to wrap this around an axle about that sort of amount, I think that should be well down the list of things that you would particularly worry about. Now, there are much more important things to worry about.

So, I'd ask you to keep that in consideration, that there may, in fact, be a point where you have either inadvertent entrained material, either because you've used water that may have disinfection byproducts in it, to formulate a product. Or you have inadvertent lead or mercury from the environment. Or, for that matter, you have a small residual something from a reaction further on up. I think there needs to be consideration of that along the way.

And with that, I think we've done very expeditiously on this question. And I appreciate your remarks. They were very much to the point of it.

And at this point I will turn it over to my co-

chair.

CO-CHAIRPERSON RAPHAEL: Okay, so now we are -- that was very good, that was very focused. And now we're going to go to question number 3, which hopefully will be equally as productive and focused.

This one's on authoritative bodies, and I have to say, there's a little irony with me being the co-chair on this one, as I represent an authoritative body that does ban individual chemicals at the local level.

So we can get into whether or not that should be viable or not.

Okay, so question number 3. What I'm going to do, as I read it, you remember that when Don gave this, he couched it a little bit differently in his language. And I'm going to go back to that, just so that we're all on the same page.

The question being what are the pros and cons of the definition of authoritative bodies. What specific changes, if any, would we advise.

And then, what are the pros and cons of using authoritative bodies. And what he explained here is that concept of using authoritative bodies, meaning DTSC using and adopting the decisions already made by authoritative bodies to dictate their prioritization, their identification and the regulatory response action.

So the idea is not to use authoritative bodies as a third party that you would ask questions of, but to utilize what they've already done.

So, as you can see, there are three bullets there. And there's a fourth at the bottom that says, is there another way. Can this panel think of other ways that DTSC might utilize the work of authoritative bodies. And that really gets to the intent of the legislation that said, let's not re-invent the wheel, let's look at what's already out there and bring it back to bear in California.

So, with that, we're going to go for about 15 or 20 minutes until we start to hear a lot of redundancy. And Kelly is our starter-offer, again.

DR. MORAN: I'm going to be real quick, again, because my expertise is not human health, and that's where all the authoritative bodies are. So I will note that there really aren't any for ecotoxicity, wildlife toxicity. That's actually one of the issues.

And just put that out there for the record. So, I'm not aware of any, either. So I'm not surprised you didn't find those.

To address that, one of the suggestions that I have is that you look to your Cal-EPA sister agencies to identify either product chemical combinations, products or chemicals that should be getting special attention through

this process. And I'd suggested earlier one possible way of approaching that through a regulatory calendar.

But in any case, I do think you really ought to be looking to some role for the other Cal-EPA agencies in establishing chemicals that are going to be a problem.

And finally, I just want to overall comment that I think that it would be too expensive for California to not take advantage of the expertise of other agencies. We simply don't have the financial resources in the state to be doing individual reviews of chemicals.

So I think that there is an important role, overall, in this process for authoritative bodies.

CO-CHAIRPERSON RAPHAEL: Thank you. George.

DR. DASTON: I also see a significant role for authoritative bodies. And I think the concern that I have is that the definition doesn't go far enough.

So I believe that even in the statute, itself, its talks about authoritative bodies making decisions about chemicals for similar purposes that is being intended here. Which really hasn't gotten into the definition yet.

And then the other aspect that I would like to have, again, in the definition, is a certain minimum level of quality of review of information. So there are some lists, or some processes of review, like IRIS or the NTP list of carcinogens, those kinds of things that undergo an

extremely robust review process that also includes the stakeholder input that you're interested in.

And then there are other lists that simply don't, and are based on preliminary information, or simply not the quality that one would want, or that would put them on a par with these other lists.

So, you know, to me it's a good start for a definition, but I think that you got to consider both, you know, what the lists are intended to do, and their quality of information.

CO-CHAIRPERSON RAPHAEL: Thank you. Meg.

DR. SCHWARZMAN: I wanted to suggest the first two issues that address the assessing hazard information and identifying and prioritizing chemicals of concern. And the utility of using authoritative bodies and their lists in that process.

Two things. I think one thing that hasn't been brought up much today is the issue of how we deal with squaring data discrepancies. And that's obviously a problem that would plague any process that tries to come up with a summary hazard assessment by putting together a lot of hazard data.

And that is a place where authoritative bodies, I think, are very helpful. Because they've necessarily gone through that process. And weighed the various quality of

information going into it.

Unfortunately, it tends to bias toward data-rich substances. And so I think if there's a reliance on authoritative bodies, which I think there needs to be, so I think it's necessary but not sufficient.

So, it's necessary because it helps with resolving data discrepancies. There needs to be a mechanism for singling out data-poor substances, which are obviously going to be missed by the reliance on authoritative bodies.

And also to deal with the fact that authoritative body lists are not very supple. They're slow in responding to evidence. And they're also not, themselves, immune from, you know, political processes and influence.

So, I think it's necessary to rely on them, and there needs to be a mechanism for including data-poor substances and also those which are sort of chemicals of emerging concern. So that was something that was addressed a little bit earlier.

CO-CHAIRPERSON RAPHAEL: Thank you. Julia.

DR. QUINT: I think they definitely should be relied on, because they're a good source of information. But I understand that IARC wouldn't be included as an authoritative body, given the current definition of authoritative bodies in the straw proposal. So that would be a problem for me. The International Agency for Research

on Cancer.

Because I don't think they publicly have input from stakeholders in the manner in which the first -- one of the two criteria that you're using here. So that's an issue I think we should look at. Establish authoritative bodies and ones that we rely on, and make sure that the definition fits.

Also, what do you do when authoritative bodies don't agree? They don't all agree. I mean the European Union, as much as we, you know, extol their virtues, really, for some chemicals, you know, have gone against the grain. Perchlorethylene is one of them.

So I think, what are we talking about, you know, is it just one authoritative body has to identify something? Or do a certain number of authoritative bodies have to agree, you know, about a substance? Because they, you know, aren't all universal.

And I think there's something in the straw proposal, I think it is in the situation where there's a new chemical where the person doing the assessment can rely on peer review literature and/or, it says, authoritative bodies.

That's a situation where there's a lot of published data out that really disagrees with authoritative bodies' assessment of chemicals, you know, actual peer

review, you know, information that really doesn't agree with some of the current listings and chemicals on authoritative lists.

So I think that's an opportunity where you'll have to have some sort of referee process to determine, you know, people get into these really arguments about pharmacokinetic data and just various iterations of why the authoritative bodies listing of a substance is inappropriate. And, you know, they have established themselves as a legitimate scientific body.

So I think those are the situations, and the emerging that Meg mentioned. You know, it takes a long time for something to be listed. And in the meantime we've missed a lot of things, so.

CO-CHAIRPERSON RAPHAEL: Thank you. Lauren.

DR. HEINE: A lot of the points I had thought have already been said. But I wanted to note that again the scope of what the authoritative bodies review is often very small things brought to the attention.

And that I would worry about things like the National Academy of Science reports not being available for use, because they're not technically an authoritative body by this definition.

And finally, one strategy for using work from bodies that may not be seen as quite as authoritative as

others, is to use them in a sort of flagging way, where you, instead of dismissing them based on very strict criteria, use them in a weight-of-evidence type approach, where you can still flag chemicals and then use some of the expertise. Yes, resource intensive, but that California has to make judgments based on the kinds of reasons that these less authoritative bodies have flagged things.

For example, screening chemical lists. A list developed through screening instead of through extensive data-rich testing.

So I think that's a strategy for using the sort of next level of authoritative lists and bodies.

CO-CHAIRPERSON RAPHAEL: Thanks, Lauren. Before we get to the two Richards, I just want to note that one of the big ways they're proposing to use regulatory is in the regulatory response action. And so I'd really be interested in people's thoughts about, you know, banning it, therefore that speeds things up, you know.

There were some huge consequences to authoritative bodies, not just on the data side.

So, we'll go with Richard Denison first, and then Richard Liroff next.

DR. DENISON: I wanted to agree with what George said about sort of lending the lists of some of these lists and authoritative bodies. And it gets, in part, to the

purpose of the list. And sometimes that's a very context-specific purpose.

So looking for water contaminants, for example, may have factors that went into that determination that are different than those that would go into a more general list of carcinogens, or what-have-you.

So I would prefer to see a relatively tighter definition of authoritative bodies in exchange for something I'll say in one minute. But I do want to emphasize that a process like the IARC process, to me the language around stakeholder input is perhaps too limited. And IARC goes through very rigorous review processes with expert panels of external people that are assembled to do those.

So I think there needs to be room to allow that kind of a process of informing the decision they make, whether to list something, or how to list it, beyond just stakeholder input.

Having said that, there is one provision in the straw that does give me considerable pause, 6.6(c)(2). It has to do with how a manufacturer can meet a data requirement. And it says that they may rely on categorizations performed by authoritative bodies.

And that raised a huge flag for me, because it sounded like someone could decide not to consider an IARC carcinogen to be a carcinogen. They could make their own

decision by looking at other literature, or making other arguments.

And so I think I would, in exchange for a fairly tight definition of what is an authoritative body, I think that language would have to say they must rely. If somebody has classified -- that is an authoritative body has classified something as a carcinogen a company can't say no, it isn't.

CO-CHAIRPERSON RAPHAEL: Thank you. Next, Richard.

DR. LIROFF: I'm concerned about this definition. I agree on reliance on authoritative bodies mainly for hazard information. I don't think for triggering regulatory response action because criteria for regulatory actions will differ from jurisdiction to jurisdiction. There may be different kinds of weightings.

If the U.S. takes action under the Clean Air Act there's an air quality standard that's devoid of cost/benefit analysis. Most other federal environmental laws require some sort of cost calculation. So, this will differ from jurisdiction to jurisdiction.

The points about IARC and, yes, -- I don't have specific language for how to fill this language. I wonder about would we, indeed, throw out NAS reports, recognizing on the one hand their expert panels. But, two, there's also

literature which is very critical of how NAS reaches decisions because of the construction of the panels.

And I don't know how deeply you get into the weeds in deciding whether or not so-called authoritative bodies are kosher or not kosher in terms of how they use their experts, which experts they hire and whether or not those are adequate substitutes for some sort of more robust, more public stakeholder participation processes, such as the one we're involved in right now.

CO-CHAIRPERSON RAPHAEL: Thank you. Oladele.

DR. OGUNSEITAN: This goes to, it ties question 2 to this question 3. It's about regulatory response. So if a company argues that in Europe they've been exempted because it poses an insignificant hazard in Europe, and they want to use that as a basis for applying for exemption here. I think it is question of question 2.

The sentiment around the table that I heard is that this is probably not a good idea, although we don't know what it is they will decide.

But rather than accept somebody else's exemption argument, I'd say that we don't go for exemptions. But use it to prioritize -- chemicals very low on the list of regulation.

CO-CHAIRPERSON RAPHAEL: Okay, thank you. Bill and then Tim and then Dale.

CO-CHAIRPERSON CARROLL: Thank you, Chair. To me the definition is quite problematic, and even in the words, itself. Reading the definition, an authoritative body means any government agency, foreign or domestic, that meets the following requirements. And then you have some openness and transparency requirements, but no scientific requirements.

And so I don't -- that's a government authority to me. It's not an authoritative body. And I would argue that this might be the only time that I've heard the State of California, with all due respect to the City of Cut-N-Shoot, Texas, that the State of California would accept the action of the city council of Cut-N-Shoot, Texas without further consideration.

And I think you might want to look at the underlying scientific information that went into a decision made by a government authority.

And I like the discussion about re-defining authoritative bodies to take into account those that are, in fact, scientifically authoritative bodies, not unlike IARC or the national academies or the rest.

But I wish you would pull that definition apart and separate those two concepts of an authoritative body versus a government authority.

Thank you, Chair.

CO-CHAIRPERSON RAPHAEL: Okay, thanks. Tim.

DR. MALLOY: Thanks. So, I kind of compared the statute to the regulations. And the statute just talks about using the authoritative body, I think. I mean I did a little search on it, and maybe I spelled it wrong or something, but I think the only place it talks about using the authoritative body is to leverage information they've gotten on prioritization when the DTSC is doing prioritization.

So I compared that to the regs, and I found four spots where it's used. One is to obtain information and data, so the business can go to authoritative bodies for data about the chemical early in the process.

It can also go to authoritative body and use any test method that's been approved by them. It can also use it for a validation of a model, a QSA or model. And they also can use it for various hazard traits, to find whether something is or isn't a hazard trait.

So, I guess the problem I have there, and I think this kind of echoes, although maybe slightly different than what you were raising, Bill, is kind of this race to the bottom problem.

You know, so my school district banned, you know, they have like an IPM thing, and they talk about pesticides. And they come up with some test method that they're going to use. And suddenly, under the definition, they're an

authoritative body.

So I'm worried about the flip side, not that the authoritative body will be too stringent, but they won't be stringent enough. And here they are setting test methods.

One could even imagine situations in which, you know, like Delaware, most corporations are incorporated in Delaware because Delaware has these fantastic standards for the companies, right, that are not very rigorous.

One could imagine authoritative bodies developing test methods and whatnot, maybe not on purpose, but perhaps one could, you know, so there's a way of rigging the system. You're a little worried about gaming the system.

So that concerns me a bit. You might want to re-think, you know, the -- I don't think there's a statutory, anything in the statute prevents you from using authoritative bodies for all these other things, just because it mentions prioritization only in the statute.

But I think you might want to think about perhaps having some kind of a mechanism or a default rule where the DTSC retains some authority to make a judgment about the authoritative body, or at least a determination that they've made.

On that other thing about response actions, the only thing I could find in the response actions was a reference to what Bill mentioned. It talks about government

agencies who have banned materials, not authoritative bodies.

So I think it's less -- your concerns are still obviously very important, but I don't think government agency is defined in the -- is it defined? So, maybe it doesn't have to be.

But I think it's a different kind of issue. It's a broader issue than the authoritative body issue.

CO-CHAIRPERSON RAPHAEL: Dale.

DR. JOHNSON: Yeah, I guess I didn't read into this that an authoritative body was a kind of an overriding type of thing. To me it was kind of an additional source of information, and didn't override IARC or anything else. You know, it was just another source of information.

Now, where the issue comes up is in the then defaulting to some kind of a regulation. And so what is obvious from any of these things, whether it's on a list or whether it's some action taken by somebody, it's the action taken on that day that's based on the literature and information before that day.

So anything that occurs after that has to take into consideration all the new information that shows up. And we see this constantly with every type of chemical. New information shows up; new types of assays; new end points.

So whatever action goes on from -- and I would

define this in terms of more of a regulatory action, rather than information gathering -- requires some kind of a peer review and addressing new information, as well as what happened in an authoritative body.

CO-CHAIRPERSON RAPHAEL: Great. Okay. You had another comment? Okay. So this is good. We've got about two more minutes, so, Richard, go ahead, you get a second --

DR. LIROFF: Just to elaborate on the point that Dale just made. There has to be some sort of time limitation. For example, on flame retardants, as a European authoritative body assigned to a panel decision from roughly 2005, 2006, that industry cites as basically getting Deca, I think, off the hook in terms of its environmental health effects.

While, in fact, there's a ton of research that's been done since then, particularly in the U.S., which raises very serious questions about Deca.

So basically the European decision from 2006 basically shouldn't be part of any decisions whatsoever that are made with respect to Deca. It's just out of date and irrelevant, though it is an authoritative body.

CO-CHAIRPERSON RAPHAEL: So, what I'd like to do now is we had talked about -- the co-chairs had talked about getting a response back from staff as to what you've heard. And I just want to give you the opportunity in the next

three or four minutes.

We went through two of your questions, and I'm wondering if, based on what you've heard about authoritative bodies and the exemption process through exposure and hazards, if there's anything that comes to mind, or that you would like to give us feedback on.

MR. OWEN: With respect to authoritative body question, several of you have mentioned criteria. What is that criteria?

CO-CHAIRPERSON RAPHAEL: What would be acceptable criteria --

MR. OWEN: Correct.

CO-CHAIRPERSON RAPHAEL: -- to define an authoritative body? We've heard about some things that we're worried about having, like the public. Is there anything that must be included?

George.

DR. DASTON: I don't have exact wording for you, but it's really a minimum level of scientific evaluation and quality. So there's extensive scientific input and review that goes into things like IRS, things like the NTP report on carcinogens. Things like IARC classifications.

And we could probably go down the list and find the ones for which there is and is not that sort of input. But it really is something to the effect of strong

scientific input and peer review.

CO-CHAIRPERSON RAPHAEL: Art.

DR. FONG: Would it be possible for you to use the definition of criteria that OEHHA uses for prop 65 in their definition of authoritative body?

CO-CHAIRPERSON RAPHAEL: You don't need to answer that, but you can, if you want.

MR. OWEN: We've looked at it. We're not sure it quite fits. But it's an excellent suggestion and does express criteria in one way.

But a follow-up question to that question would be would a OEHHA's determination be authoritative with respect to particular types of decisions. Did divide a science, but I mean, should, instead of one or many agreeing, does one trump another with respect to a particular end point.

CO-CHAIRPERSON RAPHAEL: And this is something that's come up over and over. If authoritative bodies disagree, then what? So, if the panel has suggestions on how you might rank authoritative bodies.

DR. OGUNSEITAN: Yeah, I guess I'm confused about this. We're talking about two different things. Agencies with executive authorities, like governments that can make decisions, and manufacturers have to pay attention to that or they are fined. Or -- databases, national academies, that have compiled information that's useful.

And I think maybe it's necessary to separate these two types of authorities in a way.

CO-CHAIRPERSON RAPHAEL: Thank you. Okay, we're going to go Tim and Art, and then we're going to close this subject.

DR. MALLOY: You know on the question about the dueling authoritative bodies, I was looking at the hazard trait section of the regs. I'm not sure, I think it's got a default answer to that question. Because it seems to say, like for example, with carcinogen, it's like any chemical that's been designated as a carcinogen by any authoritative body, all right.

So, if you've got one authoritative body that says it's not and you got another that says it is, the one who says it is, I think, is going to win unless there's something else in those regs that changes that.

I haven't looked at all of them real carefully, but it looks like that's how the hazard trait part of it works.

So I think the real problem is where the lowest common denominator authoritative body could control something. So that would be the things like with a test method, right. You can pick any test method approved by any authoritative body. That gives you the discretion to pick one that is, well, I don't know, we all could imagine things

why you might want to pick one if you were trying to avoid, you know, having to do this or that.

But I don't know, I haven't looked at that real carefully. But I would say when you're answering -- asking that question, you want to look at for what purpose is the authoritative body being used. And then ask whether it matters if there's a conflict or not.

CO-CHAIRPERSON RAPHAEL: Okay, we've got -- I just want to say, we have Art, George and Bill. And if you guys -- Art, oh, you just -- okay. So you just deferred, Art, to George and Bill. You guys have one minute each. Okay, 45 seconds; go for it.

Okay, wait, we're not going to take time on that. George, go first.

(Laughter.)

DR. DASTON: I have real problems, but this is one of the situations where I don't think you can substitute for science. I mean there may be very good reasons for authoritative bodies to diverge on an answer. And without really understanding the reasons why, I would hate to default to the lowest common denominator. It's another race to the bottom, I mean, in this whole process.

All the advice we've been giving today has been very consistent about increasing the level of science. And I'd hate to go back on that as a matter of principle.

CO-CHAIRPERSON RAPHAEL: All right, Richard.

DR. DENISON: For all of these recent reasons I think you don't go further than the step of identifying chemicals of concern. I would say prioritization is something that a lot of authoritative bodies, or at least on your list, have done. But they used their own criteria that might be different, et cetera.

And I certainly, I don't think this triggering regulatory response thing is very appropriate. If somebody banned it, it gets a faster ban than if somebody hasn't banned it. That starts getting really problematic.

CO-CHAIRPERSON RAPHAEL: Okay, excellent. So now we're moving on to the last question. What? Oh, Ann; 45 seconds, girl, go for it.

DR. BLAKE: Actually I wanted to address that and say I have attempted to do this in another context, and trying to rank data sources, and it speaks to what Lauren brought up earlier about how to do that.

It's not something I can do in 45 seconds, so what would be an appropriate way to get information like this and other information that the panel would like to provide, too?

CO-CHAIRPERSON RAPHAEL: That's a great question, and we're going to hold the answer to that question until the closing. Because that is something that we're going to ask Joe to give us some feedback on. So, that's an

excellent question, Ann, thank you.

And with that I'm going to turn it over to my esteemed colleague, Ken, who will take us through the last question of the day.

CO-CHAIRPERSON GEISER: All right. With that we go back to the question having to do with alternatives assessment. And we actually covered a good deal of work on alternatives assessment in the period before the break.

Some noted that alternatives assessment is the core feature of the program. Others said they didn't believe that was appropriate, given the statutory language and all.

But alternatives assessment is clearly an important part of the program one way or the other. This is, as we all know, an emerging tool or technique, or whatever we want to say. And there's no authoritative body -- authoritative yet of this. So California is sort of charting ahead here in creating its own version of an alternatives assessment.

But this is pretty important because this is one of the gutsy expensive parts of the work that somebody, that probably industries are going to have to do. So it's important that we think about how this is really going to impact people. And how we can create a protocol or a template here that really does work.

Now, as you saw, we've got a logic to it at this point which goes from sort of is to pick out a range of alternatives, all that can be found, or whatever. To identify those that are functionally equivalent or have performance characteristics which are at least acceptable.

And then to move to looking at these hazard traits and deciding whether any of the alternatives have a hazard trait which at least is one more than the hazard trait that is characterizing the chemical of concern. And if so, deleting those, until you get down to a small number of alternatives.

And then doing a comparison amongst them in order to assess whether there are alternatives. In which case, there are a set of responses. Or if there is not alternatives, in which case there's another set of responses.

So, it's kind of a core feature in determining the direction of movement of the logic, itself.

So, I'd like to call you back to this, and sort of pick up the question. The question is actually, at first blush, a somewhat small question, but it actually is an important question, which opens up into the rest of it.

Which is: Should the comparison of alternatives specify a preference for health and safety attributes over other attributes?

Now, other attributes, if I understand it right here, means those attributes having to do with eco-effects, natural resource depletion, or social and economic effects on some of the other categories that are in Nancy's matrix when she lays out this matrix for comparison.

But I leave it open to you as to how you want to read that. But I think the question is how do we structure the alternatives assessment in a way that we're really getting out of that what we really want to get out of it. And what is the place of the health and safety, health and environmental effects part of that.

So, let's just throw this open and see what people have in the way of comment on this. Again, may I try to remind you -- I think people are doing well on this, but it's just always useful -- try to say not just what the problem is, or ponder some interesting intellectual question about it, but rather what's the solution. How would you do this if everybody else left this room and you were the one that had to design this, what would you do?

So, Lauren.

DR. HEINE: I think I have a question, as well, that's related to this question that hopefully has an answer, too.

But if I were a formulator and I had a product that contained a chemical of concern, I think I would

quickly substitute it with a chemical that was not a chemical of concern and skip the whole alternatives assessment process. Is that a possibility in this program? You don't need to do an alternatives assessment, right, if your don't contain a chemical of concern? Even if your product falls within one of the nine classes?

Okay, thank you.

CO-CHAIRPERSON GEISER: Okay. Dele and then George.

DR. OGUNSEITAN: Yeah, first I think it's difficult to separate health and safety effects from all the other effects. Ultimately health is impacted.

But this goes also to the first question, which is the list of chemicals of concern. I assumed that we included the 16 chemicals that are also in all of the lists of lists because they are priority chemicals that affect health and safety. And so we established the criteria for including the top 16, or the top 10, as we go through this list.

Then obviously those are the chemicals that we want to find alternatives for. And that the alternatives will have prioritized this health and safety concern as minimum, or better than the original product.

So, it's implicit in how we define this top 10, top 16. If health and safety is the reason they are up

there beside the others, then the alternatives have to also have this concern.

CO-CHAIRPERSON GEISER: George.

DR. DASTON: I would have a real concern with doing it this way, mainly because of what we've talked about before, which is, you know, as described so far in the straw proposal.

We have reduced the evaluation of health and safety down to very simple yes/no binary decisions. You know, is this thing an acute toxicant by this definition. Yes, no. And if it's above 200 mg/kg it's yes. And if it's 199 mg/kg it's no kind of thing.

And so I think that we have lost a lot of the granularity that would have made us able to make these kinds of health and safety attributes really a driver for the decision.

In the end, you know, I think we're talking about lots and lots of dimensions for which I would have a really hard time setting down in the abstract why one attribute should trump another one. I can imagine or I can definitely think of example after example after example where I would pull out one of the attributes, say energy reduction over the others, or biodegradability over the others, or health and safety over the others. But I would have a hard time codifying rules of that.

I think Tim said this morning that in many ways, as we start to evaluate alternatives that offer positives and negatives in each of the several dimensions of health, safety, energy, etc., that it almost becomes more of a societal decision, a policy decision.

And so I think that what you'd want to do in this case is leave yourself with as much flexibility as you could to, you know, drive these alternative decisions in a way that allows you to take the most significant driver of a benefit for the alternative, regardless of which of the dimensions it may be, and to have that decision be based on as many different opinions, considered opinions, as you can have.

CO-CHAIRPERSON GEISER: Kelly, and then Richard.

DR. MORAN: When I first saw this question I thought well, I'm human, I'd like to be protected more. And that was my first reaction. And then I thought about it a little more, and said, no, this would be a really bad idea.

And so I think that -- I'm a big fan of trying to minimize the environmental footprint of projects. And going back to the CEQA analogy here, I think the goal of this process is to minimize the overall environmental impacts. We want to have the smallest number of significant impacts.

And I've been working on pesticides for a long time. And one of the things I've seen happen in the recent

process that really focused on human health impacts of pesticides, there were a number of changes, regulatory changes, that were looking at human health impacts, and impacts to the ecosystem, ecosystem impacts were really not well considered in those processes.

And as a result we're seeing a number of regrettable substitutions coming on the market. And I think it would behoove us to observe and learn from that previous experience. And thereby, be seeking, as our goal, the overall reduction in environmental impacts. So we would want as few significant environmental impacts as possible; and as few major environmental impacts as possible. And I would recommend that you go that way.

CO-CHAIRPERSON GEISER: Thank you, Kelly, for raising this regrettable substitution idea. I mean that is, I think, the thing that haunts us about, and why alternatives assessment becomes important.

Richard, and then Scott.

DR. LIROFF: Maybe we should take our clue from the 12 principles of green chemistry. I haven't memorized them, but as I recall they focus on material use, they focus on energy use, they focus on a whole bunch of things in addition to say, human health and the like.

And I agree with George, that you need some sort of value proposition here where you take into account the

proportionality of these diverse impacts.

If this is a green chemistry program, and it's going to be true to the 12 principles of green chemistry, then indeed all those principles ought to be taken into account. And it truly is a value judgment.

CO-CHAIRPERSON GEISER: Scott, then Richard.

DR. MATTHEWS: Yeah, I would actually go back and agree with sort of the context of the point that Dele had started with about health and safety being sort of a noticeable focus given what is written in the straw proposal.

If you look at the first nine in the applicability list, it seems clear that most of them are motivated via health and safety issues. Given that they're talking about children, and products for infants, and schools and cleansing products where you have human exposure.

In going back and looking at sort of the original mandate, it's a bit more vague, just talking about effects on sensitive subpopulations with infants and children, which wouldn't preclude other environmental issues.

So I would say that, yeah, I wouldn't suggest putting the preference over health and safety as a result of a listing of the eight or nine first ones, certainly is motivated by the sensitive subpopulations, but I don't think you were pushed to do that just exclusively for health and

safety.

CO-CHAIRPERSON GEISER: Richard and then Debbie.

DR. DENISON: Fundamentally a value judgment and not a scientific judgment. So the Green Ribbon Science Panel may have limited utility here, frankly.

I think this is the great unresolved issue of those who note alternatives assessment that has never really been defined. And as a skeptic, to be honest about how this actually is ever going to work, this is one of the two cruxes of the matter. What is safer? What is greener?

The other is who decides. And to me the concern I have in this straw proposal is if this is, in fact, a value judgment, not a scientific judgment, it necessarily demands a societally accountable process for making the decision.

And so this gets back to my concern about this being a self-implementing process that -- that is not a societally accountable process.

So if you're going to try to resolve this issue, it's not just science, it's got to be done through a process that provides for broad societal input in making those decisions.

CO-CHAIRPERSON GEISER: Debbie, and Tod.

CO-CHAIRPERSON RAPHAEL: So I come about this with a little different end point. I would say the answer would be yes, that we should emphasize health and safety over

other attributes. And I would add to health and safety some environmental criteria in terms of persistence and bio-accumulation.

The reason being that when I've done alternatives assessments and looked at lifecycle effect, what I've found is that energy dwarfs everything. And so as, at some point, and I know you guys, this isn't specifically the question, but it gets to Ken's point about how this simple question expands very quickly, how you weight different factors.

And when you look at, in my experience, looking at LCAs, I find that the toxicity elements, like on those bar graphs, are minuscule. And the energy and the water is so big, that it all becomes a resource conservation issue.

And the opportunity with 1879 that I see is to open that process and that thinking up. And to give importance to those toxicity elements that are ignored in traditional LCA processes.

And so I would suggest that we do emphasize these, because that is, indeed, the goal of 1879. And that, if, in doing an alternatives assessment, it looks like we're having a problem with energy consequences, or water consequences, that that becomes a message to the manufacturing process that we need some help in that area. But that doesn't necessarily negate that as the alternative at the other end of it.

So, now I've lost my train of thought. But that's my point for now.

CO-CHAIRPERSON GEISER: Tod, then Ann.

DR. DELANEY: Thank you, Chair. I would agree with what the last speaker was saying to quite some extent. But there's a number of things, when you look at especially page 30 and 31, with regards to the straw poll, that are looked at and considered to be part of, or needed to be part of the lifecycle assessment, going through the alternatives.

And especially the whole section dealing with economic side of things is not something that suits well in a lifecycle assessment program trying to do it. It takes a completely different skill set. It takes completely different datasets.

And quite frankly, for an alternatives analysis I think it would be the manufacturer that would be looking at that in terms of what they want to pay in terms of a cost to do something.

But it isn't something that should go into an alternatives assessment to determine whether one chemical is better than another. And it's -- from that standpoint.

I'm also looking at, in terms of a number, the things that are in here that -- for us, and I do a lot of lifecycle work, that, you know, you have to prioritize those things that you're really looking to do. And since this

really is going towards the health and safety side of things, yes, there are other issues that we need to look at, but we don't need to do that through a full LCA.

You can do that through a modified one where if the chemical that you're replacing with another chemical has about the same attributes with regards to energy and other things, you don't need to go through that analysis. So that you preserve the lifecycle analysis for those things that you really are trying to get out, and get out of it. Which are the health and safety and the other things that you were mentioning that are, at the present time, generally overlooked.

Thank you.

CO-CHAIRPERSON GEISER: Ann.

DR. BLAKE: I'm having a problem of absorbing other people's comments and seeing if I can actually add something to it.

When I think, with all due respect to Debbie saying that toxicity issues are not adequately addressed, I think we do need to think about health and safety weighting depending on the likely lifecycle impact of a product and a chemical at a particular point.

So, is there a place where health and safety is going to be important in this particular use of a product or a chemical. And so we need to think about the alternatives

assessment within the lifecycle piece.

And I think that's a little bit of what Tod was trying to say, is this an appropriate, you know, where is it likely to have, trying to do this without introducing the word exposure, but where is a big exposure to environmental or health and safety, or a subpopulation, a worker, a community, where is that likely exposure to happen. And then, you know, how do you weight this particular use on health and safety. Or is it an energy impact or an environmental impact. That didn't come out very well, but anyway, we'll try to --

CO-CHAIRPERSON GEISER: I'm sorry, Ann, could you say the statement --

DR. BLAKE: The statement --

(Parties speaking simultaneously.)

DR. BLAKE: I think the way we need to do this is think about the answer to this question about whether we weight health and safety more or not depends on where in the lifecycle we're concerned about exposure and to whom.

CO-CHAIRPERSON GEISER: All right. Debbie, round two.

CO-CHAIRPERSON RAPHAEL: So the end point of my point was that given that we are going to emphasize health and safety and some of these environmental things, not every hazard characteristic of those 11, however, to me seemed

equal weighting.

And so, again, if I was going to do an alternatives assessment and I was the one to do it. I would de-emphasize skin, eye and respiratory, and emphasize the other ones. So there is some natural weighting that I can see within those hazard characteristics within an alternatives assessment.

CO-CHAIRPERSON GEISER: Tim. And then maybe me.

DR. MALLOY: This is the problem with scientists, right. So it is so frustrating to me. Some of my best friends do alternatives assessment, and whenever you get -- this is like Richard's point, whenever you get them to the point past that chart where they do the pluses and the checks or the colors or whatever, and you say, okay, so how do you decide.

And then they look at you and they say, oh, well, you'd have -- that's a hard question, that's complicated, that's a hard question.

(Laughter.)

DR. MALLOY: Or it depends. So you have to decide this. And it was nice of you to quote me, thank you. I think it is, it is, there's a value choice, right. And I agree with Richard's points about there needs to be a process that involves public and stakeholder input and all those things.

But the question is how do you do that in an efficient way that can be implemented into mainstream regulation and so on and so forth.

And, you know, I would like to talk offline at some point with you, because there's a number of models out there where tough decisions like this are made through a variety of decision processes.

You've picked one that it is self-implementing at this point. And I think there's all sorts of problems with it when you get here. One -- earlier today I said, gee, you know, if you're going to go self-implementing you need to have close oversight and a set of guidance that can be implemented and so on and so forth. And I still believe that's true if you go self-implementing.

So to answer it within that framework, I'll give you some principles, but I can't obviously give you how it would work.

But my thinking about it, as a lawyer, I would say, well, you know, you ought to have -- there ought to be clear, specific guidance. There's a problem in California because there's this notion of underground regulation through guidance documents. So you say we're going to put something in guidance, but it won't be a regulation. It's really hard, I think, to actually do that.

And I think it's better to have it in regulation

where it's been vetted through the public process and, you know, we get the litigation out of the way upfront, if it happens.

But I think in regulation you should have a default set of heuristic decision rules that make these value choices across and within these impact categories. Your point about, you know, eye sensitivity -- maybe you didn't say this, but eye sensitivity doesn't bother you quite so much as, you know, toxicity. I'd probably agree with that, right.

So, you generate some heuristics that operationalize that. I don't know exactly how to do it. There's people who are more decision theory people who could help develop something like that.

But we use these types of rules all the time, everything -- you know, you can go on Consumer Reports has a heuristic decisionmaking tool for picking, you know, your DVD player. All right.

But it's scientifically based and you identify what your preferences are, and which ones are most important to you, you can plug in the amp. And so, obviously it's more complicated than that, but you develop a default set of decision rules that are heuristic in nature. And that would work in the default situation.

And then if there's something different about a

particular situation, then that one would get individual attention. So I think that's one way of developing it.

And it could be that the self-implementing thing uses the default set of rules. And then if it's an unusual case, then there is, you know, direct agency involvement in that. That's one way to approach it. It may not be the best way.

But I guess what I'm saying is what's in the -- I wouldn't even know how to answer this question based on what's in these regulations because a preference over what, there's actually not a way of deciding this without a preference, let alone having a preference.

So I think before you can decide what kind of -- if you're going to have a preference, you have to see what the baseline decision criteria would be. Because if there, it may be that -- I don't know.

But that's my -- for me this is a process question. And I would use a default set of decision rules, so on and so forth.

CO-CHAIRPERSON GEISER: Thank you. Richard, to you first.

DR. DENISON: Well, I just want to point out one other place where there's an enormous hidden judgment being made, which is -- and I'm not sure how it's supposed to play out. But there's all these places where you can put a

question mark in, because the data aren't sufficient. And then how is that weighted against all the other things for which you have information?

That, you know, what do you do with data gaps, or assessment information gaps is sort of bad to hear without being answered. And I'm not saying there's an easy answer to that, but I wanted to flag it as another implicit value judgment that has to be made.

CO-CHAIRPERSON GEISER: Let me say a word or two about it, myself. And then we'll turn to Dale here.

This is a very complicated thing, but it's close to my heart because in a way, doing toxic use reduction for the last 20 years with some 500 years in -- 500 firms in Massachusetts -- 500 years --

(Laughter.)

CO-CHAIRPERSON GEISER: I'm starting to see myself as really old. But there's a part of the required amending the TUR law which requires TUR -- and Richard noted the analysis we did, but the actual alternatives assessment history goes way back into the experience we've had with these 500 firms basically trying to help them do TUR planning.

And part of TUR planning always had an alternatives assessment of some kind associated with it, because you were looking at what chemical you were trying to

move away from, and you'd looked at the various things that we specified things in the plans as to what firms had to do in order to be able to really do this.

And the experience has been mixed. One of the really biggest things that came out of that experience was asking firms to really look at their substance and then look at the alternatives proved to be dramatic. Whether there was a regulatory driver or not.

It had effects, it had effects in deepening the understanding of the management in the firms about the chemicals they were using. It had effects on opening up people's minds to the idea that there could be alternatives that opened up the opportunity for competitor vendors to come in and offer things and talk about things in a dialogue. It opened up opportunities to un-freeze the internal parts of the corporation in a way that allowed it to begin to innovate in an interesting way.

And then, of course, it also opened up opportunities for the regulative activity. Another thing it opened up, big thing for all us who are interested in pollution prevention and all, to come running in with out technical assistance folks and laboratories and everything else to have that happen.

But if we hadn't required in some way an assessment of looking at the alternatives in a reasonable

way, we would have ended up in still that black-and-white idea, you're either using it or you're not using it. You're either permitting it, or you're banning it.

And the experience that I think we were very concerned about, and the thing that drove us 25 years ago away from this model in Massachusetts, was we just felt that this ban without attention to what was replacing it was not an effective instrument for guaranteeing a future that would be not regrettable.

And now I've backed off a little bit in some areas, because colleagues, mostly in the NGO community, have come at me when I've really pushed this alternatives assessment thing, and said, well, aren't there some chemicals that are just so bad that it really doesn't matter what replaces them. You just want to get rid of them. And there is a part to that.

What I have felt, and I know this came from learning in this meeting some number of months ago for me, was understanding that it might be possible to really think of alternatives assessment at different levels, depending on what you were actually faced with.

And that there may be things where you do a brief alternatives assessment of some kind, where the conditions of the substance you're trying to get rid of is so obvious, and the alternatives most likely would be better. Or it's

so simple to think about the alternatives. Or there are so many products on the market.

And I think, Evelia, you were kind of going at this, I think, when you were talking about the way you were thinking about it from a regulatory side. And I thought that was very interesting.

So that there might be just given certain things where you have an alternatives review, you just review it. And if there are alternatives you move to them. And that's it.

There's another way you might do something more rigorous given that you're really trying to deal in a more complex area where the alternatives aren't so obvious and things like that. And then you might do something, which is an alternatives assessment or something like that.

And it's only when those things begin to tell you the complexities that you move to a true alternatives analysis which required a whole --

(Building energy power failure.)

DR. MORAN: I've got it on, but I don't know if it's working. It is? It's working? All right. I'll talk loudly. Planning Commission Chair, I can yell.

What I just wanted to say was Ken mentioned something really important that actually goes to one of the early questions you asked us, which is how can we establish

priorities to respond to this request.

And he said something that I was trying to say that I said not so well, which is that one way of establishing priorities or to make the work less difficult is to take that CEQA analogy of the very simple screening level review, the tiered levels of review.

So I just want to point out that when you go back and review the comments, that you take this thought from last time that Ken expressed, and consider that as yet another layering of how the prioritization might work.

CO-CHAIRPERSON GEISER: Michael.

DR. WILSON: Yeah, you had brought this up at our last meeting. It was well received. But the panel -- in other words, your review, alternative review assessment and analysis.

And that, my concern has been that the alternatives analysis will serve as a choke point for implementation of the regulation, as it's currently drafted. And that as a consequence of that, it will then, as I said earlier, trigger a wave of requests for waivers and exemptions because of just the weight of trying to meet that standard.

And so, I guess I'm -- I have a question for you, Ken, and then I -- but the point is I think this tiered alternatives assessment is a smart approach. And I think

probably many substances will fall into a lesser -- a lower tier, a review or an assessment, versus a full-blown analysis.

And so my question, Ken, is relative to what we see in the straw proposal, what does the alternatives assessment look like under the Toxics Use Reduction Act, which sounds has been fairly successful. In terms of its complexity.

CO-CHAIRPERSON GEISER: Well, I'll just say a word, because I think we want to focus on what we can do here, but --

DR. WILSON: Yeah.

CO-CHAIRPERSON GEISER: -- I mean it is a bi-annual process, which we've learned works for about six, maybe eight years, and then stops working. After a certain point there's no new information. So you're just going over the same thing all over again.

But the process is that the firms had to look at a range of alternatives that are available. Had to assess them for technical, environmental and cost factors. And then had to determine whether they were an appropriate option to move forward.

Now, there's no regulatory driver there in Massachusetts, where there is here. So it is differentiated from here.

But they can choose to find alternatives that's completely better in many ways, and not adopt it, where I think here there's something different. So the differences are stronger.

Okay, so, Bill I think is the only one with a card up. Bill.

CO-CHAIRPERSON CARROLL: Thank you, Chair. And I would hope this comment would build a little bit on the recent discussion about tiering an alternatives assessment, which is, I guess, a little bit off the topic of the exact question, but I think is germane.

One of the other things that I would hope would come from the implementation of this, regardless of who's responsible for the doing of the alternatives assessment, or how those are judged, is that we find a way of determining what is the significant difference between one thing and another thing.

That it would seem to me an easy way to get this totally wrapped around itself if you were worried about a series of half-percent differences.

On the other hand, what you would really hope for, and I do think the tiered alternatives assessment kind of gets at this, is to look for the things where there are large differences, where you can, in fact, make a significant difference and some clear decisions.

Now, I'm not telling you that everything in the world will be a clear decision. But it would certainly be an easier way of getting into this if you focused on the things that showed up as making the biggest difference earliest, if you were able to do that. And not get down to the point of attempting to remake someone's industry on the basis of very fine differences, one to the next.

Because let's be fair, the data that feeds any of these alternatives assessment is going to have experimental error associated with it. And you are going to discover that many of these things are close differences aren't that -- not differences at all, when you really consider them. Thank you, Chair.

CO-CHAIRPERSON GEISER: I think we're pretty much closing in on this, and trying to wrap up. I guess there's no further cards, so I want to thank you for your input on this subject, as well.

I'll turn it over to you, Peggy, or whatever. At the end, if you want to make any comment to this? Nancy? And then I'm going to turn it back to Debbie and we will move on with Maziar.

MS. HARRIS: Thanks. I have made some -- I'm gradually losing my voice -- I've made some notes. Richard, you mentioned the 12 principles of green chemistry. At one time we thought of using those as some of the criteria for

evaluating alternatives assessment. Is there any idea in your suggesting that along those lines, or did you just -- I mean, in what context did you intend for us to use the 12 principles?

CO-CHAIRPERSON GEISER: Richard, you can answer that.

DR. LIROFF: Yeah, first of all, the point I was trying to make was kind of echoing what I thought George was saying, that -- and if I'm misrepresenting what you're saying, George, speak up.

But I thought you were suggesting that there are a lot of values built into this process, that it's really kind of a soft rather than a hard process. That there needs to be some degree of proportionality.

And what I was trying to suggest by referencing the 12 principles of green chemistry is that the 12 principles of green chemistry don't focus exclusively on health and safety.

MS. HARRIS: Right, introduce some other --

DR. LIROFF: The 12 principles of green chemistry don't say health and safety is paramount. They say, I forget all of them, others know them better than I. But there's a whole bunch of stuff in there about materials usage, about energy usage and that kind of stuff.

So you don't get the priorities out of the 12

principals of green chemistry, you can be true to them by lending some weight, whatever it is, if there's some disproportionate energy impact, or extracting materials impact, or whatever. That was the point I was trying to make.

MS. HARRIS: Okay, thanks. I understand now. And then, Ann, you talked about some weighting where you said that the health and safety factors, the weighting of that needs to be considered in the context of where in the lifecycle it occurs.

So my question related to that has to do with do you think we can do weighting when we're not being very qualitative in our an analysis -- not being very quantitative in our analysis. Can weighting work in those instances?

DR. BLAKE: I think it can. I'd have to think about that more. I think I'd reference what Tim was trying to say about decisionmaking. Say that in certain contexts. So whether it's like -- I'll use an example. We did an evaluation for the City of San Francisco on garment cleaning technologies. And there were a lot of data gaps there. And we know it's a big part of that in dealing with the decisionmaking.

But some of the things appears to be more -- some of the weights went higher than we might have expected in

the context of aquatic toxicity. It went high. Worker exposure went high.

That may not be the case in another subset of chemicals or technologies that we're looking at.

MS. HARRIS: I understand.

DR. BLAKE: So you could potentially weight it qualitatively saying if there's likely to be worker exposure, if there's likely to be environmental releases at end of life, electronics for example, waste of electronics, I think there are some things that you could try to weight.

MS. HARRIS: Okay.

DR. BLAKE: Even with a qualitative. Make sense?

MS. HARRIS: It does make sense. So, thank you.

CO-CHAIRPERSON GEISER: Okay, turn it over to Debbie.

CO-CHAIRPERSON RAPHAEL: Great. Is this on? I cannot tell. Oh, it is, okay. Strange.

All right, so we're here essentially closing this chapter of the meeting, which is kind of amazing. I mean now we're -- you've given your input. We're going to talk about -- after Maziar is finished with his, we're going to talk about how do we continue to give our input to staff when we're not all face to face.

We heard at the very beginning opening comments from the Director that DTSC can't do this alone. Private

sector maybe can't do this alone. And what we're really looking at is the potential for partnerships.

And so what we're going to do now is hear from the Director about his thoughts. He's been giving a lot of thought to this issue. And he will make a presentation to us. Because of the time limits, our purpose as the Green Ribbon Science Panel, is to simply take this in and start to think about it.

And there will be an opportunity to weigh in on it; it just won't happen today. So everybody can just sit back and relax, and hear what's next.

DIRECTOR MOVASSAGHI: Well, before I begin my presentation I'd like to say that I am so pleased and heartened to hear the issues that you all were struggling with were pretty much exactly the same issues that we have been struggling with.

So it gave me some confidence that maybe they haven't gotten it exactly right coming out of that with a broad straw proposal, but we were at least struggling with the pertinent questions and not distracted by tangential issues.

And one final comment, unless we have to be very clear, in California we've had a history of regrettable substitutions, and the program, the Green Chemistry Initiative, must tackle that issue.

We have other programs that are lists, whether they're here, whether it's at the federal level, international level, lists exists and lists solicit behaviors that we're all familiar with. But regrettable substitutions have not been addressed.

As environmental regulator stewards of the environment, we have no tools to deal with regrettable substitutions. So it has to be a very important focus for the department.

Let me get to the discussion about public/private partnerships. I heard a lot of you actually during your talks mention the possibility or the need for third-party verifiers or certifiers.

We have a long history of actually successful environmental programs where public/private partnerships have done much to inform regulators and the public decisionmaking in the value judgments that we talked about, and actually creating programs.

In my memo I outlined the CCAR, the California climate air registry model. That's a wonderful model where it's a public/private partnership, got its leg from government. It was a chance for industry to join, to identify some best practices and have some information that then came back to the state and got us to AB-32, the scoping plan and greenhouse gases.

I can also think of another great example, the U.S. Green Building Council. And actually, as folks were talking about the phasing or the tiered alternatives assessment, the U.S. Green Building Council is the entity that creates the LEED certification. They're the entity that creates the certifiers; they're the entity that comes up with the three different levels, this building being LEED platinum or silver, whatever it is, but there's also a LEED gold.

And as someone who was involved with development and worked for a private finance company, it was amazing to see private money come in and talk about wanting to build LEED buildings without any regulatory underpinning.

The U.S. Green Building Council and the LEED structure has no regulations underneath it because it's been a successful model.

I also heard many of you also mention that we might need to look at industry sector specific issues that inform either the values in alternatives assessment or the type of research that needs to be done. Or maybe even the pooling of research to close the information gap.

So I just wanted to be very -- I wanted to achieve two goals. One was to let you all know, because you all are members of distinguished institutions, I also know you probably get invited to wonderful conferences and you get to

meet with very interesting people, to let them know that California is very open, and very much looking to establish these types of public/private partnerships.

I also know that whatever shape these partnerships are, whether they're third-party certifiers, verifiers, whether they're industry coalition-based folks who develop some sort of value judgment attributes that credibility is the paramount issue.

Whatever it is that these partnerships are to do, if they are not credible their output cannot be digested by public agencies and put to use.

So, as you think of examples I would very much like to hear from you, or read from you if you're going to write this in writing, about what are some successful models. Like I mentioned the U.S. Green Building standards; I'm very familiar with that. But there must be others out there.

I know we've talked about the DFE model, the design for environment. You have the ISO models that they do certain things. Under -- you know, UL is another example. But that's a small pool, and I think you all might know of other pools.

Like I was really interested in one that Richard brought up about the IT folks voluntarily looking at, you know, flame retardants. You know, how did the funding

start? Who are the members, you know? If we can get into some of the mechanics.

If California can develop a library of this is how these different organizations are structured; these are the funding sources; these are maybe some samples of bylaws, constitutions or whatever it is, that we will be ready partners, as opposed to, you know, latecomers to the prom dance. So the idea is for us to build that knowledge.

And lastly, a lot of folks mentioned the supply chain problems. Where you have had a successful public/ private partnerships folks have already developed databases that go up and down the supply chain from manufacturers all the way to the end product, where they know what's in their products and they know what hazard traits are out there.

I can't tell you what it is because, you know, I haven't seen this full database, so I don't know how much credibility it has. But it can be developed fully outside of regulation. And that's what I really want to close today with. This is to the panel and to the members of the public.

We have to remember that AB-1879 and the regulatory aspect is one of six components of the California Green Chemistry Initiative, an important one. And I really appreciate the input you provided us. But it is not the only mechanism that allows us to move forward. And we want

a proactive, innovative approach.

I know Tim raised the issues of underground regs, but I heard folks use the word phasing, flexibility, beta testing. Regulations are hard, regulations are costly, transaction costs are high. Guidances might not be the optimal way, but this state and this department is committed to transparency.

And I think there's ways that we can develop guidance in these public/private partnerships; test them out; see what their flexibilities are. And when we work out the kinks, to bring them in into the regulatory process.

So, I'd like to hear from you all. I welcome you, in writing, in person, if you want to jot it on a note. Contacts, you know, this is a person who's involved with designing X, Y and Z. That's the kind of information we're looking for.

So, thank you very much. And, again, I really appreciate you all taking time from your busy schedules, flying from across the country, from across the world for some of you, and sharing your expertise with us.

And this is only our second meeting. And we have some kinks to work out. And we will be able to work them out and make these meetings even more efficient.

So, thank you.

CO-CHAIRPERSON RAPHAEL: So, one of the -- oh,

there we go. Joe, all right. So, one of the questions, there was some confusion that we've had, as panel members, as how to best interact with you, as staff. And are there legal barriers, are there not legal barriers.

And so we've asked our esteemed attorney expert to guide us, give us some guidance on how communication flow can handle between Green Ribbon Science Panel Members and DTSC Staff.

MR. SMITH: Okay. Communications can go two ways. It is on, yeah. Is that better? Is that better?

(Laughter.)

MR. SMITH: Okay, communications can go two ways. Is that better? Okay. Communications can go two ways, from DTSC Staff out to individual members, provided it's not going to a quorum of those members. And we've had dialogue in the past in that way.

Communications can also flow down from individual members of the panel to individual members of DTSC, provided that there is not the sharing of that information among a quorum of the panel.

So, when I asked you not to copy on individual communications to the staff, other members of the panel, the purpose is to avoid inadvertently reaching that quorum threshold that triggers the public notice, public meeting requirement. So we can continue to do that in the same way

we've been doing it in the past.

We have a process that Kathy regulates, that we insure when the communications go either from staff to an individual member, to two or three, or vice versa, that we track those contacts so we can insure that, over the course of time, we are not inadvertently, through a serial type of conversations among twosies and threesies, et cetera, reaching that quorum limit that would trigger the public meeting requirements. So we can continue to do it in that manner.

Anybody have any questions about that?

CO-CHAIRPERSON RAPHAEL: So if we have a question of -- let's say we're still confused about something, you know, could be. And we would like to get clarification. Kathy, do you want us to ask the questions to you? Or do we -- can we just email Don and say what was meant by this?

MR. SMITH: It can go either way. We're set up to handle either communication link.

MS. BARWICK: I don't want to -- so if you go through me I will get it -- so I don't want to be a choke point on this. So, if you go through me I will, indeed, forward your information to Don.

But if you go directly to Don, he will provide to me a short report shortly thereafter. And I put it into my little Excel spreadsheet. So it can go either way.

CO-CHAIRPERSON RAPHAEL: Staff, do you have a request of the type of communication you'd like? Is there anything you're worried about in terms of us asking of things?

MS. HARRIS: No, but I think that based on some of the comments and suggestions that we've heard today, we do want to make contact with many of you to get follow-up on some of the suggestions that were sort of alluded to, but not discussed in any detail. So, we will follow up.

MR. SMITH: Any other questions?

CO-CHAIRPERSON RAPHAEL: Okay. So, with that, wow, could it be -- no other cards are up. It means that this is the end of this meeting.

One of the things before we close, we're going to talk about next steps. So, next meetings, next conference calls. And, Kathy, will you just tell us what's in the pipeline, even if we don't have specific dates on that.

MS. BARWICK: The podium is for people not of my height. So, as I mentioned earlier this morning, we are planning to follow through on the partnerships discussion by scheduling a conference call probably in late November or early December.

Now, remember that this conference call will be a public meeting of the Green Ribbon Science Panel. So, I must ask you all, maybe more forcefully than I did last

time, to be thinking about the location from which you may call in, because we must public notice that. It will have to be open to the public.

So that's the kind of information that we need to get to logistically pull this together for a conference call. And the conference call will, of course, include opportunities for the public to comment, as well.

So, looking at that the feedback can come in the form of the individual comments to staff, but we'd also like to have a discussion on that specific topic.

The next time we propose to meet physically will be in late January. And we want to talk with you about the toxics information clearinghouse. And that's about as much information as I have on that at this time. But there's a lot of work that we've been doing and so it'll be an opportunity for them to provide more information, get new advice on what they're doing, as well as a part of that that comes to us, as well.

And so as you know, the court reporter -- we will be posting the notes, the transcript within?

THE REPORTER: A week.

MS. BARWICK: Within a week. And as we did last time, I believe the webcast takes a little bit longer to get together, it has to be edited. And it will be posted, as well.

Did I miss anything?

CO-CHAIRPERSON RAPHAEL: Ken has a question.

MS. BARWICK: Okay.

CO-CHAIRPERSON GEISER: Kathy, I just -- remind us again what a public place for the phone call is. A private office is not, but an office that is in a public place -- I mean, just give me that clarity.

MS. BARWICK: A private office, I'm going to look at Joe, can be a place that you can call from as long as we can publicly notice it and you provide access to the public should they wish to attend from that location.

It can be Starbucks, but it doesn't have to be. Potentially for people from southern California and the Bay Area, we can potentially organize places in our regional office to propose to people if they want to go to those locations. That's something that we would certainly be interested in doing if it makes life easier for all of you.

This is on the possible technology that is, as well.

CO-CHAIRPERSON RAPHAEL: Great. Any other questions? Okay, I'll hand it back then.

I just want to thank everyone again for making the trip up to Sacramento. I don't know how many of you traveled yesterday, but it was pretty exciting. I had a total knuckle drive, white-knuckle drive.

So, thank you for your time. And I really am very

appreciative of the intellectual capacity that is around this horseshoe, the whole full circle. And that you all --

(Laughter.)

CO-CHAIRPERSON RAPHAEL: I know -- it's late. Leaving the Chairs out of it, exactly. And I do know the challenge it took to read that 50-page document. So, it took a lot of all of our collective time to come prepared to comment. And I want to thank you for that.

As well as thanking staff, because clearly it took a tremendous amount of work to come up with those 50 pages. And it was incredibly thoughtful and creatively done. And so I applaud you on that.

And with that, the final words for this evening.

CO-CHAIRPERSON GEISER: Just a word of thank you to Kathy and --

CO-CHAIRPERSON RAPHAEL: Yeah.

CO-CHAIRPERSON GEISER: -- Yolanda and others for the meeting --

(Applause.)

CO-CHAIRPERSON RAPHAEL: Great. And with that, -- yes. It's good, I'll give it to you.

DIRECTOR MOVASSAGHI: Sorry. Thank you. I know scheduling can be very hard, but we've all got Blackberrys or equivalents of. Can we at least tentatively see if we can identify a couple of dates in late January for our

meeting? Since we've got most of you here.

So, I'm thinking, are there any preferences for either January 20th, 21st versus January 27, 28? The 20th is a Wednesday; 21st is a Thursday. The 27th is a Wednesday, 28th is a Thursday. Are there any particular preferences?

I'm hoping that we were far out enough that you actually don't have much on your calendar that week. And if you do, welcome to my problem.

(Parties speaking simultaneously.)

DIRECTOR MOVASSAGHI: Sara, what was the date for your January workshop? Was it the 29th?

MS. HOOVER: No. For January? No, it's March.

DIRECTOR MOVASSAGHI: March.

MS. HOOVER: Yeah, we -- that was our last year's workshop in January. And we actually also have some rooms that we were holding for our March workshop that earlier, you know. So January for us, January, I think, is open. I'm just checking, as well.

DIRECTOR MOVASSAGHI: Good. Okay, so I'm hearing preferences for Thursdays. So I'm thinking Thursday the 21st or Thursday the 28th. Any particular preference? 28th, I'm hearing 28th. Going once, going twice --

All right, so if you could, I ask that you all tentatively block January 28th. We will confirm when we

talk with some of the rest of the members, as well.

So, thank you.

In addition to Kathy, Michael O'Docharty, you know, Peggy, Don, Evelia, I also want to thank the crew of DGS for, you know, doing all the recordings. A lot of the other folks at DTSC, my guys and gals, thank you very very much. Jeff, also.

And I really want to thank the co-chairs. They tried to do a lot, and I really appreciate them taking the time and working with us. Your input was very valuable. So, thank you to the co-chairs and the members of the panel.

(Applause.)

(Whereupon, at 4:44 p.m., the meeting was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, 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 21st day of October, 2009.

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PETER PETTY, Official Reporter
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