

GREEN RIBBON SCIENCE PANEL
SAFER PRODUCTS AND WORKPLACE PROGRAM
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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GREEN RIBBON SCIENCE PANEL

October 20, 2014

MS. MAJHAIL: Good morning, everybody. How's everyone doing today? Good? Great. It's a beautiful day outside today. Okay. So I welcome you all to the matter of GRSP (indiscernible) here. And I am Radhika Majhail. I'll be helping you out today, again.

So a brief overview. We'll do a brief overview of the agenda, but before that, we'll go over some housekeeping issues here.

The bathrooms. Out the door to the left on the first floor only. The water fountain is right next to the bathrooms. The fire exits, doors behind me over there, just in case. We don't expect anything, but just in case.

Other than that, the café is on the first floor, if anybody needs to go take a quick snack. It's always, you know, it's very helpful. We also have light refreshments in the corner around with the water, so help yourself during the meeting today.

Please remember that this meeting is being audio webcast. So when you're speaking, speak clearly

1 into the microphone. And during the public comment
2 period, the members of the public, I would request you to
3 state your first name and last name clearly.

4 This meeting is an official meeting. We're
5 recording everything. We have a court reporter here. So
6 if you are making a public comment, please speak slowly,
7 clearly and your first name and your last name and state
8 your comment.

9 For the public comment period, we also have the
10 comment cards. If you would like to speak, just fill in
11 your name and hand the comment card over to me or Corey.
12 We will also have Heather helping us during that comment
13 period time. She'll be roaming around the room.

14 So if you want to fill it out, a comment card,
15 and give it to us, that would be wonderful.

16 Please do remember that this comment period, so
17 the comments should be pertaining to the agenda items and
18 directed to the members of the panel here.

19 Members of the panel, well, there's some
20 instructions for you, too. Please remember, this is
21 a public meeting and it falls under the Bagley-Keene
22 requirements of doing breaks and lunch. Please keep that
23 in mind.

24 We will be breaking out for lunch around 11:45
25 today. And the lunch will be in the Coastal Room. And

1 if you've not paid for your lunch, please find Corey for
2 the lunch menu.

3 Other than that, well, I think we're ready to
4 start. If there are any questions or any concerns I can
5 answer before we jump into the meeting, I'd be happy to
6 do that. Yes?

7 Hearing that, I will hand over to Miriam.

8 **MS. INGENITO:** Good morning, everybody. Thank
9 you so much for coming today and coming to Sacramento for
10 this multi-day meeting.

11 I'm going to thank you all for traveling far
12 and for coming here today and I just want to say that,
13 not to be outdone by anybody that you all flew from far
14 and wide, that I had to fly myself today. And I flew
15 across the courtyard on my way in. And I very gracefully
16 came into the building today as I threw my laptop (sic)
17 and gracefully did a Superwoman across the courtyard.

18 So I'm sure that the security guards were all
19 getting quite a chuckle on that video tape. Rewind
20 several times.

21 Anyhow, so thank you all for coming in today.
22 The program really is gathering its momentum and your
23 input and your getting us to this point has been
24 incredibly valuable and your input from this point on is
25 even more so.

1 And so, I really appreciate what you have
2 contributed to this point and just really how critical
3 your input is at this point as we move forward.

4 So thank you so much for bringing your
5 expertise to us and I just can't underscore how
6 incredibly valuable it is to us as a Department.

7 And unlike previous meetings of our Green
8 Ribbon Science Panels at this meeting you're going to be
9 tackling so many more issues versus just a more narrow
10 focus. We've got a really broad and exciting agenda, so
11 that's wonderful.

12 I'm going to be here for the morning and then
13 I'll be joining you for dinner. And then I'll be closing
14 out tomorrow. So I won't be with you the entire time,
15 but I will be looking forward to the conversation that I
16 am here for this morning and then looking forward to the
17 updates that I get from Meredith and her great team.

18 So again, thank you so much for being here and
19 for your contributions and for coming out. So with that,
20 Meredith?

21 **MS. WILLIAMS:** Thank you, Miriam. Thanks and
22 welcome to everybody. Thanks for being here.

23 As we often do in the program, I'm going to
24 channel Debbie Rafael (ph.). And Karl, I don't know
25 whether it was you or Debbie that really honed in on this

1 quote from Einstein that "If I had an hour to solve a
2 problem and my life depended on the solution, I would
3 spend the first 55 minutes determining the proper
4 question to ask, for once I knew the proper question, I
5 could solve the problem in less than five minutes."

6 Isn't that nice? So this was a quote that
7 Debbie and Karl used in a lot presentations when
8 explaining the regulations. Explaining the fact that the
9 regulations were built around primarily that question of
10 "is it necessary?" Is it necessary to have this chemical
11 in the product? Or, and then secondarily, is there a
12 safer alternative?

13 Well, we find ourselves asking lots and lots of
14 questions now. And Art and Kelly constantly challenge us
15 as we're preparing for these meetings to ask the right
16 questions of all of you.

17 We're lucky to have the breadth of expertise.
18 And so, I'm going to throw that challenge right back on
19 Art and Kelly to you, which is really, I'm interested
20 over the next two days of hearing what your questions are
21 of us or what you think the framing questions we should
22 be focused on as we start to implement the work plan, as
23 we start to develop approaches for narrowing down and
24 getting to the next round of products.

25 I really am interested in the various

1 perspectives you have, whether that's academic; whether
2 that's industry, whether it's environmental and
3 ecological versus human health. I believe and challenge
4 you to give us the questions that we need to be asking of
5 ourselves, so with that, we do have questions for you.
6 We think they're questions that are going to lead to some
7 fruitful discussion.

8 But we will be flexible if we find that area
9 that seems particularly rich, we will spend some time
10 there. We have that flexibility here on this particular
11 agenda, so thank you very, very much. And with that, I
12 will turn it over to my gracious coach here, Kelly.

13 KELLY: Okay. Just to very briefly welcome all
14 of you again to our panel meeting. As I sit here this
15 morning, I look around at just the most amazing group of
16 people who are volunteering their time to help our State
17 build a safer consumer products program. And I just
18 cannot thank you enough for bringing yourselves, your
19 incredible (inaudible) and your energy to help our State
20 become successful.

21 And my challenge to you through this meeting is
22 we're at a point now where we're trying to help the State
23 build the systems to make the program really work and be
24 effective and successful, practical, meaningful. These
25 are the things that our group (inaudible) and so I'm

1 going to challenge you to help the Department build this
2 program.

3 So we're really looking for constructive
4 comments for how can we do things that they started on,
5 better. How can we make it really work, be effective, be
6 practical, be efficient, all the things we're going to
7 make (inaudible) it better and successful. And I think
8 you all have a lot to offer in helping the Department
9 make that happen.

10 ART: Thank you, Kelly. It's a pleasure for me
11 to welcome the members back to the Green Ribbon Science
12 Panel meeting. And I know we're going to have a lively
13 discussion, because we always do.

14 One of the parts of being a coach here for the
15 Green Ribbon Science Panel is that I actually, Kelly and
16 I get to work closely with the very talented staff here
17 at DTSC. I have seen first-hand their dedication and
18 resourcefulness in trying to really pick up and do this,
19 you know, really great effort to eliminate harmful toxins
20 from consumer products.

21 So Kelly and I just want to make sure that all
22 of you have the opportunity to work with Meredith. Thank
23 you very much. So let's get the meeting started. I
24 think the first thing we should do is to go around and
25 have the members introduce themselves for the audience

1 and for the record.

2 So why don't we start with my right, Mike.

3 **MR. CARINGELLO:** Mike Caringello with S.C.
4 Johnson.

5 **MS. BLAKE:** Ann Blake, Environmental and Public
6 Health Consultant.

7 **MR. MALLOY:** Good morning. Tim Malloy from
8 UCLA.

9 **MS. QUINT:** Julia Quint, retired from the
10 California Department of Public Health.

11 **MS. HOLDER:** Helen Holder, Hewlett-Packard.

12 **MR. GEISER:** Ken Geiser, retired, from the
13 University of Massachusetts, Lowell.

14 **MR. ZARKER:** Ken Zarker, Washington State
15 Department of Ecology.

16 **MR. VERSTEEG:** Don Versteeg, Proctor & Gamble.

17 **MS. SUTTON:** Rebecca Sutton, San Francisco
18 Estuary Institute.

19 **MS. SCHOENUNG:** Julie Schoenung, U.C. Davis.

20 **MS. SCHWARZMAN:** Meg Schwarzman, U.C. Berkeley.

21 **MR. CARROLL:** Bill Carroll, Occidental
22 Chemical.

23 **MR. FONG:** We also have Dr. Caroline Baier-
24 Anderson, who is joining us remotely this morning. And
25 let me give you the address of where she is. Caroline is

1 joining us from the Calvert Memorial Library Studies,
2 Study Group No. 2, 150 Costley Way, Prince Frederick,
3 Maryland, 20678. Caroline, we'd like you to introduce
4 yourself.

5 **MS. BAIER-ANDERSON:** Hi. Yes. This is
6 Caroline Baier-Anderson from the EPA.

7 **MR. FONG:** Excellent. Thank you very much for
8 (inaudible).

9 So let me just give you an overview of what
10 we're going to be doing this morning and today.

11 So today's topics are going to include a
12 presentation on the three-year priority product work plan
13 with DTSC, which would then be followed by any questions
14 from panel members.

15 After the panel member question and answer
16 period, we're going to take public comments. And again,
17 remember, these are public comments are directed at
18 members of the Green Ribbon Science Panel on today's
19 topic agenda.

20 If you have questions or comments to DTSC,
21 please save that for another time.

22 After the public comments, we're going to take
23 a 15-minute break and then we're going to reconvene and
24 begin the discussion on priority product work plan and
25 the product category evaluation.

1 Okay. So we're going to break, discussion,
2 then we have lunch at 11:45. Reconvene at 1 o'clock and
3 continue our discussion on product category evaluation.

4 The last topic for today is going to be about
5 the conceptual models.

6 At this time, I'm going to turn the meeting
7 over to Karl Palmer.

8 **MR. PALMER:** Thank you, Art. Thank you, Art.
9 I need something to change the slide? Or I can say next
10 slide.

11 Anyway, my name is Karl Palmer. I'm the Branch
12 Chief for the Safer Consumer Products Program. Welcome
13 GRSP members.

14 On behalf of the staff, thank you for your time
15 and input. We value it and we are glad to have you help
16 us implement this program.

17 For those on the Web, full disclosure. My
18 slides, I dropped a couple out and I added another one.
19 And hello, Cal, in the ethosphere.

20 So I'm going to give a quick update of what
21 we're doing in the program to implement the various
22 facets of the program to give you sort of an overview of
23 what we're up to.

24 And just a quick reminder, this slide
25 highlights the fact that our regulations really are

1 divided into four main parts. The first part being
2 identifying the chemicals of concern. Can any of the
3 chemicals as we call them that are listed because of
4 their inherent hazard traits?

5 The second part is identifying consumer
6 products that contain one or more of those chemicals,
7 which we've identified. And selecting ones to focus on
8 throughout the regulatory process.

9 Once those are adopted in regulations, the next
10 phase is conducting an Alternatives Analysis by the
11 responsible entity, who manufactures that product, puts
12 it into commerce in California.

13 And the fourth part of the regulations down the
14 road is the Department assessing those Alternatives
15 Analysis reports and determining if there's any
16 regulatory response that would be necessary to make that
17 product safer and move forward.

18 So those are the big buckets.

19 The next slide is a little bit of an update on
20 the candidate chemicals list. As you probably know, when
21 we adopted the regulations, we identified 23 different
22 lists from throughout the world that identified what we
23 call candidate chemicals because of their hazard traits.

24 We also put in the regulations that we are
25 periodically to update what we call the informational

1 candidate chemical list, which is an attempt by us to put
2 on the Web a database that allows people to go in and
3 search that list, rather than going to each of the 23
4 separate lists and find what we're looking at.

5 So when we adopted this list last year, in the
6 interim, some of the lists have changed. And the nature
7 of these lists is that they're living, breathing lists
8 that change periodically.

9 And as they change, they're incorporated
10 essentially by reference into California Rulemaking.

11 So we wanted to give an update. And so a
12 couple weeks ago, we updated our informational candidate
13 chemical list. And of those 23 lists there that we point
14 to, 7 of them had changes. Some added some chemicals,
15 some dropped some chemicals.

16 I'm not going to go into each of the details
17 here, but suffice to say that we added 19 chemicals to
18 the list and we dropped 10 chemicals.

19 And what that means on the whole is that we
20 have over 1,100 chemicals and chemical groups on our
21 candidate chemical list, from which we can choose to
22 focus on as we look at identifying a consumer product
23 that contains one or more of those chemicals.

24 So we will periodically update this list. It
25 doesn't mean that you aren't still responsible to look at

1 the specific list, but this is a tool that I think works
2 well. Next slide.

3 I might also add that you can go to our Web
4 site and we have a searchable database that you can go in
5 and simply type in the CAS number or a chemical name.

6 So priority products. In March of this year,
7 we announced the first set of three priority products
8 that we are focusing on, moving forward in the
9 regulations.

10 And these were proposed and we've been having a
11 lot of dialogue on each of these subsequently.

12 And what we started off with was three things.
13 The first one were children's products that contained
14 foam and that are designed for sleep use. And that
15 contain the flame retardant TDCPP or chlorinated Tris.

16 The second product were paint strippers that
17 contain methylene chloride. And the third product we
18 defined as spray polyurethane foam systems with unreacted
19 diisocyanate (ph.).

20 Now, those are all a mouthful. Since we
21 announced those in March, we've had three public
22 meetings. We've met numerous times with a variety of
23 stakeholders from industry to advocacy groups and we've
24 refined our thinking as we move towards putting these
25 (inaudible) Next slide. There we go.

1 Each of these draft priority products will need
2 to be adopted in regulation. And so, as we move towards
3 coming to define what we're going to adopt, specifically
4 in regulations, we tweak these based on the amount of
5 input we've had from all the stakeholders.

6 So regarding children's foam padded sleeping
7 products that contain chlorinated Tris, we've added an
8 additional chemical, TCEP, another flame-retardant, and
9 we've also added sleeping pillows for children as another
10 subcategory in this priority product category to look at.

11 We've also clarified that for paint strippers
12 with methylene chloride, that we're not going to be
13 focusing on surface cleaners. And that we determined
14 earlier on, that's adequate regulated by our brethren and
15 sisters at the Air Resources Board. So we refined that
16 focus somewhat.

17 And for spray polyurethane foam systems, we've
18 had a lot of dialogue with industry and various
19 stakeholders. And we've narrowed our focus on that to
20 focus specifically on MDI and on two-part phone systems.

21 And I'm going to give you an example on that
22 specific priority product. Next slide.

23 So for the SPS systems, we initially started
24 with our concept of looking at roofing systems and
25 insulation systems that are used in homes and buildings.

1 We also included one (inaudible) component
2 systems, which are those cans of pressurized spray foam
3 that you find at many local hardware stores that
4 (inaudible) wires and consumers can purchase mostly for
5 filling cracks.

6 And the three chemicals we were focusing on
7 were the group of isocyanates (ph.), MDI, TDI and HDI.

8 So through the dialogue, we've learned a lot
9 about spray foam. And this is I think a good example of
10 the dialogue we're going to have to have with each and
11 every priority product that we identify because it's very
12 important that we understand how they're made, how the
13 supply chains and channels work, their use and the
14 science that's behind both how they work and exposure and
15 all the characteristics we're concerned about.

16 So the next vision we had after all this
17 dialogue was we changed the definitions. So what we did
18 was we said we're going to focus on pressurized two
19 component systems for roofing and insulation. But we're
20 not going to be focusing on the one component system.
21 Those in the can that you can buy at the hardware store.

22 That's largely based on the chemical nature of
23 those product which is such that there's not so much free
24 isocyanates that are emitted from that product. And not to
25 the level of concern that we have with the other

1 insulation products and roofing products.

2 Additionally, we learned that when we said
3 roofing systems, we were saying the roofing system is the
4 foam system and the coating that goes on a roof. And
5 roofs are required to have a coating to protect from UV
6 radiation.

7 But what we found was that that's really a
8 different product. And there's a variety of different
9 types of coating, some of which do contain TDI and HDI,
10 but many of them don't and particularly here in
11 California.

12 So we eliminated from the definition of roofing
13 system, the coatings. And thus, when we did that, TDI
14 and HDI dropped out of our interest.

15 So, this is the process that we've gone through
16 in the last several months. Lots of dialogue and now
17 we're moving towards initiating the rulemaking process,
18 which we hope to do the end of this year, the beginning
19 of 2015.

20 And that will be putting together a notice
21 document for each of these listing regulations, which
22 will identify which products we're talking about, how
23 they're defined, what they are and what they're not.

24 I'll have supporting documents from the studies
25 we rely on, the science is out there. We'll also be

1 doing, as we do with every reg package, an economic and
2 fiscal analysis as well as conducting external scientific
3 peer review and we'll be going in front of the
4 Environmental Policy Council, which is the heads of each
5 of the Departments here, Cal-EPA, showing that we're
6 consistent with the statute and we don't need to do a
7 multi-criteria, multi-media lifecycle analysis just to do
8 this listing reg.

9 I also wanted to highlight that we're also in
10 the process of doing a rulemaking that will fix an error
11 that was in our original rulemaking.

12 In the original rulemaking, one of the lists we
13 attempted to point to, we used inaccurate language. Our
14 intent was good and all of the work that we did to
15 support that was good. We just used some language that
16 didn't work very well.

17 And so we're tweaking that language to make
18 sure everyone understands what we're pointing to is the
19 (inaudible) list of endocrine disrupters and PVTs and
20 this will be essentially a clarifying rulemaking package
21 and that should go out at the beginning -- at the end of
22 this year as well.

23 So onto the next bucket of work we're doing,
24 which is Alternatives Analysis, as you all know and you
25 see on the agenda today, we're in the process of

1 developing a guide, guidance on how to conduct an
2 Alternatives Analysis within the framework of
3 California's regulations.

4 And that's a big process. And we're spending a
5 lot of time on it. We'd appreciate your help and your
6 input today.

7 We're targeting the release of that guidance in
8 the beginning of next year and we're going to have a lot
9 of dialogue, training, input from various stakeholders in
10 terms of does this guidance work, what do folks need to
11 get through the regulations and how can we take all of
12 the good work out there in the community to practice for
13 Alternatives Assessment and point to that to help folks
14 get through this process. Next slide.

15 Our approach for that is largely one of a
16 toolbox where we're not trying to reinvent the wheel.
17 We're trying to identify tools that work and that can be
18 applied to our framework.

19 We're trying to identify good pilots that have
20 been done and that -- and maybe developing some new
21 pilots, pointing to various tools out there and models
22 that can be used, supporting people and trying to -- want
23 to understand how the framework works, how to use
24 lifecycle thinking and how to, depending on their
25 product, address the concerns that they have relative to

1 the factors required in the regulation. Next slide.

2 Now, this slide - apologies, it's a little
3 difficult to see. I'll hand out some specific examples
4 of it. But I wanted to give you some idea of the overall
5 work plan over the next couple of years which highlight
6 the various things going on in terms of Alternatives
7 Analysis, guidance development.

8 We're in on a schedule to get the guidance out
9 the first quarter of next year or so. This will coincide
10 with finalizing the work plan and starting the initial
11 regulatory process to adopt our priority products, which
12 will take potentially a year.

13 Concurrently, we're going to be looking at
14 things like the OECD, work that's been done on AA
15 and that toolbox and trying to build on that, as well as,
16 I assume, we'll be looking at the NAS report and
17 hopefully getting -- spring boarding from that and taking
18 that perspective in helping us.

19 And then we're going to be doing some perhaps
20 more concrete things in terms of developing some
21 additional pilot AAs that can be done as good -- to show
22 good examples. And then looking at various tools that we
23 will bring in folks to not only put in our guide, but to
24 conduct training for practitioners who are going to be
25 conducting AAs.

1 And that will include things, everything from
2 lifecycle assessment tools, exposure modeling, use of
3 green screen and other hazard assessment models to get
4 people some very practical tools that can be used.

5 And finally, we'll be wrapping this all into a
6 process that's going to be looking at timing-wise so that
7 as people are starting to do AAs, that they'll have had
8 some of this training, they'll have had some of these
9 tools out there. And then we'll work with folks to help
10 give them technical advice as they go through the
11 process.

12 And then subsequently, we'll revise the guide
13 and it will be a living and breathing guide, so as we
14 learn what works and what doesn't work and what gaps
15 there are, we'll try to fill those.

16 The last thing I'll say is that we're also
17 working with UCLA and the UC system to identify the
18 (inaudible) tools in our system that we can utilize and
19 that the great expertise in our university system that
20 can help us and see how we can help them collaborate to
21 help us as well. So we're excited about that.

22 I want to highlight a more administrative
23 process, but an important one that we've been working on.
24 When we came out with our draft priority products work
25 plan, we also launched what we call our Cal Safer System.

1 And this is -- most simply, it's a Web-based
2 tool which allows stakeholders to give us comments
3 immediately. They can type them in and upload documents
4 that can be used for us when we're asking for input as we
5 did with the priority products work plan or moving
6 forward, as we do rulemaking, we'll be expanding this
7 tool, so that people can easily give us comments quickly
8 and give us documents.

9 And the other benefit of this, it will allow
10 everyone out there to see what's submitted to us, both
11 comment-wise and document-wise, so we'll create a body of
12 work that will help us be informed as well as everyone
13 outside of this building. Next slide.

14 It's easy to use. You can go to our Web page
15 and at the lower left corner of the Cal Safer page, you
16 can say click, submit a comment. It guides you through
17 the process. This was Friday's screen shot. We have 246
18 comments on our priority product work plan. And you can
19 go through and type to your heart's delight and give us
20 all kinds of good information. We appreciate your using
21 it.

22 It would also help us organize the many
23 comments we get, particularly as we get into rulemaking.

24 So that's a quick overview of the big elements
25 we're under way here at DTSC to implement the program.

1 And that concludes this phase in the presentation.

2 **MR. FONG:** Now, Karl, thank you very much for
3 that excellent program update.

4 At this point, I'm going to open up the
5 discussion for clarifying questions.

6 Just as a reminder again, this is questions
7 that you have for Karl on his presentation. For
8 questions that are more suited for the general panel
9 discussion, please hang on to those until the appropriate
10 time.

11 And I see that nobody has a tent out that I was
12 going to remind you that in order to get into the queue
13 as the -- we're going to go with our regular name tag
14 method, so I have Helen and I have Bill. So let's start
15 with Helen, please.

16 **MS. HOLDER:** I just wanted to follow up on when
17 you said that the update on the master list, based on the
18 underlying list changing, was going to be periodic.

19 **MR. PALMER:** Yes.

20 **MS. HOLDER:** Is that going to be a scheduled
21 thing, like annual (inaudible) -- annual (inaudible)
22 plan?

23 **MR. PALMER:** We haven't locked down a schedule
24 that said this is the time we're going to do it. We want
25 to do it on a regular basis. We did it, you know,

1 basically a year since we came out. We'd like to do it,
2 I think, at least twice a year and certainly, if there's
3 a significant change that people wanted -- that should
4 know about, we will -- we can do that more on the fly,
5 but it's a little bit of work, but we're planning to do
6 it at least a couple times a year.

7 **MS. WILLIAMS:** And we are working to add
8 additional functionality to the online database as well
9 as to our backend to kind of streamline that process so
10 that we can do it more frequently without having it be a
11 big (inaudible).

12 **MR. FONG:** Who are -- I have on the list as
13 Bill, Mike and then Julia, but I'm going to ask Cal
14 Anderson (inaudible) if she has a question, so Bill's
15 it's great to have you here in person.

16 **MR. CARROLL:** Thank you, Chair. It's great to
17 be here.

18 Karl, I'm looking at the schedule. Can you
19 tell me a little bit more about the block that says
20 develop online modules and tell me what that means in a
21 little more detail, please?

22 **MR. PALMER:** Well, that whole string that
23 you're looking at under tool module development and
24 let me just add that what you see in grant period on
25 that, the things that's shaded in green are things that

1 we are receiving assistance from a US EPA P2 grant,
2 Pollution Prevention Grant that we committed to.

3 And that whole string is really designed to
4 come up with tools and practical things that people can
5 use in going through the AA process.

6 And online modules, I think and correct me if
7 I'm wrong, Bob, is really the concept of people having
8 access to tools online in an organized manner, so that
9 they can get through the process, but --

10 **MR. CARROLL:** May I follow through and ask, by
11 that, do you mean these are optional informational sorts
12 of things or would you imagine these as being required
13 (inaudible)?

14 **MR. PALMER:** Well, one of the things is
15 we're -- we want to use webinars and online trainings as
16 much as possible to get access to folks.

17 And I think that it will be its -- at this
18 point, it's going to depend on what people need and what
19 we think is out there, available.

20 The whole process is going to be part of it is
21 defining the tool kit that people can use, depending on
22 where they are and what they need and what part of the
23 process they're in so --

24 **MR. CARROLL:** Thank you very much.

25 **MR. PALMER:** It's important to note that we

1 don't have a -- there's not such a linear process through
2 this. It's going to be dependent on the product and the
3 company.

4 **MR. FONG:** Mike?

5 **MR. CARINGELLO:** Just a question again on the
6 timeline, Karl, which I think is very, very helpful to
7 lay it out like that. It's under the SEP program
8 activities?

9 **MR. PALMER:** Uh-huh.

10 **MR. CARINGELLO:** You've got the initial
11 priority products. And then you had said that they would
12 be published probably the end of this year, the -- as
13 revised as you've shown.

14 Is that what you mean by the adoption of
15 priority products by the end of --

16 **MR. PALMER:** Yes. That anticipating that it's
17 going to take about a year to do the rulemaking on those
18 priority products listings, so that if we start in
19 January, say, of 2015, we should be done by January of
20 2016.

21 And so that's where it's anticipating, because
22 part of this is working backwards, if you will, from
23 one when the folks that are required to comply with the
24 regulations when the timelines take effect.

25 **MR. CARINGELLO:** Could I follow up real quick?

1 **MR. FONG:** Yes (inaudible).

2 **MR. CARINGELLO:** And so, is there a plan
3 then -- it's not out of the timeline. Do you have an
4 idea when the next round of priority products?

5 **MR. PALMER:** That's a good question. Well,
6 we're -- as you'll see when I talk about the work plan,
7 we have a three-year work plan that's drafted out there.
8 We're going to finalize that. We're going to work
9 through those categories and then we anticipate every
10 year, we'll be adding some priority products to the
11 process.

12 And this whole thing will be cycling sort of
13 continuously.

14 **MR. CARINGELLO:** Thank you.

15 **MR. FONG:** Julia.

16 **MS. QUINT:** Julia Quint. I had a sort of a
17 question about the training and, you know, getting people
18 up-to-speed with the tools. A lot of these tools
19 require, you know, different types of expertise, so is
20 that going to be when you offer these trainings, are you
21 going to have some -- give people some idea of what kind
22 of training and expertise they need to do this?

23 **MR. PALMER:** That's a very good point. Yeah.
24 I think, you know, this -- the perspective I think in
25 general in the guide is that we're not starting from

1 scratch. That there's a certain level of expertise and
2 tools and resources that people need to have at their
3 disposal, whether it's in-house or hired as they go
4 through the process.

5 And as we do this, we'll be defining the
6 audience and what it's for and where -- what it's for in
7 the process.

8 So there will be some modules, certainly, and
9 some elements that need, you know, a certain high-level
10 of expertise, but then we'll also be looking at the needs
11 out there and maybe we modify and say we need to do
12 something that helps people to get to a higher level.

13 So --

14 **MS. QUINT:** Yeah. That was sort of -- it
15 sounds like you have a very flexible approach --

16 **MR. PALMER:** Yes.

17 **MS. QUINT:** -- to AAs and you aren't starting
18 with certain criteria that the Department has in terms of
19 what qualifies as a -- you know, to meet the regulation.

20 **MR. PALMER:** Well, I think it's your first
21 point is that we are flexible and one of the things we're
22 hoping to get from all of you is some help in terms of
23 defining what's critical in some of these things. And we
24 know there's some gaps out there in terms of tools and
25 other things.

1 So some of this is going to be about where
2 we're best spending our resources in terms of filling
3 some of those gaps and making sure (inaudible).

4 **MS. QUINT:** And I had a very different question
5 about the spray polyurethane foam.

6 **MR. PALMER:** Uh-huh.

7 **MS. QUINT:** It sounds like you learned a lot
8 and you are now limited -- limiting it to unreacted MDI.
9 What comes to mind for me is that you have all these
10 isocyanates out there, you know, in addition to HDI and
11 the ones you listed.

12 So how will you -- which could be used as safer
13 substitutes of people -- I mean, according to the
14 regulation, they could be added. So how do you prevent
15 that from happening?

16 **MR. PALMER:** Well, I think, you know, one thing
17 is important. We're not presuming what people are going
18 to do in their analysis, but within the bounds of the
19 regulation, if they can go someplace, they can go there,
20 but what we're going to ask them to just tell us what
21 they're doing and how they're doing it.

22 So I think that the balancing factor there will
23 be transparency and knowing that even if you're moving
24 some -- to something, people will know what that is.

25 That said, I think I'm very optimistic about

1 the dialogue we've had because I think that industry has
2 engaged us very heavily and understands the regulations
3 and we're not trying to ban anything per se. We're
4 saying go through this process, make it safer.

5 **MS. QUINT:** Yeah. I'm just concerned about
6 this group of chemicals in particular, because the
7 innovation several years ago was to polymerize them. And
8 now we're finding that the polymers leak and that you're
9 having asthma from polymerized isocyanates.

10 So, you know, there's been attempts to try to
11 be safer. So, you know, it's always this balancing act
12 of not giving in to not ending up with regrettable
13 substitutions. So --

14 **MR. PALMER:** Sure. I agree.

15 **MR. FONG:** Before moving on to our next topic,
16 let me check in with Caroline Baier-Anderson to see if
17 she has a comment. Carol, are you still in the room?

18 **MS. BAIER-ANDERSON:** Yes. And (inaudible) I do
19 have a question for Karl. (Inaudible) from the revision
20 to the priority products, at what point will you make
21 this information available for review?

22 **MS. PALMER:** So for the revisions that I talked
23 about, we've already posted for the spray polyurethane
24 foam, a revised profile and some additional information
25 and we'll be doing -- adding additional information for

1 the children's sleep pattern products.

2 And we won't be doing anything for methylene
3 chlorodate. We actually clarified in the -- during the
4 workshops that we weren't going to focus on this, the
5 surface cleaners.

6 So will there be additional information for the
7 sleep products and you can look -- there's a lot of new
8 information on SPS systems.

9 **MS. BAIER-ANDERSON:** And just a follow-up
10 question. Did the council (inaudible) give us a heads-up
11 when you add that information?

12 **MR. PALMER:** Sure. We'll send out on our e-
13 Blast if you're on our Listserv saying that we've added,
14 you know, e-documents. And I think we did that for the
15 spray polyurethane foam just as we'll do the same as we
16 change it.

17 **MS. BAIER-ANDERSON:** Yeah. I might not be on
18 that list.

19 **MR. PALMER:** Oh, okay.

20 **MS. BAIER-ANDERSON:** But if someone on your
21 staff make sure I'm added, I'd appreciate it or I can --

22 **MR. PALMER:** I just looked at the guy who's
23 going to do it. So you're on.

24 **MS. BAIER-ANDERSON:** All right. Thank you.

25 **MR. FONG:** Our next update will be on the

1 status of the three-year priority product work plan from
2 Karl.

3 **MR. PALMER:** Thank you, Art. So this section
4 is going to be an overview of our priority products work
5 plan that we put out recently. And I hope you've had a
6 chance to look at it. But I'm going to go through both
7 what it is and sort of our rationale for what we
8 selected.

9 So hang on. So what were the objectives of the
10 work plan? Basically, we were required in our
11 regulations to product this work plan, which identifies
12 categories of consumer products that we can focus on over
13 the next three years.

14 And the intent of that is to do a couple
15 things. One, to send some clear messages to the market
16 about what we're focusing on, so that we can promote a
17 dialogue and can promote knowledge for people who are
18 designing and making products.

19 They can look at our candidate chemical list.
20 And it's very important that as we go through these
21 categories that we get good information. It's really the
22 core backbone of our action is getting good information.
23 So that's going to help us in the work plan.

24 And then as we do that and we get more
25 information and we go through this discernment process,

1 then we'll identify potential priority products that
2 we'll put out and list as potential and move into the
3 regulatory process to opt -- adopt and that's the next
4 set of priority products.

5 So right now, we put out the draft plan. We
6 held two workshops, north and south recently. And had
7 some -- a lot of input and as you saw on our Cal Safer
8 system, people are continuing to add input.

9 And we're going to then be moving to finalizing
10 that work plan here by the end of the year or so and then
11 moving to implementation.

12 And what that's going to look like is really
13 where the heavy lifting will start is looking at these
14 categories, engaging with all the stakeholders that have
15 interests here, doing some workshops, getting good
16 information and data. We'll probably do some what we
17 call data call-ins where we have some specific questions
18 that we'll ask to the industry and the manufacturers and
19 the people who have knowledge about these products that
20 will help us refine our focus, coming to the next set of
21 priority products.

22 So how do we come up with what we did in the
23 work plan? So, of course, we used the regulations, which
24 identify a very specific factors that we have to
25 consider. You know, the nature of the chemical, the

1 potential exposure and the potential for significant
2 adverse impact to people or the environment.

3 There's no algorithm or set prioritization
4 framework that says we have to pick the most or the worst
5 or the best. So we have a great amount of discretion,
6 which is on the one hand, very powerful. On the other
7 hand, very challenging.

8 We looked at a variety of screening approaches.
9 And if you recall the last time we met, in fact, this
10 body was very helpful in us in identifying the functional
11 use perspective of different ways to look through this
12 broad amount of information, including everything from
13 looking at the hazard traits of specific chemicals and
14 pulling that string. Looking at specific routes of
15 exposure and seeing if there's some commonalities across
16 different categories.

17 Looking at bio monitoring data and good data
18 out there that shows the presence of these chemicals in
19 the environment or people.

20 And then looking also at some sensitive sub
21 populations of concern.

22 You'll note that our first three draft priority
23 products were really focused on human impact. So one of
24 our concerns was, well, we should be looking at the
25 environment and eco impacts.

1 And we also had some work that we'd done in the
2 first set, first round that we also had in our back
3 pocket that we looked at. But none of these approaches
4 led to a specific outcome. It was collectively that when
5 you start going through these iterations, you start
6 seeing some things that are of interest.

7 So this is probably the most important slide in
8 my whole presentation, I'd say. And what these are, and
9 we'd put this in our draft priority work plan, is these
10 are decisions the Department has made about our
11 priorities as going for the next three years of what we
12 want to focus on and why.

13 And so, some of these are, you know, kind of
14 obvious, but there's a wealth of different perspectives
15 that we could, in factm that we could consider.

16 So what we did, we said, look, these are some
17 of the top ones. Looking at dermal ingestion and
18 inhalation pathways are of primary concern.

19 Looking at bio monitoring results to give us a
20 guide for things that we know are in people or in the
21 environment, checking chemicals in indoor air. And I'm
22 going to talk a little bit more specifically about how
23 these factor into our decisions. But looking at indoor
24 air as a main concern in terms of exposure.

25 And then looking at certain subpopulations,

1 sensitive subpopulations, as they are called out in our
2 regulations, which we're really looking at children and
3 workers and the environment.

4 And note that we didn't identify in any of our
5 categories a children's category. But what we did rather
6 was and in most of these categories, you can look through
7 that lens of sensitive sub populations like children.
8 Are there -- is there a subset of people or the
9 environment that is really impacted here?

10 And lastly, the two things you see there in
11 terms of product resources and water quality monitoring
12 evidence, those are important to us, because we thought
13 it was important that we look at the environmental
14 impacts, potential impacts that are out there.

15 So that's a big part of what framed this as we
16 went through, deciding about the categories.

17 I also wanted to note that the categories are
18 in the work plan, we tried to provide the category and
19 the sub category, give some focus on what the -- realm of
20 products are and then give some examples, both the
21 products as well as chemicals and some of their
22 functional use.

23 It's important to note -- it's very important
24 that the examples are just that. Those examples aren't
25 decisions by the Department to identify the next set of

1 priority products, but we thought it was important, so
2 that you understand some of the substance behind why we
3 chose these categories.

4 And the seven categories are -- are
5 straightforward. Beauty, personal care and hygiene
6 products. That's a large category. Building
7 products -- and I'm going to go through each of these and
8 talk a little bit about why we picked them and some of
9 the subcategories.

10 Household, office furniture and furnishing,
11 cleaning products, clothing, fishing and angling
12 equipment and office machinery, consumable products.

13 Now, note that one of the things we tried to do
14 was identify categories that were consistent with some
15 other framework. And I think we discussed this a little
16 bit at the last GRSP meeting, but we tried to use the
17 global product classification system.

18 It doesn't fit perfectly for everything, but
19 when you go talk to industry folks that work in that
20 realm, it is a system that's helpful. Although when you
21 get further down, it starts breaking down a little bit.
22 But that was our framework.

23 So I'm going to go through each of these
24 categories and give you some perspective of why we chose
25 it.

1 So for personal care, beauty and hygiene, most
2 straightforwardly, many of these things you apply
3 directly to the body. They're used in high volumes and
4 frequently. There's a lot of bio monitoring evidence of
5 some of the chemicals that aren't on our list, are in
6 some of these products. And there's great potential for
7 these things to end up in the aquatic environment.

8 Sometimes some of these -- it's difficult to
9 tell what's in a product and not in a product as well.

10 Now, I would like to note that I think Meg
11 Schwarzman identified at the last GRSP meeting to be
12 careful -- that we needed to be careful about just taking
13 something at this level of focus and make -- and assuming
14 that there is a problem there. And we're very aware of
15 that. And as we start going through these -- distilling
16 these categories, we'll be looking for data and
17 information that refines our focus to make sure that
18 we're focusing on factors, wherefore, there's good
19 science and good substance.

20 The next category I've lumped together as we
21 did in the work plan, the rationale for boat building
22 products and household and office furniture. The main
23 focus there being is that we spend so much of our time
24 indoors.

25 And if you look at this graphic, which shows

1 the time indoors for children, who have -- you know, they
2 expend about 90 percent of their time indoors.

3 And adults not quite as much, but -- and many
4 of us parents would like them to spend more time
5 outdoors. But in any case, it speaks to -- back to our
6 priority -- prioritization factors of indoor air and
7 sensitive subpopulations. Children who are
8 potentially -- particularly susceptible at times to
9 certain chemicals and they're exposed to indoor air.

10 Additionally, there's a lot of data in some of
11 these -- for someone of these chemicals in indoor air and
12 that's helpful as well to -- and we can start the
13 discernment process of filtering the categories and
14 finding products that contain some of these chemicals
15 that we find in indoor air.

16 Building products, we identified four
17 subcategories. In the building products world, there's
18 60 or 70 different categories in the GPC we could look
19 at.

20 We were focusing on paints, adhesives, sealants
21 and flooring and this is, I think, is a good area where
22 you start looking at functional use, that there's a lot
23 of applications and a multitude of products that might
24 use similar chemicals and chemistries.

25 Household, office and furniture, here, rather

1 than focusing on specific types of -- of products within
2 this -- this category, we're focusing on types of
3 chemicals because of the inherent concerns of the hazard
4 traits of these chemicals, specifically, flame retardants
5 and stain resistant chemicals used for
6 staining -- stainers.

7 For cleaning products, another very broad
8 category. And when you look at general cleaning products
9 and detergents and things like that, again, a lot of our
10 concern is -- is because so many workers use these day in
11 and day out and that they're exposed both derm -- to
12 dermal and inhalation exposures.

13 Additionally, many of these products end up to
14 one degree or another in the aquatic environment. So
15 this seemed like an area where we want to pull some
16 strings and get more information.

17 Somewhat similar, clothing, specifically, dyes
18 and color-fastness chemicals, things used for wrinkle
19 resistance and stain resistance and water repellency.
20 Many of these chemicals are on our candidate chemical
21 list.

22 People are exposed to those chemicals and to a
23 large degree, they end up in the aquatic environment as
24 well.

25 Fishing and angling equipment. This category,

1 we've received a lot of early input on from the
2 stakeholders. And what we identified was particularly
3 certain metals. Of most concern probably is lead. Some
4 of these products such as fishing weights of certain size
5 end up in the aquatic environment and certain migratory
6 and water fowl birds eat these because they have a
7 gizzard that needs some roughage in there. And lead is
8 toxic to them and it kills them.

9 So there's a lot of good data about this, the
10 impact on water fowl and then we're concerned about that.

11 This is a -- a category that we'll -- we're
12 going to actively engage this community and
13 we'll -- we'll refine the focus in what we're
14 specifically talking about, but the sensitive ecosystems
15 are what we're concerned about and the -- and the birds.

16 Office machinery, consumable products. Again,
17 this was a hard one to fit in the GPC, but really, we're
18 looking at inks and toners used in the office
19 environment, and we identified what we call specialty
20 paper. This is a good example of us learning.

21 We met recently with the American Paper
22 Products folks and they told us that in that industry,
23 specialty paper meets certain things. And so a lot of
24 those things are things we (indiscernible) going to be
25 concern about, so we'll refine that definition as we

1 finalize the work plan.

2 Certainly, we're looking at papers treated with
3 coatings with photographic use and things that are used
4 in cash registers and things like that. And we'll figure
5 out how to best describe that.

6 Certainly, one of the lessons in all of these
7 priority products discussions are words are important.
8 It's important that we understand what we're talking
9 about and what we're not talking about. And that's an
10 education process for us.

11 So, we've received a lot of input. We've asked
12 for comments due this week. It's an informal comment
13 period. You can always give us more information, but
14 we'd like it sooner than later, so we can move forward.

15 We held a couple of workshops, one in
16 Sacramento and one in Southern California that went well.
17 And what we'll be doing, once we finalize this work plan
18 is again, train for each of these categories and talking
19 to the people who know, who make these products and
20 people who have interest and have data and developing a
21 good set of information to distill this down to the next
22 set of priority products.

23 That's the whirlwind tour of the work plan.
24 You cannot -- I've put on the slide, you know, how you
25 can contact us. You can go to our comments page and our

1 general page as well.

2 **MR. FONG:** Karl, thank you very much. I think
3 that was just an excellent demonstration of how much hard
4 work DTSC has put into this whole process. Thank you.

5 So we're going to have clarifying questions.
6 And let me start off by seeing if Dr. Baier-Anderson, who
7 is joining us remotely, has a question for Karl on his
8 presentation. Carol?

9 **MS. BAIER-ANDERSON:** Not yet, but I might.
10 I'll break in and let you know.

11 **MR. FONG:** Let me start with Meg.

12 **MS. SCHWARZMAN:** Thanks very much. And thanks
13 for the overview, Karl. It's very helpful. My question
14 for the moment is about the data call-in that you
15 mentioned.

16 **MR. PALMER:** Uh-huh.

17 **MS. SCHWARZMAN:** And could you tell us a little
18 more about that? Is there -- is there a statutory
19 authority to do a mandatory data call-in? Are you
20 having, you know, sort of these voluntary (indiscernible)
21 meetings with industry to get feedback from them? How
22 does that work and what are you picturing asking for?

23 **MR. PALMER:** Thank you. Yes. There are
24 specific provisions in our regulations that allow us to
25 ask for information. It's not mandatory that it be

1 provided to us, but there's a process so that if we ask,
2 it will be a public process. And if someone doesn't
3 respond to us, we'll be posting that they are non-
4 responsive.

5 So it's some -- somewhat of the public eye
6 looking at this process and people wanting to get good
7 information. I think it will also be done less formally
8 as well because people are already talking to us about
9 hey, we saw we're in this category. You know, what do
10 you need to know? And they'll be a lot of that kind of
11 dialogue as well.

12 But yeah, we don't have the hammer to demand
13 information, but we -- I think people will be happy to
14 enter dialogue on this. And that may be very specific,
15 too. We might look at some very specific data gaps we're
16 trying to fill.

17 For example, we might -- more -- need more
18 broad information.

19 **MR. FONG:** Thank you, Karl. I have next Julie,
20 Becky, Ken, Julia and Mike and (inaudible), so let's
21 start with Julie.

22 **MS. SCHOENUNG:** Thank you, Karl. Very good
23 presentation and a lot of good work. I know this is a
24 hard project to do.

25 I just had a very specific comment. And that

1 is when I first read the plan and when you went through
2 the slide on priorities for one of the bullet points was
3 children and workers, my initial reaction was
4 occupational workers, people making chemicals and these
5 products. But it's pretty clear that what you mean are
6 people like custodians and retail workers who are
7 actually users still of these products. Is that true?

8 **MR. PALMER:** That's if you look at the
9 (indiscernible), that's been our primary focus in terms
10 of the data we have, but it's important to note that the
11 regulations don't preclude us from looking at workers in
12 production, as long as they're using a product. It's not
13 the making of the product, because it wouldn't be the
14 product that we would regulate yet. I'm not sure if
15 that's --

16 **MS. SCHOENUNG:** Right. Yeah. So I'm not sure
17 what needs to be done in terms of language there, or if
18 there needs to be anything.

19 **MR. PALMER:** To clarify that.

20 **MS. SCHOENUNG:** But there was a little bit of
21 clarification that --

22 **MR. PALMER:** Good.

23 **MS. SCHOENUNG:** -- the light bulb went off for
24 me as you went through, but I think to make it clear that
25 we're talking about workers who are users of products

1 with chemicals in them (inaudible).

2 **MR. PALMER:** Right. Thank you, Julie.

3 **MR. FONG:** Becky?

4 **MS. SUTTON:** I have a question about cleaning
5 products and personal care products. Would candidate
6 chemicals that -- would candidate chemicals also include
7 contaminants of intentionally added ingredients or
8 chemicals that form within the product once it's all
9 formulated?

10 **MR. PALMER:** Okay. That's a multi-layered
11 question. First, yes, contaminants could -- you know,
12 the structure is such that we can identify -- if it's a
13 candidate chemical and it's in the product, we can
14 capture it.

15 We might, if it was an unintentionally added
16 look at them and develop an Alternatives Analysis
17 threshold, which is one of the reasons that provision was
18 in the regs, which was to say is there an appropriate
19 level where there's a very small level of a contaminate
20 that isn't of concern, although which level there
21 wouldn't need further processing in the AA process.

22 The second part of your question is a little
23 more complex, because I think yes, our definition of
24 chemical and in the regulations is extremely broad,
25 includes degradance and things that -- that could happen

1 in the manufacture.

2 I think that's one of the things that we allude
3 to is in terms of what do you know about what's in that
4 product. And that's twofold: what goes into it and then
5 what happens is in the chemistries as it's being made and
6 used throughout its lifecycle.

7 So those are the kinds of questions that we
8 would love input on from folks who think there might be a
9 concern or there's not a concern of the specific
10 chemicals in that process.

11 **MS. SUTTON:** Thanks.

12 **MR. FONG:** Professor Ken Geiser, please.

13 **MR. GEISER:** Yeah. Karl, I'd like to also
14 congratulate you.

15 I read -- when I first read it, I thought it
16 was very well organized and very well thought through.
17 And I liked the way you had used the sort of discussion
18 in the last GRSP meeting to sort of set the frame of
19 what -- how -- what kind of approaches you use.

20 But I also, when I read it, I kind of
21 immediately responded by thinking where are toys? Where
22 are children's products and stuff like that.

23 And so, listening to you then describe sort
24 of -- first of all, your graphics, several times, had
25 kids there. And I -- yes, of course, building and --

1 **MS. BAIER-ANDERSON:** And this is Carol. I'm
2 sorry. I can't (indiscernible).

3 **MR. GEISER:** Carol, I'm sorry. I wasn't on.

4 **MS. BAIER-ANDERSON:** That's (indiscernible).

5 **MR. GEISER:** That it just seemed to me that
6 children's products seemed to obvious a thing to look at.

7 But it also then sort of -- I was also thinking
8 that Washington's doing a lot of that children's
9 products. And it might be useful to think about
10 coordinating some with Washington and seeing
11 is -- is -- there's work already done there.

12 And so, I just felt an absence of thinking
13 about children's products, toys and children's products
14 as a category. And I guess, I'm both, I think of urging
15 that but also asking why you chose not to have a special
16 category there.

17 **MR. PALMER:** Thanks, Ken. We did not pick a
18 specific category identified as children's. Yet, for
19 most of the categories we're looking at, that we are
20 still thinking of (indiscernible) through the lens of are
21 children adversely impacted?

22 So these are -- some of these categories are
23 very broad. So if you looked at personal care products,
24 you could -- we could go say we're going to narrow that
25 down and start looking at personal care products for

1 children.

2 So we're not precluded from that in any of the
3 categories. And I think there's a lot on the menu. I
4 think your point about coordination is a good one.
5 Again, this is going to be an iterative process. And so
6 we can -- you know, we picked ones we thought were a good
7 starting place.

8 It's not to say there aren't some other real
9 good ones. And your point about coordination is good.
10 As Ken knows, we coordinate pretty regularly with the
11 State of Washington and other States to look at what's in
12 the -- you know, what's going on. And we'll try to
13 leverage as much as we can to be smart and learn from
14 other States as well.

15 **MR. FONG:** Thank you. Julia?

16 **MS. QUINT:** Yes. I have a question about
17 building products.

18 **MR. PALMER:** Uh-huh.

19 **MS. QUINT:** Whether we were talking about new
20 building or it's, you know, renovations or -- is that
21 included?

22 **MR. PALMER:** He didn't specify so --

23 **MS. QUINT:** Yeah. Because you can come up with
24 a totally different -- you know, not maybe totally
25 different, but you certainly can have different chemical

1 product combinations if you go to renovations, thinking
2 of things like paint strippers, you know, we've crossed
3 that and it would be an opportunity to look at
4 (indiscernible) on the (indiscernible) under that.

5 And also for cleaning, (indiscernible) removal
6 is a big cleaning job for a lot of workers in bathrooms,
7 public bathrooms and things like that.

8 So it would -- if I think some specificity or
9 clarification if you are thinking that those things were
10 included -- probably to indicate that somehow because
11 then, for some of us, it, you know, bring up a lot of
12 more chemical product combinations.

13 **MR. PALMER:** Well, thank you, Julia. That's
14 certainly moveable as we finalize and go through the work
15 plan, we're going to have to be much more specific as we
16 go along

17 **MS. QUINT:** Exactly.

18 **MR. PALMER:** And I think what we want --

19 **MS. QUINT:** Right.

20 **MR. PALMER:** -- from everyone is thoughts on
21 how to do that and what specifically we should be looking
22 at because there are a lot of different options if you
23 will.

24 **MR. FONG:** Thank you. Ann?

25 **MS. BLAKE:** Thank you. And thank you, Karl.

1 That's a great presentation and I wanted to echo the
2 comments about the document itself. Very well organized
3 and I think a nice balance between broad categories and
4 very specific targeted chemicals and classes of
5 chemicals.

6 I had a clarifying question about the product
7 categorization that you've mentioned in passing the GPC
8 or the GBSN.

9 If you -- this may not be a question you can
10 answer quickly, but at the level you can, what were the
11 issues of the pros and cons of using that system in
12 order to communicate with industry about the level of
13 specificity? You said it falls apart when you get a
14 little more specific. Is that going to be an issue when
15 we start targeting down to product and chemical
16 combinations, and if so, how do you plan to deal with
17 that?

18 **MR. PALMER:** No. I don't think it's going to
19 be an issue, because we're going to -- whatever -- when
20 we get to the priority product level, we are going to
21 have to be extremely specific. So regardless of whatever
22 classification system, we'll only use what's appropriate
23 and what works.

24 Our objective was to start, you know, getting
25 into -- we're by and large, mostly waste people, not

1 product people in history. So we're trying to get into
2 the realm of that dialogue and system. And we have a lot
3 to learn there and there may be better systems, but the
4 bottom line is we're going to have to say this is what
5 we're talking about and people need to know exactly what
6 we're talking about and what we're not talking about.

7 **MR. FONG:** Just very quickly, please.

8 **MS. BLAKE:** So the question is so it was useful
9 up to a point and then you'll figure out how to
10 communicate?

11 **MR. PALMER:** Yeah.

12 **MS. BLAKE:** So this was just that you have a
13 common language within an industry sector?

14 **MR. PALMER:** Yeah. And I think, to use a
15 specific example, the GPC doesn't have children's
16 categories, per se.

17 **MS. BLAKE:** Right.

18 **MR. PALMER:** So when you look at well, how do
19 we focus in on a subset of a category if we want
20 children. There's not a classification in many of
21 the --

22 **MS. BLAKE:** Thank you.

23 **MR. PALMER:** -- classes.

24 **MR. FONG:** Thank you. Mike?

25 **MR. CARINGELLO:** I have actually two questions.

1 Do you want me to ask both or do you want me to ask one
2 and then wait until the -- until (indiscernible) on the
3 end?

4 **MR. FONG:** Well, show me your questions.

5 **MR. CARINGELLO:** They should be pretty -- they
6 should be pretty quick.

7 **MR. FONG:** Okay. Thirty seconds each, please.

8 **MR. CARINGELLO:** Okay. So, well, my first, I'm
9 going to pick up a little time and just comment that at
10 the workshops, the entire team, Karl and Meredith
11 included, did -- did an excellent job presenting
12 information and listening to comments back. So I just
13 want to thank them for doing that. It was -- it was very
14 well done.

15 First -- first question I have was on -- on the
16 beauty, personal care and hygiene products. There's
17 a -- a California State for Cosmetics Act that -- that
18 requires basically notification and publication of a
19 certain chemicals of concern.

20 How -- is -- is that taken into account with
21 this? Are we mining that database for information from
22 them and then kind of expanding their -- how -- how does
23 that work?

24 **MR. PALMER:** Yeah. Great question. Yes,
25 absolutely. That will be one of the primary filters we

1 go to first to say what is our colleagues at CDPH know?
2 What information has been submitted for those kind of
3 products? How do those line up with our candidate
4 chemical list? And then looking through those filters of
5 our priorities. What -- where would that lead us in
6 terms of potentially parts that we might be focusing at.

7 So that's a -- one example of a very good
8 source of data.

9 **MR. CARINGELLO:** And my second one was on both
10 the -- clothing and the household office furniture, you
11 talked about stain-resistant coatings or water
12 repellency. But you're talking there specifically the
13 article as sold, right, or are you talking about the
14 post-market, you know, you can buy a spray-on product
15 that would provide that later after target purchase?

16 **MR. PALMER:** No. We're talking about -- the
17 way we framed it in the draft was that it was the product
18 that's been treated with that chemical, not a secondary
19 market treatment product that you would purchase.

20 That's not to say, you know, we could focus on
21 that if people wanted to suggest and give us some
22 information why we might include or focus on that, we
23 could, but that wasn't the intent of our -- how we define
24 it.

25 **MS. BLAKE:** Thank you.

1 **MR. FONG:** Thank you. Tim?

2 **MR. MALLOY:** Thank you. Thanks, Karl. I want
3 to join everybody else who congratulated you on a really
4 job well done. Very impressive. Very readable document.
5 I had a question and then maybe a suggestion that goes
6 with it.

7 I tried to map your -- like, the six
8 priorities. The dermal bio monitoring (indiscernible)
9 against the seven categories to see, like, where it came,
10 and it looked a little bit uneven in the sense. Like,
11 some of them picked up almost all of the -- priorities.
12 Some of them just touched on one or two.

13 **MR. PALMER:** Uh-huh.

14 **MR. MALLOY:** So I'm wondering if you could say
15 a bit more about how you utilized the priorities. Kind
16 of like in your internal deliberations about, you know,
17 good -- I mean, I'm not suggesting you should use a
18 different -- you know, there should be a different
19 product in this list or not. It's an enormous job. You
20 have to start somewhere.

21 But it would be helpful for me to understand
22 just how did the -- how are the priorities taken and kind
23 of operationalized into a process?

24 **MR. PALMER:** Sure. Well, as I said, there's no
25 one algorithm or system. And, you know, even from the

1 time when we were adopting the regulations, we said, you
2 know, we're not going to focus on ST's, the most, worst,
3 best.

4 That said, if you look, as you did, on those
5 priorities, some of those categories are rich with those
6 and others are more specific.

7 And I think what we said was when we found the
8 specific ones, we felt that was significant enough to
9 consider. We -- it -- we're trying very hard not to
10 compare and say this is worse or better than that, but
11 this is significant and this is worth further look.

12 And I'll use the fishing and angling category
13 perhaps as a -- an example. You know, that's a pretty
14 focused category in terms of its impact. And I think you
15 can just look at some of the other categories, like
16 personal care, which potentially could be much broader.

17 So part of the challenge we have is -- is
18 pulling those strings of why we're focusing on it and are
19 we on point? Does that make sense? And for the broader
20 ones, how do we get -- narrow that down.

21 But it was a lot of staff dialogue back and
22 forth in plucking the information we had.

23 The other thing I'd say is we're really limited
24 on our understanding based on the information we have
25 available. And this is why, when I've been out in the

1 workshops, as Mike knows, we're trying to stress that we
2 aren't saying this is a priority product yet.

3 We're saying these are categories that are
4 based on our -- our perspective that are worth, you know,
5 mining if you will, for potential candidate priority
6 products.

7 We may drop some of them out and we could add
8 others. So we have a lot of discretion and
9 that -- that's challenging for folks, too, but it's
10 really about getting good data and information.

11 **MR. MALLOY:** So can I just --

12 **MR. FONG:** Yes, please, Tim.

13 **MR. MALLOY:** I was just going to say that was
14 really helpful hearing this. I thought that's probably
15 what was going on. My suggestion would be it might be
16 helpful in a document to kind of express that, you know,
17 put a little more explanation along the lines of what you
18 said.

19 **MR. PALMER:** Uh-huh.

20 **MR. MALLOY:** Because when I look at these, it
21 seems like sure, angling in a lot of ways has -- there's
22 something special about that that distinguishes it and
23 puts it on -- you know, in terms of the availability of
24 alternatives and the work that's already been done.

25 So towards the end of the document, I think you

1 could maybe expand your discussion of how the priorities
2 (indiscernible) that makes it much more compelling
3 document when you -- if you did what you just did just
4 now.

5 **MR. PALMER:** Okay. Thank you, Tim.

6 **MR. FONG:** Let me (indiscernible) this session
7 by checking in with Dr. Baier-Anderson. And I see from
8 (indiscernible) come up, so Carol, do you have any
9 questions for Karl?

10 **MS. BAIER-ANDERSON:** No questions. Thank you.

11 **MR. FONG:** Thank you. Ken Zarker.

12 **MR. ZARKER:** Thanks, Karl, for the
13 presentation. A couple questions in terms of the -- work
14 plan itself and then you had passed out earlier another
15 kind of timeline.

16 Could you kind of reflect on how you plan to
17 sort of -- to manage this work load. It looks like a lot
18 of work in front of you. It's -- it's very
19 comprehensive. And I'm just curious and maybe Meredith
20 wants to weigh in on this in terms of how this kind of
21 all syncs up together in terms of this, plus the
22 resources to get the work done.

23 **MR. PALMER:** Thanks, Ken. Well, we're going to
24 manage it as best we can and we're -- we're -- got a lot
25 of help. We are blessed with a lot of good staff and a

1 lot of interest.

2 So I think part of this is about leveraging
3 folks. We're trying to not reinvent the wheel. We want
4 to learn from people who've learned other things. We
5 want to be smart and efficient.

6 And we want to set some realistic goals. I
7 think you note that in the work plan, we said we would do
8 no -- you know, between 5 and 10 priority products a year
9 as a goal and that's potentially ambitious, depending on
10 the products.

11 But it's important that we lay out the process
12 so that we can move forward and get help doing that and
13 use our resources the best we can.

14 You know, we're -- we're building this program.
15 It's a new program. And so, we've got a learning to do.
16 We've learned a lot in the public dialogue, both on the
17 draft priority products and the work plan has been very
18 helpful. And our priority products team, for example,
19 has already gone back and looked at the process we went
20 through for the first three. And we've already sort of
21 done some best practices and some tweaks and we're going
22 to refine that every time.

23 So, we hope to get more efficient and better,
24 but we still need a lot of help. And so, we'll do the
25 best we can.

1 **MR. FONG:** Next, please.

2 **MS. WILLIAMS:** I thought it was funny that
3 Miriam slipped down (indiscernible). And actually, she's
4 been really wonderfully helpful in terms of us
5 strategizing about resources, attracting resources.
6 Right now, we're in that mode of everything we do, we're
7 doing for the first time. And so we've to document what
8 it takes to do those things, quantify things and make
9 sure that we're capturing that, so that we know what it's
10 going to take to implement the work plan.

11 So what that means is that we say the work plan
12 that we're likely to be 5 or 10 chemical -- chemical
13 product combinations per year. And the likelihood is
14 that that's easier to do in the third year, to be toward
15 the 10 than it is in the first year.

16 And when we did -- when we went to the summary
17 and testified, they said what can you do to continue this
18 (indiscernible). And our request was that we fast track
19 to explain to them what it's taking for us to do the job
20 and so that we can then go ask for additional resources
21 as needed.

22 We didn't -- out of the gate, we haven't just
23 been asking for more resources. And (indiscernible) we
24 really want to make sure we get the right resources for
25 the work.

1 And I will just circle back to what Karl
2 started with, which was we are clearly functioning. So
3 many people want to make these regulations successful,
4 that we are getting tremendous support from our sister
5 agencies here at Cal-EPA as well as the Department of
6 Public Health, as well as Department of Industrial
7 Relationship -- Relations, et cetera.

8 It's been just really wonderful to be able to
9 leverage that, including EPA. EPA is sharing a lot of
10 their emerging science with us, so --

11 **MR. PALMER:** And I would just add that we have
12 obviously a lot of interest from industry as well. And
13 I'm going to point to Will Lorenz here in the room and
14 give him a shout-out. He's one of the system houses that
15 makes spray polyurethane foam.

16 He's been in every workshop that we've had.
17 And he's been actively engaged with us, giving us good
18 information, giving his perspective. And, you know, it's
19 that kind of help that's going to help move this along
20 at -- at the pace and the focus that we need.

21 **MR. FONG:** Karl, just thank you so much for
22 those excellent presentations.

23 At this point, the DTSC updates have concluded.
24 Before we go out to the panel discussion, we would take
25 public comments to the public. Please note that panels

1 (indiscernible) comments or answer specific questions as
2 this is a working meeting for the Green Ribbon Science
3 Panel.

4 If you've not already signed up to make
5 comments, you may do so at this time. Radhika has
6 comment cards that she's passing around the room that you
7 can use if you're interested in making comments.

8 And based on the number of comment cards that
9 we get, we might need to limit the amount of time that
10 each commenter may have.

11 We've received just one comment card. And it's
12 from Will Lorenz from -- from General Coatings. Mr.
13 Lorenz?

14 **MR. LORENZ:** Hello. Thank you. Is it on?

15 **MR. PALMER:** Yeah. It's on still.

16 **MR. LORENZ:** Okay. Thank you very much. My
17 question is with regard to -- my question is with regard
18 to framework. And some -- what I've heard from Mr.
19 Malloy there with regard to mapping things out.

20 The question really has to do with what -- if
21 you're going to ask for a matrix, we as industry have got
22 to kind of know what the matrix is you're looking for.
23 And then we've got to kind of understand what -- what
24 data gaps you already have filled and then what is
25 missing. So at the end of the day we can understand what

1 direction.

2 So sort of a strategic thing is sort of
3 missing. It seems that the -- what I would say somewhat
4 piecemeal and for us, we need to kind of see an overview.
5 And then we have to also kind of understand a bit about
6 what your ranking system is for various things, because
7 there's a lot of categories.

8 But unfortunately, in our mind, there's got to
9 be a prioritization of various categories. So that's all
10 I'd ask you to think about more.

11 **MR. FONG:** Thank you, Mr. Lorenz. I just
12 received a comment card from Veena Singla from the
13 Natural Resources Defense Council.

14 **MS. SINGLA:** Thank you. Veena Singla from
15 Natural Resources Defense Council. I wanted to
16 comment -- I wanted to comment on the product categories
17 and the work plan (indiscernible). Starting out as
18 (indiscernible) as possible in order to really provide
19 the flexibility to moving forward look at many different
20 possible chemical accommodations within each category and
21 then through that research process and getting that
22 information, to narrow the categories further, moving
23 forward, but I think that it's -- it's good to start out
24 with the categories being broad as they've been -- been
25 laid out in the plan in order to provide that flexibility

1 moving forward.

2 **MR. FONG:** Thank you, Dr. Singla. Are there
3 anymore comments from the public? Seeing none, I'm going
4 to turn the mic over to my coach here, Kelly Moran, who
5 has a few words to share with you and to announce the
6 break.

7 **MS. MORAN:** All right. So just before you all
8 go to the break, coming up this morning, we'll be talking
9 about the priority product work plan. And we'll be
10 starting right after the break with an opportunity for
11 general discussion. And I noticed many of you diving
12 into some of that during the question and answer period
13 and you all are prone to doing because you're very
14 creative people who want to get that point in there.

15 But you will have a few minutes to provide
16 other general reactions to the priority product work plan
17 and advise the Department going forward in finalizing it
18 and creating future work plans as you were starting to
19 do. So there's some place to that. Get your thoughts
20 together on that.

21 And then after that, finishing the morning and
22 going through lunch. And this afternoon, we'll tackle
23 the specific topic areas and questions that the staff had
24 asked (indiscernible) memos.

25 So there -- if there's something that you want

1 to fit in that's not within those questions, the time to
2 do that will be right after the break.

3 So you'll have a couple minutes to get your
4 notes in order before you come back from the break and
5 with that, I'm looking forward to the break. We'll see
6 you in 10 minutes. We're starting just a couple minutes
7 late, 10:22. So 10:32, please be back here and ready to
8 go. Thanks.

9 **(Morning Break)**

10 **MS. MORAN:** -- policy and government numbers.

11 And it is the Department's discretion to select as policy
12 and priorities as we saw in those bullets on policy and
13 priorities.

14 So the comments on -- on the overall approach,
15 the layout, the organization and the science that they
16 put in here are particularly appropriate from this
17 group.

18 I mean, I don't want to tell you you can't
19 comment on policy, but that's really not the purview.
20 That's the policy of the administration. But all of
21 that is important there.

22 And I've put in front of you this section of
23 the -- code. I'm going to come back to that, but it lays
24 out on the prioritization principles and we're going to
25 be informing our discussion on that, particularly the key

1 prioritization principles at the very top. That there
2 must be potential exposure. And that those exposures
3 contribute to significant or widespread adverse impacts,
4 so right up at the top.

5 That's kind of the -- basis and most important
6 stuff for the prioritization. And I want to come back
7 and talk a little bit more about this stuff in this
8 regulatory piece when we kick off the rest of the
9 discussion.

10 So for now, I'm looking for folks who would
11 like to comment generally on the work plan. So are
12 there -- we've got Meg, Don. Anybody else? Okay. Meg?

13 **MS. SCHWARZMAN:** Thanks. I just had a few
14 specific points of feedback. I like the way that you
15 drew up the work plan priorities. That I think it kind
16 of grew out of the last -- or -- or developed
17 between -- since the last Green Ribbon Science Panel had
18 been refined.

19 I had a couple pieces of feedback on them.
20 Specifically, one is one of the exposure criteria you use
21 is chemicals observed in indoor air quality studies. And
22 I would suggest adding to that not just indoor air, but
23 indoor environments, so that you can include dust.

24 And the reason is that if you limit it to
25 indoor air, you're limiting it to volatile organics. And

1 there are a lot of relevant chemicals in the indoor
2 environment that are actually semi-volatile organics and
3 that are carried on the dust. And there's good exposure
4 science about dust.

5 So I'm not leading you into a dark alley with
6 data (indiscernible). And I would just encourage you to
7 broaden that scope just slightly.

8 The second piece, and I just have three, is
9 picking up on this issue that Julia Quint raised I think
10 very astutely earlier for -- it was both Julie and Julia
11 Quint, about only covering workers using the product in
12 its finished form. That is where workers in workplaces
13 are considered it's -- as the product is used in that
14 workplace rather than as it's formulated.

15 I'm anticipating a problem in the category of
16 textile finishes in that respect because substances
17 like -- like you mentioned, things that are used in
18 wrinkle resistance, which is currently formaldehyde. And
19 most finished textile products don't contain much
20 formaldehyde.

21 And the exposure is not to retail workers or to
22 consumers. It's really to the workers who work with the
23 -- textiles themselves that often they're treated and
24 then not cured before being handled by the workers.

25 So they are potentially very high exposure in

1 some of those sections -- in some of those segments of
2 the product's lifecycle that are well into the finished
3 product. The textile has been treated but it's not yet a
4 pair of jeans, but the formaldehyde (indiscernible)
5 exposure can be quite high.

6 And so that was the one product category that's
7 in the work plan there I could really call out that
8 potential hang-up, but I think you would be well-served
9 to think a little bit carefully about earlier stages in
10 the product lifecycle as much as possible to continue to
11 include those workplace exposures, which sometimes are
12 just orders of magnitude higher than anything you could
13 get from the finished product and that are relevant for
14 large portions of workers.

15 And my third comment was really a very small
16 one about the specialty papers. And as you work with
17 that definition, if you're thinking about the thermal
18 transfer papers in general and if that includes
19 ultrasound papers with a narrow -- use the same
20 technology as the receipts and there's a large exposure
21 potential for a bunch of work places and there's some
22 science about that. John Warner has done some studies on
23 VPA and its substitutes in thermal transfer paper ultra-
24 sounding.

25 **MS. MORAN:** Thank you, Meg. Don, then Becky.

1 **MR. VERSTEEG:** Thank you, Kelly. First,
2 there's an observation and then -- then a comment. I'll
3 believe it's constructive.

4 The -- observation being that, you know, you
5 came out with the first three priority products and then
6 engaged, I think, with industry, learned a lot about
7 those products and changed all three of them, especially
8 the foam system.

9 With the three-year work plan, I think you've
10 kind of started down that road again, but you've been
11 careful to say, you know, these chemicals are not the
12 ones we're necessarily focusing on.

13 And the -- suggestion is to be as clear as you
14 can possibly be about what the chemicals are and what the
15 products are early as possible to be helpful.

16 Because just saying in scope are all building
17 materials, all consumer products, all cleaning products,
18 all build, you know, all fishing and angling equipment,
19 they're all in scope and here are the 17 or 1,100
20 chemicals. I forget what -- what it is. They're all in
21 scope. Not helpful. Not -- not tremendously helpful.
22 So the more specific you can be, the better it's going to
23 be and you'll get that input earlier and it will be
24 focused input as opposed to just generic input.

25 You know, you don't want a lot of people

1 commenting back to you, I don't suspect, about, you know,
2 fishing nets that anglers dip into the water and pull
3 their fish out with. That's not where you want the
4 input.

5 I think you have a specific set of fishing
6 equipment that you want to focus on. And I'd just be as
7 transparent as possible as soon as possible to get the
8 focused input, so you don't have to go back and say well,
9 what we really meant were --

10 **MR. PALMER:** Thank you.

11 **MS. MORAN:** Thank you, Don. Thank you, Don.
12 Becky?

13 **MS. SUTTON:** This is a little in contrast to
14 Don, but I thought actually you did a pretty good job of
15 balancing -- keeping things broad and not being too
16 restrictive on your next three years, as well as giving
17 some clear signals to industry, for example, from the
18 (indiscernible). There's a growing consensus that
19 there's some concerns in some of these categories for
20 some chemicals that (indiscernible).

21 I thought you did a pretty good job and I
22 really liked Mike's idea about indoor dust as well.

23 **MS. MORAN:** Thank you, Becky. Bill?

24 **MR. CARROLL:** Thank you, Chair, again. And I
25 want to take off a little bit from -- from Don's comment

1 and go back to one of the earlier meetings. It was a
2 discussion about lessons learned, about how wanting to
3 develop industry earlier to get that kind of knowledge
4 that -- that would help to modify things.

5 And that's probably good, although getting a
6 call from you to talk about these kinds of things is
7 probably a little like getting a call from the IRS asking
8 come on in and have a cup of coffee and talk about your
9 tax return.

10 But it is probably fair to say well, it's good
11 to keep the overall stock broad. And I thought you did a
12 good job in the overall work plan.

13 If I were doing this, I would -- I would start
14 thinking about how I might narrow the scope to a point
15 where if I were going to target 5 products, that I might
16 narrow it down to 15 and then start engaging people on
17 those 15 product and chemical combinations with the idea
18 that you're -- you can be gathering data on a more
19 focused data set you will need earlier.

20 But at the same time, if you discover things
21 along the way, you haven't published products that now
22 you have to -- have to either modify or walk away from.
23 You have an opportunity to determine, you know, some are
24 better than others, some are better candidates than
25 others and it also -- this -- this -- the work plan,

1 while it has narrowed the universe somewhat, is fairly
2 broad.

3 And to the extent that it sends signals to the
4 marketplace, it sends signals to such a huge, extended
5 marketplace, that -- that I'm not sure that they really
6 qualify as signals.

7 So to the extent that you can narrow earlier,
8 and I think this is kind of to some extent
9 Don's comment -- and start your day gathering before you
10 freeze in where you're -- where you're going, it may help
11 you in making a better decision, but at the same time
12 focus, you know, that to parts of the marketplace that
13 you are having these thoughts about various hearings.
14 Thank you, Chair.

15 **MS. MORAN:** Thanks, Bill. Before we go on to
16 Ken, I did want to ask Meredith. Do you envision any
17 kind of transparent process in the next steps?

18 Maybe this is something that -- to think about,
19 to help us and form the next part of our discussion,
20 because you're -- you'll be asking the science panel to
21 comment on a (indiscernible) provided by some great
22 science and on the communications on there.

23 And the -- as Bill and Don and all said, the
24 work plans are pretty broad. So are -- are you thinking
25 there might be any other kind of public conversation in

1 the middle, where you get to proposing product listings?

2 **MS. WILLIAMS:** Yeah. The simple answer is yes.

3 And so, I was -- I was actually quite interested in the
4 fact that Bill said name 15 products. So the CPAT team,
5 our research team that's looking at the product chemical
6 combinations has been looking at various ways to narrow
7 down from these broader categories into
8 narrower -- narrower categories or to identify specific
9 product chemical combinations.

10 And there are just, of course, lots of
11 different ways to go at it. But we do want to
12 communicate those as we make decisions about which of
13 those approaches we think will be most beneficial. And
14 it may not be the same approach for every category. Some
15 categories may be --

16 **MR. CARROLL:** Could I clarify?

17 **MS. WILLIAMS:** Yeah. Please, Bill.

18 **MR. CARROLL:** Thanks, Meredith. And what I was
19 suggesting and I -- you know, you're the expert in how
20 you have to do things.

21 But what I was suggesting is not necessarily
22 you take a billboard and you put -- here's 15 product on
23 it, but that you, in your own mind, narrow it to a larger
24 universe and start your interviews to gather some data
25 either formally or informally, to help you, you know, be

1 formulating the decision that you'll ultimately
2 wind -- wind up with.

3 **MS. WILLIAMS:** Yes. And I think -- I think
4 that's -- we are looking at the different approaches and
5 we're trying to come up with that and find opportunities
6 to communicate that and to also know how (indiscernible)
7 that that is real important to provide the transparency
8 (indiscernible).

9 **MS. MORAN:** All right. Ken -- Ken, thank you
10 for your patience. I've got Ken and Julia in line.

11 **MR. GEISER:** Am I on?

12 **MS. MORAN:** You are.

13 **MR. GEISER:** Super.

14 **MR. CARROLL:** You're always on.

15 **MR. GEISER:** Thank you. So I -- this is
16 mostly an observation, but it was sort of apparent to me
17 when I read it the first time, but now that we're talking
18 about this balance between breadth and narrowness in the
19 list, it seems to me that they are different. I mean,
20 the first four are kind of very broad. And the last two
21 are very narrow.

22 And I'm curious -- I mean, down to -- I mean,
23 it's one thing is the narrowness of the title, but you
24 actually look at the way it's written. I mean, it's
25 very -- there's (indiscernible) about consumable and

1 refillable and for (indiscernible). I mean, like that's
2 a very narrow classification. You could quickly see what
3 the products are going to be.

4 And with fishing and angling things, it says
5 lead weights. Now, I don't expect that it has to be lead
6 weights, but it's so specific, whereas with the clothing
7 or -- or personal care products, it sort of lays out this
8 whole range of upper body, lower body, all kinds of
9 different clothings, sports, et cetera. There's -- you
10 don't know necessarily if we're talking about shoes,
11 we're talking about what are we -- what all are we
12 talking about.

13 So I guess you've made a decision to do a
14 couple of very specific and some of the much broader and
15 I guess my observation or my question, if there's a
16 question here, is was that intentional and are you
17 looking to see what the difference -- different reactions
18 going to be in regards to the industries that make things
19 in a category straight and narrow versus one that's very
20 broad and where you get hundreds of different kinds of
21 manufacturers thinking that they -- their product might
22 be classified just a I'm not even sure what you're trying
23 to drive at other than I think that there's a distinction
24 in the lists.

25 **MS. MORAN:** That was -- I mean, that was

1 intentional, right. There were places where we -- if you
2 look at personal care products, if you look at the number
3 of chemicals of concern that could be in there or
4 candidate chemicals that could be in there -- if you look
5 at the breadth of products that are in there, we wanted
6 to be able to have that breadth. And if you take one
7 particular chemical, it may show up in 20 different
8 personal care products.

9 So really, in order to be able to have that
10 conversation, to dig into a category that that -- that
11 that's broad, you have to describe it that way.

12 In other cases, there -- there's been emerging
13 bodies of knowledge, you know. If you look at the
14 angling equipment, that's an issue that's come up in
15 other states, other countries.

16 It's pretty well-established as an issue, and
17 therefore, you know, may be able to get to the decision
18 point a little earlier. And so, it doesn't make sense to
19 artificially kind of include all sporting equipment, when
20 really you know that there's a focus there and it's in
21 more of the aquatic -- aquatic impact primary.

22 So we were not necessarily trying to vary the
23 breadth in order to engage industry in different ways and
24 to see how the process worked. It really was about our
25 level of understanding. Our preliminary thoughts about

1 the number of potential products that could be in the
2 category is one of those concerns.

3 **MS. WILLIAMS:** All right. Moving on. Julia,
4 Mike and then Ken Zarker.

5 **MS. QUINT:** Okay. Sorry. I'm wondering to
6 what extent did you work -- consult with CARB on some of
7 the, you know, consumer products that they have been
8 regulating? I guess, so much work goes into this. You
9 know, it's a lot of work and then we have, you know, both
10 (indiscernible) with few products if you consider all of
11 the product chemical combinations out there.

12 So I guess I've been thinking how can
13 you -- how can we get more bang for the buck when
14 we -- when we do these things. Like, if you're thinking
15 of paints, you know, there are acrylic paints and, you
16 know, the acrylic personal care products or whatever.

17 I mean, are there ways even within the set
18 you've chosen, can you sort of piggyback from one to the
19 other, something to expand the scope.

20 Otherwise, we're going -- you know, it's sort
21 of frustrating to have -- to deal with paint strippers
22 and, you know, methylene chloride and then to know that
23 somebody else may be using an adhesive that has, you
24 know, one of these -- methylene chloride in it or
25 something like that.

1 So I don't know how you do this, or how it's
2 possible to do it, but to maybe think more about trying
3 to integrate within, you know, some of this so that we
4 can address more than one thing at a time.

5 Otherwise, I just can see us here, you know,
6 into centuries of doing five products down the line and
7 then having the frustration of people using a similar
8 product with the same chemical, you know.

9 And so, we're making some progress, but not
10 the -- to the extent that we'd like. And I know CARB has
11 also looked at consumer products. And what I -- one of
12 the things they've done, which I really like and I don't
13 know if it's possible here, is to pick three chemicals
14 and then to systematically march down and look at dealing
15 with those chemicals and many different consumer
16 products, those three being TCE, PERC and methyl
17 chloride.

18 You know, I'm not suggesting that we do that
19 here, but it is a strategy and it is something that you
20 know is being taken care of in a way. And there's an
21 expectation from, you know, employers and whatever, not
22 to use those chemicals in a lot of products.

23 So something similar to that would be a lot
24 more satisfying to me anyway.

25 **MS. MORAN:** Thank you, Julia. Meredith.

1 **MS. WILLIAMS:** So that's great feedback.
2 I love that input. We are talking to CARB as well as EPA
3 as well as other -- other agencies. And I do think we
4 have a lot to learn. We've talked to them already about
5 the survey that's underway on consumer products and
6 trying to understand whether there's any information we
7 can mine out of that process that would help inform our
8 decisions.

9 You know, they have expertise around doing so
10 many economic analysis that we don't have, so we're
11 really trying to find out who's been down this road and
12 how they make -- you know, trying to understand how they
13 make their decisions and what we can learn about how they
14 make their decisions and not reinventing the wheel.

15 And so, I -- CARB in particular has a lot to
16 offer. And if I can speak out of school. I know that
17 Kelly had some ideas about how DPRs approaches might
18 inform our thinking.

19 And it's -- I found that very striking when she
20 mentioned that because when we think of consumer
21 products, well, pesticides and pharmaceuticals are out.

22 And so, if we had not put a ton of effort into
23 really understanding DPRs processes, but as it turned
24 out, they may have a lot to teach us.

25 So I appreciate there -- that you are

1 encouraging us to look at those -- those other methods
2 and to get -- try and get bang for the buck.

3 **MS. MORAN:** Thank you. Mike?

4 **MR. CARINGELLO:** Yeah.

5 **MS. MORAN:** And just as a reminder, you almost
6 have to eat these mics to be really clear on them, so
7 feel free to make -- the cords are long. They'll yank
8 and you can eat the mic.

9 And although we can hear each other around the
10 table, the folks on the webcast and the committee member,
11 Carol, so I'm going to call in a minute to see if she has
12 some comments can't hear us unless we're clearly in the
13 mic. Thanks.

14 **MR. CARINGELLO:** So I just wanted to say first
15 that I thought the work plan was fascinating when I read
16 it because you do keep it generic in some places or very
17 broad and very specific in others.

18 I thought it was -- it was really well done.

19 The thought that I had as actually today in --
20 as we were talking, listening to Karl, if the agency
21 really gets on a roll and we start hitting out, you know,
22 oh, we're doing 10 products a year now.

23 So let's say in the three-year plan, we hit
24 somewhere in the mid-20 products that -- priority
25 products that we're going to try and run through this,

1 yet we have a limited number of categories in the three-
2 year plan. Are we going to start hitting the same
3 players over and over again because we're -- we're
4 hitting those categories again?

5 So I'll use cleaning products as an example,
6 what I'm relatively familiar with. But if, say, we pick
7 a cleaning product with a chemical and that becomes a
8 priority product and then we pick a different cleaning
9 product with a different chemical and think okay, we're
10 not going to hit the same people, many products are
11 multi-purpose.

12 So now we're telling someone who's already in
13 the process of an Alternatives Assessment on a product,
14 that they're captured again. So you're already, mid-
15 process Alternatives Analysis and you got to redo it with
16 another chemical and how does that synergistically impact
17 the product as a whole?

18 So I think we need to be very careful if, as we
19 hope, the agency starts to really crank these out and
20 we -- you know, all the resources are in place and we're
21 doing a great job, we might start to overburden the
22 industry and the consumer products producers in being
23 able to respond as efficiently as -- as is necessary to
24 get information to the agency.

25 **MS. MORAN:** Thank you, Mike. Ken? That is an

1 excellent point, and I know that the Department has been
2 thinking about making sure that if there's multiple
3 chemicals in a class of products, they're thinking
4 through both of them. But the way you described it is
5 different than what I saw there. Ken?

6 **MR. ZARKER:** Right. This is Ken Zarker. So on
7 the work plan, a couple observations.

8 I do appreciate the fact that Green Chemistry
9 was brought up in the document, although it was the final
10 paragraph of the -- of the plan.

11 And I would suggest a couple of thoughts to
12 consider in particularly engaging industry earlier would
13 be to -- perhaps for these product categories, support
14 the development of, say, industry roundtables, funding
15 research papers, either industry-funded papers or state-
16 funded research papers around these particular chemicals
17 or products is a way to sort of jump start some of the
18 ideas of -- create opportunities for new chemistries.

19 Particularly finding a way for industry
20 consortiums to come together to work together on these.
21 I don't know how we can establish a good framework for
22 that without sort of anti-trust related issues, but there
23 are ways to do that.

24 And it does talk about, you know, in terms of
25 regulatory response imposing requirements to fund Green

1 Chemistry challenge grants. But I would urge the Green
2 Ribbon to think about how do we jump start that now as
3 opposed to waiting until later. So a couple thoughts.

4 **MS. MORAN:** Thank you, Ken. Carol, do you have
5 any comments?

6 **MS. BAIER-ANDERSON:** Yeah. Just some small
7 ones. The -- you know, I've been kind of challenged to
8 think about the -- how a chemical may be used in multiple
9 products or different products and how the use that could
10 result -- well, I think it was Julia who had talked about
11 how, you know, you solve the issue in one product, but
12 there are other products out there that are using that
13 same chemical.

14 And certainly, that's a limitation of kind of
15 the chemical products combination (indiscernible), but
16 there may be ways, based on the (indiscernible) function
17 and use to at least provide information to stakeholders
18 who may be interested in making substitutions on their
19 own (indiscernible) a chemical that is identified as a
20 potential concern by California. But how they use the
21 tools and framework to substitute on their own outside of
22 the regulatory agenda.

23 So, I mean, there could be some communication
24 there that facilitates thinking along those lines to have
25 a broader impact.

1 **MS. MORAN:** That's it? Carol, is that the end
2 of your comments?

3 **MS. BAIER-ANDERSON:** Yes.

4 **MS. MORAN:** Okay. Thanks. We don't have the
5 visual cue, so it's always a little hard to tell when
6 you're done. I'm not seeing any other flags up, but
7 before we go to the next comment, I just had
8 a -- a -- one of my own, which is that I appreciated the
9 inclusion of paint in this plan and was just a little
10 nervous that it was described as building products
11 specifically because there are uses of paint outdoors
12 that are not on buildings that may be associated with
13 water pollution. And the one I can particularly think of
14 is road paint, where there have been several different
15 arsenic, chromium, PCPs in that paint.

16 And so, just to give consideration that, you
17 know, is the category (indiscernible) and (indiscernible)
18 you might want to (indiscernible). And that specific
19 example that actually made me think about that is that
20 there had been -- there's been a very interesting line of
21 research finding PCPs in pigments, in yellow and green
22 pigments. And those pigments are used in a huge variety
23 of products.

24 And so, you know, in some ways, it's a
25 functional use thing that Carol was just mentioning.

1 That it's really the functional use of a pigment and the
2 inadvertent chemical creation that PCPs that are really
3 an issue, but those things show up in everything from
4 package -- food packaging to the outdoor paints.

5 And that there's interest in them from the
6 (indiscernible) perspective, which I know most of these
7 products, we're thinking about stuff that's going into
8 the sewer.

9 But I think the wording is broad enough to
10 cover the run-off and it's certainly something that you
11 would want to tell for the benefit of us for
12 those -- those folks, because that's a pretty important
13 source of pollution (indiscernible).

14 So I'm going to call this section to a close
15 and we'll move on to the more general or the more
16 specific, I'm sorry, discussion.

17 So what we have this morning is a memo from the
18 staff about implementation discussion topics. And I
19 think probably everybody should have that. There's
20 questions about the regulatory prioritization factors and
21 the different departments' priorities.

22 And what -- I just love the way that this is
23 put together because it includes both some specific, kind
24 of narrower questions and examples, but right under the
25 header that says Questions for the Green Ribbon Science

1 Panel, there's some very broad questions. And we'll be
2 starting this discussion now.

3 We break for lunch at 11:45 and we're going to
4 come back and tackle it a little bit more before we move
5 on to their questions about getting input from industry
6 in particular and of the stakeholders in the afternoon.

7 So we don't have to wrap up everything right
8 now here unless we are suddenly brilliant and finish in
9 half an hour.

10 The -- what departments are really looking for
11 advice from us on is what are the tools or approaches and
12 data sources that -- that it might consider in going from
13 particularly the broader categories in this plan, as
14 we've talked about. There's very broad categories in the
15 plan, as well as some that are pretty much
16 (indiscernible) what the specific product chemical
17 combination is of interest.

18 But how -- what kinds of tools or approaches in
19 data sources would help them move from those broad
20 categories to specific, potential priority products. So
21 how could they compare and assess the factors to select
22 the products within the category? They're particularly
23 looking for practical methodologies. There's a lot of
24 stuff out there that you can do all kinds of multi-
25 criteria decision analysis that is great fun, but it

1 might not be practical for this kind of approach.

2 So they're really looking for us to help them
3 figure that out in terms of the science. And the -- memo
4 here particularly says, you know, we need to think
5 about -- DTSC needs to think about these regulatory
6 prioritization factors. And they're listed on that third
7 page of the memo. There's a list of adverse impacts and
8 exposures.

9 But I wanted to bring it back to the hand-out.
10 I've checked successfully (indiscernible) because it
11 includes these really key things that the Department
12 needs to think about.

13 So all of those little issue areas are part of
14 the prioritization process. But if you look at the regs,
15 right up in AA. So there must be either people or the
16 environment must be exposed to the product, so how is the
17 Department going to figure that out and those
18 exposures -- there must be the potential for those
19 exposures to cause either significant or widespread
20 impacts or both. It's certainly implied there.

21 So how are they going to figure that out? And
22 this lays out a set of -- of things that they need to
23 consider in doing that. So the adverse impacts and
24 exposures under B, A, says adverse impacts and exposures.
25 That's that whole list of factors on the -- on the later

1 pages.

2 They also get the opportunity to think about
3 adverse waste and end of life effects, so that's what
4 happens, you know, if the -- that end of the lifecycle,
5 though, does it go down the drain? Does it run off?
6 Does it get into the garbage, you know, who's
7 deconstructing the product? That kind of thing.

8 They're very interested in, of course, what
9 kind of information (indiscernible). We talked about
10 that and advised on -- on that before. And they've also,
11 I think, if you want to comment on the (indiscernible)
12 regulatory program relations, you can but I know there's
13 no attorneys working on that.

14 And another one, that they had the opportunity
15 but are (indiscernible) to consider is the availability
16 of safer alternatives.

17 So this is another area where you all might
18 want to weigh in on how can the Department determine that
19 availability and is it -- you know, is it really safer
20 enough to be a consideration as part of this process.

21 So I did want to call you -- that to your
22 attention, so that you're not just thinking about the
23 details of the adverse impacts and exposure section, but
24 also these larger factors, which are really supposed to
25 be the primary considerations.

1 So with that, who would like to kick off our
2 discussion and advise to the Department on how to get
3 from the big categories to the specific lists?

4 I can't believe I'm not seeing -- oh, Meg will
5 take this. All right.

6 **MS. SCHWARZMAN:** I actually just had a question
7 to start with. This isn't honestly kicking off the
8 discussion.

9 I was hoping for some clarification from the
10 Department about the category of aggregate effects. This
11 was a topic that I brought up in the meeting when the
12 regulation and language was still in process because this
13 isn't standard language.

14 And so, I just want to hear how the Department
15 is understanding it.

16 Typically, I would say in sort of a scientific
17 sphere, this is divided into aggregate exposures and
18 cumulative impacts. And there are two different things.

19 So you have both in 1B and C, except it's
20 called aggregate effects. And so, that's a little
21 confusing based on how I understand these.

22 So aggregate -- we would think of aggregate
23 exposures as multiple sources of the same chemical. And
24 then, so you might be considering that because you're
25 looking at one chemical in one product. But you're doing

1 so with an understanding that that same chemical exists
2 in multiple other products that you may encounter at many
3 different times in your day and this is only one source
4 of it.

5 So that would be aggregate -- so maybe what we
6 mean here is the effect of aggregate exposure to the same
7 chemical from multiple sources. And then that would be
8 different from cumulative effects, which are the impact
9 that -- so I'll use an example because it's hard to talk
10 about this. It's in the abstract.

11 This often comes up around phthalates because
12 phthalates are anti-androgens basically, and there are
13 many other androgens that we're exposed to during
14 development and particularly in the middle -- both in
15 boys are exposed to androgens.

16 They work -- different anti-androgens work at
17 different parts of the pathway and can together have a
18 much greater effect than if you just looked at the
19 exposure to one of those individually.

20 So looking at the impact on a baby boy's
21 development from phthalates would be much smaller than if
22 you also considered the impact from other anti-androgens.

23 So that would be cumulative impacts. And then
24 you can think of cumulative impacts much more broadly
25 also as in, you know, exposure to chemicals and exposure

1 to stress and exposure to poverty and those sorts of
2 things.

3 So that's the other way that cumulative impact
4 is used, which I know the Department is aware of because
5 (indiscernible) has work.

6 So I opened that small can of worms, just to
7 get some clarification about how your understanding
8 aggregate effects, I think, cumulative effects was
9 relatively well explained in here.

10 **MS. MORAN:** (Indiscernible).

11 **MR. FONG:** Yeah. I saw that.

12 **MR. PALMER:** This is Karl. Thanks, Meg. I'm
13 looking over at -- on our team leader, but I think
14 the -- and I don't have the language in front of me of
15 the reg, but they're both relevant and I think we can
16 consider both of those.

17 That could -- in part, like many things, the
18 question is do we have data that can inform us on both of
19 those types of effects and cumulative and aggregate. And
20 so what?

21 So -- because we're not bound to just have
22 the -- we can consider those effects cumulatively. And
23 we're not necessarily going to find a product with a
24 chemical that is the sole source of some potential
25 adverse impact. So it's relevant.

1 The question is how do we sort through data and
2 information to put those in the boxes to say what it is
3 and then evaluate it to say is that potentially
4 significant.

5 So I don't know if that's helpful, but partly
6 just to clarification and Meredith is --

7 **MS. WILLIAMS:** Well, I'm wondering, Andre or
8 Portencia (ph.), you know that you -- I know you guys
9 know the FSOR like the back of your hand. And I don't
10 know if this was ever addressed in the FSOR. And if so,
11 could -- I see Corey nodding. Corey would you like to
12 speak to this?

13 **MS. MORAN:** Portencia can, too.

14 PORTENCIA: Since I don't have the FSOR in
15 front of me --

16 **MS. WILLIAMS:** Well, can you -- can -- yeah.

17 PORTENCIA: Now aren't you glad I
18 (indiscernible). We did consider it. And I guess as
19 Karl mentioned is that at this juncture, we're just
20 considering -- it doesn't matter whether it's cumulative
21 or aggregate. I mean, we're considering both. But you
22 do bring a very good point and that would be that
23 (indiscernible).

24 In other words, it's part of what's considered,
25 but how the effects are could be later considered as

1 well, later on when we get to the priority or the product
2 chemical combination.

3 So you could take that into account at that
4 point.

5 **MS. SCHWARZMAN:** I think I got an answer to my
6 question though, which is that your language here is
7 aggregate effects and I should just hear that as
8 aggregate exposures because that's what you mean the same
9 thing. Okay.

10 **MS. WILLIAMS:** All right. So Meg did her usual
11 dove of succeeding in kicking off the conversation
12 because now we have a whole slew. So I've got Art, Mike
13 and Julia, Ken Geiser and -- in the queue and Carol, I'll
14 be working your queue to add you in the queue.

15 **MS. BAIER-ANDERSON:** Yes, please. Thanks.

16 **MS. WILLIAMS:** Okay. All right. So you're in
17 there after Ken Geiser. All right.

18 **MR. FONG:** Yeah. I just want to offer on the
19 question about data and informational tools to DTSC. And
20 I think I've mentioned this in one of our previous
21 meetings.

22 There's something that I use on a routine
23 basis, it's that risk assessments from the European
24 Chemical Agency, ECA.

25 And the reason why I use that and the reason

1 why I like using the data and information in those
2 reports is one is very thorough.

3 And two, it addresses a question that -- or an
4 issue that Kelly always raises about. Well, how come
5 there's no environmental-aquatic type concerns or
6 analysis?

7 So in the EPA risk assessment reports, they
8 address both human and environmental concerns. And with
9 each one of those two categories, there's actually a very
10 interesting breakdown of what they specifically look at.

11 So the one thing that we (indiscernible) -- I
12 was looking at this morning when I was having breakfast
13 downstairs was the isocyanates, the MDI. And it
14 talked -- it goes specifically into comparing exposure
15 levels to derive no effects levels for workers and for
16 consumers. And also for human exposure from
17 environmental exposure.

18 So you have consumers, you have workers and
19 also, you have just, you know, indirect-type exposures.
20 So again, because they come out with, you know, margins
21 of safety, it gives you a really good idea what consumers
22 and workers may be exposed to under the specific
23 scenarios that (indiscernible) and also just, you know,
24 general exposure from the environmental situation.

25 And again, not only do they address human

1 concerns, they also address aquatic and environmental
2 issues. So again, it's -- if it's something that you're
3 not, you know, using -- that you're not using routinely,
4 I think that that's a very useful source of information.
5 Thank you.

6 **MS. WILLIAMS:** Thank you, Art. Mike?

7 **MR. CARINGELLO:** Again, back to the data
8 sources, tools approaches, you know, as Art was saying,
9 Europe has a lot of great information out there. We were
10 talking about in the State of California, a lot of
11 agencies. An additional source might be to look into the
12 (indiscernible) chemical work plan data.

13 They got a lot of information not on just
14 chemicals, but on the products their used in. And there
15 might be a lot of good matches. And if we could find
16 that data, that might -- you know, they had a very set
17 prioritization process. That might -- might be a good
18 place to start to get -- to get some information.

19 Additionally, I can say, you know, maybe work
20 out -- reach out to some of the trade associations. You
21 know, you've got a lot of industry, specific interest
22 industry who's coming and willing to talk.

23 Trade associations have annual meetings or
24 routine meetings. I know a couple years ago, Bob and one
25 of Ken's colleagues came out to the SPI Fall meeting.

1 And I thought it was a very well-received discussion. A
2 lot of two-way information and I think a lot of doors
3 could be opened that way.

4 So any of the trade associations, they have
5 very specifically targeted groups that I think most of
6 them would be very willing to speak to the agency up
7 front as well as them coming to this -- this sponsored
8 workshops to express opinions.

9 **MS. WILLIAMS:** Thank you. Ann?

10 **MS. BLAKE:** Thank you. And this is perhaps a
11 response to the coach here. Thank you, Kelly for -- I
12 would not be too quick to eliminate any kind of tool that
13 would help you go from broad to narrow, so be careful to
14 eliminate -- you know, not eliminating MCDA or something
15 or other related decision support tools as too complex.

16 The complexity of MCDA comes when you have
17 enormous number of factors, which is what you do have.
18 But now that you're working in the work plan, you've
19 narrowed those down a little bit with your prioritization
20 factors.

21 And I think what multi-criteria decision
22 analysis and other decision analysis tools can help with
23 and we're obviously -- I'm volunteering Tim here to help
24 along with this.

25 You know, we're happy to bring that community

1 of practice in to help figure out how to make those tools
2 relevant to your decision. But it does allow
3 prioritization of factors even further than what you
4 have.

5 You've highlighted some that are key
6 prioritization factors and thank you. I appreciate
7 taking your comment -- one of the comments that I made at
8 a previous meeting and clarifying what your best
9 management practices are around those and how you're
10 using those in a process.

11 And also, as -- as you move forward and I think
12 it will allow you to show -- to visualize and to help
13 articulate how those specific factors that you've
14 narrowed down to will -- will help drive the decision
15 towards more specific as Bill was suggesting, 15 or
16 more -- 15 or fewer product and chemical combinations.

17 So use decision tools as support tools as
18 they're intended to be used and we're happy to help you
19 figure out how to make those more relevant. But
20 remember, the complexity comes from -- from what we're
21 tracing, not from the tool itself.

22 **MS. WILLIAMS:** Thank you, Ann. And good
23 points. I've got Julia, Ken, Carol, Meg and Becky.

24 **MS. QUINT:** I just wanted to revisit Meg's
25 question unfortunately.

1 I had the same question when I got to aggregate
2 effects, but I was thinking more of a chemical that had
3 aggregate effects of toxicity. Like there's a chemical,
4 1-Bromopropane that's a carcinogen of female and male
5 reproductive toxicant, developmental toxicant and neuro
6 toxicant.

7 So I thought your question was what are you
8 doing on Alternatives Analysis and what do you highlight,
9 you know, of those effects.

10 Since we're not using risk assessment, so we're
11 not using the most sensitive effect, I thought the -- you
12 know, I brought up -- I didn't know what you meant, but I
13 thought you had a question about what your -- what should
14 your approach be when you're faced with a chemical that
15 had multiple toxicities and you're not using risk
16 assessment to decide what's driving the replacement.

17 I mean, you know, the health effect that you're
18 trying to mitigate. So you have another spin on that
19 word. So I think -- and you will run into chemicals like
20 this, because your hazard traits, you have a long list of
21 hazard traits, so you will have a hepatotoxicity mixed in
22 with, you know, neuro tox and things like that for some
23 chemicals.

24 So it is a question that will come up and
25 you'll have to provide guidance. You know, maybe the

1 person is supposed to deal with both and all in the
2 Alternatives Assessment, but anyway, just might say
3 there's another spin on that question.

4 **MS. MORAN:** So Corey was kind enough to pull up
5 the Final Statement of Reasons. And it does -- if you
6 don't mind, I'll go ahead, since this is an issue. And I
7 think it's kind of surprised me a little.

8 "The chemicals' aggregate effects are a
9 consideration in evaluating potential adverse impacts.

10 "Aggregate effects are the chemicals' effects
11 resulting from exposure to the same chemical from
12 multiple sources.

13 "For example, exposure to DEHP, one of -- one
14 of the more commonly used phthalate plasticizers comes
15 from a number of sources.

16 "All those exposure sources would be considered
17 in assessing its potential to contribute to adverse
18 public health impacts.

19 "A chemicals' cumulative affects with other
20 chemicals with the same or similar hazard traits and/or
21 environmental or toxicological end points are factors to
22 consider.

23 "Cumulative refers to a chemical, along with
24 other chemicals causing the same effects in the
25 organism."

1 So I think the appropriate reflection of the
2 FSOR would be to change this from aggregate effects to
3 aggregate exposure.

4 **MS. QUINT:** Right.

5 **MS. MORAN:** Not --

6 **MS. WILLIAMS:** Well, we can't change the regs,
7 but we can change our understanding of it from the
8 discussion.

9 **MS. MORAN:** Exactly. And that would make it
10 consistent with the FSOR. It doesn't get at Julia's
11 point --

12 **MS. QUINT:** No.

13 **MS. MORAN:** -- which is different effects, but
14 that would clean up the language.

15 **MS. WILLIAMS:** So in terms of our thinking in
16 our discussion, we now know what to do.

17 So I'm going to move ahead with Ken and just
18 remind you that we're trying to give the Department some
19 input as to how they go from the big list to the little
20 list. And they are particularly interested in how do
21 they deal with this aggregate exposures as -- as we're
22 thinking about -- a degradation products, exposure
23 potentially, you know, other kind of harder questions.
24 So Ken?

25 **MR. GEISER:** Well, first of all, my thought

1 about this is that there's a balance here between kind of
2 using tools and using protocols for doing prioritization
3 than allow you to sort of be replicable and clear and the
4 logic you use to (indiscernible) but also not be locked
5 into tools and determined by the outcomes of those tools.

6 And so, I just -- I appreciate that because
7 it's really important the Department has, you know, what
8 I would call a certain level of discretion of just going,
9 like, we chose that because it made sense, not yes, we
10 went through these various tools and stuff like that.

11 I mean, I'm struck by -- and Carol can actually
12 speak to this as well -- I took a look last year at the
13 TSCA prioritization tool that was used to kind of help
14 think about chemicals for the chemical action plans and
15 stuff like that.

16 And it might be useful to look at a tool like
17 that in terms of prioritization, which both describes the
18 -- hazards of something, plus -- plus the exposures.

19 And presently, out of (indiscernible) logic
20 that they came out both in terms of human health and in
21 terms of environmental effects. And so, there's one that
22 might be useful, but again, I wouldn't become too rigid
23 to that.

24 Now, this is a -- I mean, for me,
25 prioritization does -- is a great place for thinking

1 about exposure, you know, and really at exposure.

2 And there are all these EPA exposure tools.
3 The Epi-sweeps and other such exposure tools that have
4 been developed for looking at estimating and modeling
5 exposures.

6 And I just remembered this, Kelly's little
7 pathway analysis diagram from the last time I think we
8 met together, which is another kind of way to think about
9 exposure, which means the pathways themselves being used
10 there.

11 But I think the -- biggest thing is that to
12 just not become rigid about it in the logic of allowing a
13 certain amount of discretion there as well. But take a
14 look at the TSCA prioritization tool.

15 **MS. MORAN:** All right. Don't be rigid and on
16 to Carol.

17 **MS. BAIER-ANDERSON:** Okay. (Indiscernible) I
18 do want to say a few things about that -- the tool that
19 we used.

20 **MS. MORAN:** Carol?

21 **MS. BAIER-ANDERSON:** Yes?

22 **MS. MORAN:** Can you get yourself as close to
23 your mic as you can? You're getting a little fuzzy.
24 Thanks.

25 **MS. BAIER-ANDERSON:** Okay. Is this better?

1 **MS. MORAN:** A little.

2 **MS. BAIER-ANDERSON:** This (indiscernible) the
3 approach that we used in TSCA. We ranked chemicals
4 for -- based on a quick (indiscernible) survey for high-
5 moderate -- for (indiscernible) and that's for human
6 health, for environmental or ecological concerns for an
7 exposure.

8 So it does work really well, but we have to
9 remember that it's a -- it's a (indiscernible) process
10 that we definitely need to dig deeper to make sure that
11 the reg can (indiscernible) data.

12 So that leaves one option. Given that we're
13 not there de novo risk assessment, you know, a number of
14 folks have mentioned resources for the (indiscernible).
15 The -- (indiscernible) project, the Humans and
16 Environmental Risk Assessment Project, this is a European
17 thing where they look at (indiscernible) they evaluate
18 chemicals in household cleaning products and they have a
19 large number of chemicals that they've (indiscernible)
20 that can be useful.

21 Certainly, of course, the ATSCR Tox
22 (indiscernible) human health and then another resource is
23 the traditional peer review toxicity (indiscernible),
24 which was done by EPA specifically for risk assessment in
25 the Superfund program. Those are all (indiscernible).

1 The other thing I think is kind of intriguing
2 to think about is the exposure patterns. Whether the
3 exposures are repeated or continuous versus kind of
4 discrete and (indiscernible) very high. That can be
5 helpful in kind of (indiscernible) for different product
6 combinations. And that's all.

7 **MS. MORAN:** Thank you. I particularly liked
8 that last comment, because it links back to these key
9 prioritization principles, is it severe or widespread.

10 So -- and Meredith, do you want to jump in at
11 this point and then we'll continue with Meg, Becky, Tim,
12 Bill.

13 **MS. WILLIAMS:** Well, I was just going to ask
14 Carol if she thought they were particularly good tools
15 for looking at the exposure patterns. It's going to --

16 **MS. BAIER-ANDERSON:** Well, you know, I think
17 not -- there's a lot of tools under development, and I'd
18 be happy to do a little (indiscernible) and see
19 what's -- what's coming up at the (indiscernible) for
20 (indiscernible) research that's being done by
21 (indiscernible). And I can report back on that. But for
22 a lot of this can be broken down, just be taking a
23 (indiscernible) risk factor and we just mine it for
24 explanation because that's more likely to be very
25 targeted on specific (indiscernible).

1 And if a person wants to get down to, you know,
2 how these products are being used, how the chemicals are
3 used for their products, I think that's the level of
4 (indiscernible) and that's going to be generated in the
5 (indiscernible) process.

6 **MS. MORAN:** Thank you, Carol. I -- just to
7 leap in there. I think some of us are kind of circling
8 around, how do we use existing risk assessments as a
9 tool. And I'll just layer onto that.

10 Ken showed the conceptual model again. I'm
11 finding the conceptual modeling really important when
12 you're thinking about classes of products.

13 Sometimes embedded in risk assessments are
14 conceptual models that are not accurate or complete. And
15 so, you have to be careful how you're using those tools.
16 But drawing your own conceptual model and then saying
17 what kinds of sources are out there, some of these really
18 excellent risk assessment sources can help you interpret
19 it and prioritize things but don't just assume that a
20 risk assessment is always complete and accurate. Do your
21 own conceptual model.

22 So moving on, Meg, Becky, Tim, Bill.

23 **MS. SCHWARZMAN:** Thanks. I was just going to
24 suggest as a source of sources to the Department the
25 Green Screen for Safer Chemicals, because it's an

1 assessment that the -- that publishes all of its guidance
2 documents and methods.

3 You can find all those guidance documents
4 online and they include very helpful lists of resources.
5 So, for example, in response to your question about
6 degradation product, one of the things that the Green
7 Screen requires is that you look at relevant degradation
8 products when you're doing -- performing a green screen
9 on a chemical.

10 And so, they provide a list of resources for
11 where to find information on degradation products. And I
12 looked at their list a bit and they called out some of
13 the things that have already been mentioned, including
14 Carol just mentioned here a project that's the Voluntary
15 Industry Program.

16 So with some of those caveats, but basing
17 your -- from household cleaning products, looking at
18 degradation products.

19 And some specific sources and risk assessments
20 conducted by various governments. And we don't have to
21 go into all the details, like, they call out how in HSDB,
22 there's a specific section on metabolites.

23 So I would recommend, if you're looking for
24 source of information on particular exposure criteria or
25 endpoints, I always check in -- I always sort of do a

1 check on my own when I -- the resources I know about by
2 going to the Green Screen guidance documents, because
3 it's one place where there's a fairly thorough listing of
4 where to find information on those endpoints or those
5 exposure material.

6 **MS. WILLIAMS:** Thank you. Dr. Sutton?

7 **MS. SUTTON:** Okay. I'm glad Meg brought up
8 degradates because I was going to mention University of
9 Minnesota has some good tools that they developed on
10 trying to figure out what degradates when they develop in
11 the environment when you -- when you don't have to search
12 for that data.

13 So that might be a good place to look. There's
14 a lot of publicly available publications on their tool.

15 A few other things. I like the OECD screening
16 information data sheets for a (indiscernible) collection
17 of data for chemicals or chemical families. And then
18 Mike mentioned trade associations and they may also put
19 out green certifications for different products.

20 Some of these certifications, if they're
21 including toxicity at least, they might have an idea of
22 what chemicals they're targeting for removal and the
23 availability and efficacy of alternatives.

24 **MS. WILLIAMS:** All right. Tim?

25 **MR. MALLOY:** Thank you. I just had four brief

1 points that I wanted to make based on what we talked
2 about.

3 First, I would encourage the Department to
4 adopt some type of structured approach for these
5 decisions.

6 So I don't want to -- I'm not saying pick an
7 MCDA tool or not a tool, but having some structure and
8 we've heard lots of different examples of those. I think
9 are really important for avoiding unintended biases when
10 dealing with lots of information of the type you're going
11 to be dealing with.

12 And also in terms of it being defensible later
13 on. In the event that there are challenges, it provides
14 some kind of like basic baseline to -- there's a fairness
15 and a transparency (indiscernible).

16 The second point is there are plenty of
17 examples of prioritization schemes that are out there.
18 I'm not talking about individual tools.

19 We've got lots of good examples people had
20 about tools for input to prioritization on hazard or
21 exposure to the other things.

22 But I agree with Mike. I think it would be
23 worthwhile to get a close look at the categorization
24 process used by Canada for their domestic substances
25 list.

1 It incorporated exposure and hazard, used
2 expert elicitation. It did use some type of an
3 algorithm, but it wasn't a complex, complicated thing.
4 It was very understandable and made a lot of intuitive
5 sense.

6 We looked at that when we were doing some work
7 on prioritization of nano materials in products and found
8 it to be extremely useful.

9 REACH has got some example in their
10 prioritization where they can use both what they call a
11 verbal argumentative, which is, I think, what the
12 Department's been doing so far versus a more structured
13 approach.

14 And I've got to say, my favorite is probably a
15 1999 -- I know that sounds old, but it's relevant. Those
16 of us who are old know how important it is to remain
17 relevant, right?

18 National Academy of Sciences Report called
19 setting priorities for drinking water contaminants, which
20 goes through about eight or nine different prioritization
21 approaches, evaluates them and I think it's
22 (indiscernible) this background.

23 The third point, I want to emphasize, no
24 surprise, agree with Ann about let's not take what
25 different people call MCDA off the table in terms of it

1 as a formal tool that could be used as a decision support
2 tool.

3 I'm going to talk more about what happened at
4 our conference earlier this month, but let me tell you,
5 it's eye-opening, because when you talk to the people who
6 actually do it, the thing that they stress is that their
7 tools are neither prescriptive nor complex.

8 And in fact, they insist that they should be
9 used in circumstances in which there's opportunity for
10 multiple stakeholders that have input and that these
11 tools are used to make the prioritization transparent.

12 I can share with you lots of resources in terms
13 of where these types of tools have been used for
14 prioritization of just this sort of thing.

15 And I think they could be useful, which brings
16 me to my last point, which to me is like the 800 pound
17 gorilla in the room, which is the answer to the question,
18 I think, depends a lot on what are the resources and time
19 that are available for doing the prioritization decision.

20 So if resources are short and time is short,
21 then you know, what you can do is going to be
22 appropriately limited. So if we have -- it would be
23 helpful to have a sense of what type of resources you
24 have to throw at this problem, the short term and long
25 term.

1 So it might be you do something structured, but
2 not too structured. Doesn't use really sophisticated
3 tools and maybe tools can be developed later on in the
4 process as you learn more and there are more resources
5 available.

6 But I think moving forward, it would be
7 helpful, at least for me to know what level of resource
8 you think you have available for the prioritization
9 effort. And then that would help frame, I think, better
10 this conversation about what's practical for you.

11 Thanks.

12 **MS. MORAN:** Meredith, are you going to say
13 anything about that briefly or Mike?

14 **MS. WILLIAMS:** (Indiscernible) right now.

15 **MS. MORAN:** You can say no.

16 **MR. CARINGELLO:** Well, I think as you talked
17 earlier, I mean, we have -- you're going to talk about
18 specific resources or --

19 **MS. WILLIAMS:** I mean, that's (indiscernible).
20 It's just to talk about who the team is and --

21 **MR. CARINGELLO:** Sure. Well, let me just give
22 you a little background on the -- on the team. Andre,
23 raise your hand. Those of you on the Web can't see him,
24 but Andre Algazi is the -- team lead for our Chemical and
25 Product Evaluation team.

1 And it's a little bit of a dynamic team, but
2 it's mostly (indiscernible) of different scientists and
3 engineers supported by our Health and Environmental Risk
4 Assessment office, toxicologists that have been going
5 through the three priority products (indiscernible).

6 And we've -- I'm not sure how to characterize
7 it other than it's -- it's sort of multi-faceted and we
8 broke out the first round by product in a (indiscernible)
9 and then we matrix across the team and within the
10 Department and outside the Department to get information.

11 So I think it's also safe to say, as Meredith
12 indicated, we're -- we're learning. And most of us in
13 the Department come from a background in Circle and
14 Hazardous Waste which is largely risk assessment driven
15 and waste driven.

16 So we're learning about products and
17 formulation and exposure relative of products versus
18 waste.

19 So other than that's the snapshot of who we are
20 and we have chemists and biologists, et cetera. But we
21 have a small group. And so some of this is very
22 dependent on the type of product we're looking at because
23 they're all very unique. And we may -- you know, we have
24 a great set of engineers. We have, I think, a chemical
25 engineer or two.

1 And so if we're looking at things that are
2 plastics, like, you know, Ann's looked at and things like
3 that, we have some bandwidth there. But not some other
4 areas.

5 We're -- we're probably a little bit short on
6 the eco side, although we've just hired a couple of
7 people that are very excited about it who have some great
8 experience in that.

9 So we now will need to build the model in terms
10 of how we do it, but the tools. Not just, you know, the
11 academic tools if you will, but the resource tools, the
12 human side of the equation, which is really important
13 because a lot of this is frankly about who we connect
14 with and who can explain something to us and who can give
15 us relevance on how to use that tool maybe not in the
16 full-blown risk assessment model, but you know, to say
17 take it (indiscernible) and frame it.

18 So that's sort of our mode we've been in. And
19 the team has learned through the last set of
20 products -- process but we -- on the technical side, we
21 want to build a stronger tool kit.

22 **MR. FONG:** Can I just ask one question.

23 **MS. MORAN:** Very briefly.

24 **MR. FONG:** Very briefly.

25 **MS. MORAN:** And then we're going to go to Bill.

1 I'm going to say a couple things and then we get to eat.

2 **MR. FONG:** Well, I'll -- I'll pass.

3 **MS. MORAN:** No. It's okay. You can say
4 something.

5 **MR. FONG:** Well, I just -- first, I just
6 want -- (indiscernible) said was not -- I know you didn't
7 take it wasn't meant as a criticism. I'm in awe of what
8 you are doing with what you -- in the time and resources,
9 right, but it was meant in the spirit of, like, how to
10 answer these questions. That's all I just wanted to say.

11 **MR. PALMER:** And I appreciate it. I want
12 to -- I want to highlight, too, that your point on
13 resources is important because we have a limited amount
14 of time and resources.

15 And there's -- sometimes there's a lot of data,
16 sometimes there's no data. So -- and we have a lot of
17 discretion. So a lot of this is about, you know, setting
18 some goals and some specific thresholds that we had to
19 get over.

20 And we can't do it all. There's no way. So
21 it's important.

22 **MS. MORAN:** So Bill are you comfortable
23 starting now? I mean, if you and (indiscernible).

24 **MR. CARROLL:** Sure. It's not going to take
25 that long, Kelly, I don't think.

1 **MS. MORAN:** Well, I just -- I want to give you
2 the time you deserve.

3 **MR. CARROLL:** First of all, I want to support
4 Tim's first point. I think having a structured way of
5 coming at and setting your priorities is really
6 important.

7 This is not to say -- to tell you what that is,
8 but I think if you have a standard (indiscernible),
9 that's a -- that's a very, very good approach to use in
10 the beginning.

11 Second, perhaps this is something that was
12 (indiscernible) report on aggregate exposure.

13 First of all, exposure assessments, exposure
14 analysis is difficult to do and when you're talking about
15 aggregate exposures, it's particularly difficult to do.

16 Aggregate exposure becomes relevant when you
17 have a -- a chemical or a product that has a -- a
18 chemical. It has a particularly wide use in a
19 number -- a number of different products, and yet, this
20 regulation is about a specific chemical and a specific
21 product.

22 So the question then becomes if you're talking
23 about aggregate exposure, are you -- are you going to
24 focus on finding something that has a significant
25 percentage of that exposure?

1 If that's the case, then -- then if it's -- if
2 it's a small exposure on an absolute basis, you may find
3 a large percentage, which you may not be doing a great
4 deal of -- of -- of good because it's a small absolute.

5 Then on the other hand, if you're talking
6 about -- about saying well, we'd like to find a -- a
7 (indiscernible) then the aggregate part doesn't really
8 matter, does it? Because you're talking once again about
9 some specific -- specific application.

10 So I'm thinking that -- that unless you're to
11 take the approach that Julia suggested, which is to say
12 we're going to do five chemicals and products. It's all
13 going to be the same chemical and we're going to look
14 across a spectrum of the different products.

15 Then to me, consideration of aggregate exposure
16 is less important than simply the exposure assessment on
17 the specific chemical in the product. And once again,
18 that may be some place that your early consultation
19 (indiscernible) main factors may -- may help in terms of
20 that exposure assessment.

21 Thank you, Chair.

22 **MS. MORAN:** All right. So I'd just like to
23 finish up with a couple of my own just general -- a
24 general overview of what we've been doing here.

25 I think there have been a few suggestions as to

1 tools, but a lot of very general comments. So I'll add
2 on to those general comments.

3 Just two thoughts. I keep coming back to the
4 severe and widespread in the regulations. That that's
5 the key prioritization principles here. And severe
6 exposure, is it severe or is it widespread?

7 And when I'm thinking about how do we get
8 to -- for still trying to figure out how to develop a
9 priority -- come up with a real process, I keep
10 thinking -- when I think of severe, I keep thinking about
11 a lot of what I call the oldies but goodies or maybe
12 oldies but badies, you know. It's lead, it's mercury,
13 it's PCPs, it's -- it's definitely, you know, it's really
14 harmful. We've been working to get those things out of
15 most products, but there's still ones that remain and
16 where there's ones where there's really exposures, it
17 does seem incumbent on the Department to be finishing up
18 and work on those.

19 A lot of that was started in the Legislative
20 arena and now we're trying to do science to finish that
21 up.

22 And when I think about widespread, I keep
23 thinking about some chemicals that have just poured out
24 into the market and a great example is the stuff you put
25 in (indiscernible) with the flame retardants and

1 repellent fabrics and treatments because those are both
2 sets of chemicals that are disseminate a huge amounts of
3 commerce. They're garnering a lot of attention. And the
4 AA process and the Department's process is really a great
5 way to ask the question is it necessary and what are the
6 alternatives? Are we just going to move from one to
7 another? This is really a way to tackle that before we
8 make those -- those -- those changes in how to get
9 (indiscernible).

10 So that's a couple of overview thoughts.

11 Now, we're at our lunch break time. I'm going
12 to suggest when we come back after lunch, that we come
13 back and look at the specific questions that the
14 Department's put in front of us. We've done a lot
15 towards DTSC work plan priorities, but we haven't really
16 hit as much as we might on some of these regulatory
17 prioritization factor questions.

18 So let's see if we can go around and maybe just
19 try to get some of the specific topics there after lunch.
20 And then we can move in to the questions on the next page
21 on stakeholder (indiscernible).

22 So lunch is next door and (indiscernible).
23 Kind of go up and around the corner and we need to
24 (indiscernible) back here at 1 o'clock.

25 **MS. BAIER-ANDERSON:** Kelly, and I'll call back

1 at 1 o'clock.

2 **MS. MORAN:** Thank you very much. And I know
3 you know it's 1 o'clock our time. I appreciate the
4 (indiscernible) work.

5 **MS. MAJHAIL:** And lunch is set up in Coastal
6 Room, which is --

7 **(Lunch break)**

8 **MS. SCHWARZMAN:** The direction is going to take
9 us back to some of the specific questions, specifically
10 this topic of -- you asked about it, the aggregate
11 exposures, on the definition. Because I think, for
12 exactly the reasons that Bill Carroll raised earlier,
13 which I appreciated the sort rundown of some of the
14 difficulties that are attending with that aggregate
15 exposures topic, my sense is that's why it's in the
16 regulations.

17 So, the fact that we either -- that you're
18 stuck choosing either one product that is a large
19 percentage contribution to the exposure, but potentially
20 a small absolute number versus a small percentage of
21 something that really matters.

22 So, having interaction with this one product is
23 exactly why this issue of aggregate exposures in the
24 regulations to allow you to size up that, and how -- how
25 do you size up that?

1 And I think Julia Quint offered us one
2 potential model for how to start thinking about. And
3 it's to look to CARB's way, and maybe even a little bit
4 more specifically about what CARB does.

5 But if the basic model involves identifying a
6 small handful of chemicals and then a slightly larger
7 couple of fistfuls of products that remain impervious to
8 those exposures may be the only way to get at some
9 exposures that are ultimately very widespread, but that
10 in any individual product may seem almost negligent -- or
11 negligible. It depends.

12 And yet, you know, from a public health point,
13 environmental perspective it may be relevant to take on
14 that and be forced to do it through the window of only
15 one product. You can't make the case for their being
16 that significant.

17 And so, I guess we'll have to think through,
18 and there's staff that probably will (indiscernible) --
19 but talk about whether -- how that fits with some of the
20 (indiscernible).

21 But I think there's opportunity for, given the
22 breadth of your work plan, to find a chemical that you're
23 interested in or a couple chemicals that you're
24 interested in that actually do track a lot of categories.
25 And try to do some evaluations of priority products that

1 are actually (indiscernible) -- and use this idea of
2 aggregate exposure as the way to make the whole thing
3 significant, where one individual piece of it would not
4 be to the whole problem, but taken together they are.

5 And that's a tricky one because, particularly,
6 then the regulated industry feels unfairly targeted
7 because, well, my piece of it is so small. But in fact,
8 everybody's piece of it is small, for some products or
9 some chemicals. And the only way to take them on is
10 through looking at that chemical as it shows up in
11 places.

12 So, I just wanted to return to that issue
13 because it was one of the specific questions that we
14 answered and I think that the issues that Bill raised are
15 exactly why this issue of aggregate exposures was
16 included in the regulation is to give you a tool to get
17 at some of those substances that are so widely disbursed
18 that it's difficult to put your finger on the one most
19 significant source of it. And it will help you think
20 maybe a little bit more about how to make that happen.

21 **MS. MORAN:** All right, I'm not seeing any flow,
22 good. You're not losing it, yet. So, I keep thinking
23 about the last few comments that were made on the
24 prioritization factors here, these questions that staff
25 are still waiting for us to advise them on.

1 **MR. CARINGELLO:** I just want to follow up on
2 what Meg was saying because I think it's a really valid
3 idea, not just typically, but kind of almost logistically
4 as you follow through with this process. Because if you
5 start doing that, where's applicable, and say you come up
6 with two or three product types where the same chemical
7 is potentially the concern, what you've done is you've
8 told industry as a whole, where you might have a bunch of
9 small, little players to start to do your alternative
10 assessments now. Start -- you know, you might not be on
11 the list today, but this is something of concern and
12 maybe you start to hit a larger chunk of the aggregate.

13 Because even if you do -- you know, even if
14 we're saying that the agency's going to hit its stride
15 and we're going to start doing ten priority products a
16 year. Even ten priority products, if you did them all
17 around the same chemical, but they're all small players,
18 are you still going to even really hit the entire
19 aggregate, but you're still not -- you're not banding.
20 Just an alternative assessment is, is what is safe? Or
21 is there anything safer? Maybe there's not.

22 But it gets people's minds working in that and
23 maybe start to see, almost like REACH does in Europe,
24 where you start to get coalitions who are saying what can
25 we do about this?

1 **MS. MORAN:** All right. Okay, we're saving
2 this. Go ahead. Cal, please go ahead and then Tim will
3 call you.

4 **MS. BAIER-ANDERSON:** Okay. How is product
5 defined in the regs? Is there something about it that is
6 limiting in how DTSC can define products? And maybe, you
7 know, using (indiscernible) -- functional use or product
8 categories, some combination of that and you can define
9 the product more broadly to encompass different types of
10 products.

11 **MR. PALMER:** This Karl, Cal. The regulations
12 define consumer products quite broadly. There are a few
13 things that are exempt from the statute. And then,
14 consumer products are pretty much anything sold or
15 offered for sale in California, except for those
16 exemptions.

17 What you're talking about, though, is really we
18 had great latitude to pull in a variety of products that
19 might be related, but they would be likely to be separate
20 entities in terms of listing a priority product.

21 So, they might be related and they might have
22 the same chemical of concern or, similarly, they might
23 have a same function and have different chemicals of
24 concern, but they would be independent products.

25 Because what we regulate are the individual

1 responsible entitles that make that specific product.
2 But we have great latitude that we could lump multiple
3 products together that were related.

4 **MS. BAIER-ANDERSON:** Thank you.

5 **MS. MORAN:** Did you want to follow up on that,
6 Cal? Do you have any thoughts?

7 **MS. BAIER-ANDERSON:** No, just the observation
8 that we often see, you know, we see chemicals that are
9 used is similar in different products. Cleaning
10 products, for example, they're all kind of variations on
11 a theme, but they're different types of cleaning
12 products, but they have a lot of overlap in the chemicals
13 that are present in there. But they're just similar to
14 the personal care products.

15 That it would be -- you know, it would be easy
16 to round up a group of products that are using the same
17 chemical. But, you know, what I didn't understand was
18 what went into define products more broadly to encompass
19 different subtypes. But, apparently not.

20 **MS. MORAN:** Thank you. So, Tim, you're on.

21 **MR. MALLOY:** This is not clearly in my mind.
22 I'm thinking about how this would play out. Which really
23 is about thinking from a chemical stand point and then
24 looking at all of the products that play a role in
25 causing exposure. The required notion, like where you

1 think about Perc and its different uses in the one air
2 shed, and then you go and you address all of those to get
3 your aggregate exposure to Perc down. These powerful and
4 kind of intuitively make a lot of sense.

5 But then when I -- then I heard, Meg, your
6 discussion and it had like a different kind of scenario
7 where you have lots of small plates of exposure, no --
8 so, different products, with a different chemical, no
9 single one which would have been significant enough to
10 get on the priority list. But when you put them all
11 together, now they become -- they become significant in
12 the aggregate.

13 And I was starting to think about how it's an
14 intriguing idea and it feels like we -- you'd want to --
15 you'd work through kind of the opportunity costs of
16 approaching that scenario versus one in which you've got,
17 you know, a few chemicals where there's -- where the use
18 in just one or two products, themselves, are just -- you
19 know, they really think -- you know, where the exposure
20 and harm is obvious just on the face of it.

21 All right, so it seems like -- and it starts me
22 to get thinking about, so, if you had lots of the
23 scenario Meg described, would you end up, now, with lots
24 of AAs being done by lots of parties, which increases
25 kind of administrative costs, as opposed to identifying

1 several large players that have large amounts of one
2 single chemical, which you'd think would have fewer
3 administrative costs, and maybe concentrated among
4 parties that are bigger, they are (indiscernible) -- and
5 then, of course, they would pay a --

6 So, I'm really thinking like there's lots of
7 thought that would go into kind of how that would play
8 out. Even like when you think about regulatory response,
9 then, where one could imagine a situation where you'd end
10 up with a series of regulatory responses that would have
11 to be coordinated in order to bring the aggregate risk
12 from all these scenarios down to a point where you'd feel
13 comfortable.

14 I'm just playing around with these ideas, so
15 it's not clear to me about what would happen in those
16 scenarios. I'm not -- this is not a criticism or an
17 argument against thinking about it, but more asking
18 questions about what would that look like and how would
19 it compare to, you know, kind of like the paradigm that I
20 think folks have been thinking about, and before Julia
21 raised it.

22 It seems like when we've been -- the card thing
23 is, I think, a much more limited kind of focus. It had a
24 number of urban air contaminants that they were looking
25 at and that defined set of exposures sources, and so on

1 and so forth.

2 So, I didn't really have anything to say, other
3 than that raises all sorts of issues that you'd want to
4 work out in order to figure out -- not just thinking
5 about prioritization, but also what would be the
6 downstream impacts in terms of to the regulatory program,
7 as a whole, as we move through the rest of the stages.

8 **MS. MORAN:** So, I'm going to take this back to
9 Meg and then ask if anybody else wants -- especially
10 those who haven't spoken, want to weigh in on this
11 conversation. And as I pass it to you, Meg, I'll note
12 that this is what we did. When I worked in the sort
13 (indiscernible) -- upstream plant, you know, we basically
14 stood at the bottom of the pipe and looked at all of the
15 sources of a particular pollutant and then just stepped
16 through each one of them one at a time, and they all knew
17 they were coming.

18 So, there is a way of doing that, that might
19 even cross work plan cycles. So, as a vision it does
20 seem to make a lot of sense to me.

21 **MS. SCHWARZMAN:** Yeah, and I didn't mean to
22 differentiate, to distinguish what I was proposing so
23 much from what Julia was saying. I think you heard it as
24 something sort of totally different. And I actually
25 meant it more like what you described in identifying the

1 multiple sources of pollutants in air sheds, say.

2 And enabling the department to look at many
3 sources of a chemical, not to take something -- I didn't
4 mean to emphasize so much that they retain some of these
5 otherwise -- what would fall below the regulatory
6 threshold. And we looked at above-the-regulatory
7 threshold because it was in many products.

8 Although, I could imagine that potentially
9 happening, that wasn't the main thing that I was
10 picturing.

11 **MS. MORAN:** So Ken, I want to come back to you,
12 but I also do want to give folks who have spoken on this
13 an opportunity. I don't see anybody, so Ken, Ann -- or
14 Ken, Julia, Ann, in that order, sorry.

15 **MR. MALLOY:** Yeah, I'll make it quick. See, I
16 would take that set of thoughts and just tie it onto what
17 I was talking about before because those chemical users,
18 who are using that chemical in different set of industry
19 sectors, or something like that, because there's a
20 functional use that may be similar across those goals or
21 factors, something like that, you could begin also to see
22 how you could begin to develop some kind of innovative
23 discussion across the sectors around how that chemical
24 gets used in different ways. In which people are
25 starting to find alternatives that are building off of

1 each other and they're growing it.

2 So, again, I think what is -- there's more
3 collective responses to this a little bit more, and you
4 get more energy out of this and (indiscernible) -- with
5 the chemical product. So, a quick response.

6 **MS. MORAN:** Julia, then Ann.

7 **MS. QUINT:** Yeah, I think the CARB downside I
8 like, but I think combined with the AA process, you know,
9 if these two things could come together it would be
10 really great. Because while CARB did march through a
11 bunch of consumer products and really restricted or
12 banned, according to high-carbon solvents in the various
13 functional uses of them, I mean, I guess they were -- you
14 know, what happened, in essence, is that people then went
15 to another toxic chemical.

16 I mean, there are examples of people
17 substituting ethyl benzene in a cleaner for the
18 chlorinated hydrocarbon solvents, which then ethyl
19 benzene is a (indiscernible). So, we don't want that.

20 So, the two things coupled together, I mean I
21 would like to see some of this married because then you
22 have really accomplished what, you know, CARB's intent is
23 by banning, you know, a toxic chemical. But you don't
24 want to leave the door open for something else.

25 So, working together like that would really

1 make sense.

2 But the other thought I had was fragrances.
3 You know, the Biomonitoring Program has worked on
4 fragrances a lot. I don't know if it gets into the
5 category that matches what you need in the regulation.
6 In other words, I don't know if the ones that we've
7 looked at in the Biomonitoring Program are -- I think
8 they have to be in a certain category to qualify for
9 being named a candidate chemical.

10 But that's a great example. I mean, we have
11 fragrances in a lot of different things and we don't know
12 if they are really needed, number one. So, it might be
13 a -- but it's a broad class that covers many different
14 products, which would also, you know, fit what we're
15 talking about here.

16 So, thinking, you know, and we know for some of
17 them we have biomonitoring data, so we know that -- you
18 know, because the exposure part is the really hard part
19 with all of this. When you talk about significant
20 exposure, widespread significance, or whatever the
21 language is here, it's really, to me has been the hardest
22 part to find out where things are used and, you know,
23 what the exposures are.

24 I know there are models and all of that, but
25 you really have to rely on the models because nobody's

1 measuring anything, usually, at least in the AR. So,
2 anyway, those are -- that was my comment.

3 **MS. MORAN:** Great. Ann.

4 **MS. BLAKE:** So, I have a couple of comments,
5 really, on what some folks have said, but I also am
6 hoping we'll try to move us to -- Kelly, you keep
7 pointing us to these regulatory prioritization factor
8 questions and I think I need a little clarification,
9 because I think we're not really understanding what we're
10 being asked for there.

11 So, first, building on Julia's question or
12 statement about fragrances, not only is it an aggregate
13 exposure in many products, but it's also many chemical
14 components in each part of the fragrance, so that adds
15 another level of complexity which may or may not be
16 something we can handle with these regs. So, I bring
17 complexity to the conversation, so that's what I do.

18 And just another plug for thinking about things
19 in terms of function, an example that's been sticking in
20 my head recently is adhesion. What we would tend to
21 think of as a chemical formulation, that we solve that
22 problem with a chemical formulation. And there's just
23 been introduced a biomedic solution to that, which is
24 actually a structural solution.

25 So, if you think about adhesion as that part of

1 the function, we use it for, obviously, alternatives that
2 you can think about. So, those are just things that came
3 by as people were talking.

4 But to move us to the process question, now, so
5 I heard this morning a lot of responses about data
6 sources for some of these key issues that you're talking
7 about, candidate degradation products, (indiscernible),
8 and so forth.

9 So, I think maybe a little more from staff of
10 what, exactly, you're looking for from us in terms of are
11 you thinking about how to process data around individual
12 challenging factors? And can we help you with that?

13 I think that's why we're not getting to those
14 questions, potentially. Not to speak on behalf of my
15 Committee members here, but I think that's what I'm
16 struggling with anyways. But what question are you
17 actually asking us for?

18 **MS. MORAN:** What are you -- and maybe be more
19 specific on how much more you want us to (indiscernible)
20 --

21 **MS. WILLIAMS:** So, I do think we heard a lot
22 this morning that was out there, so I think some of them
23 we're still looking for (indiscernible) -- that were
24 thrown out.

25 And in the HIST (phonetic) evaluation products,

1 I think that that's a case where trying to figure out --
2 you know, it's a chicken and egg as to where you are,
3 what's the chemical of the product versus the degradation
4 chemical that can be of concern?

5 How do you find that? How do you tap into the
6 science around it?

7 This morning someone mentioned the fact that
8 when you formulate -- the way you formulate something, or
9 dealt with something with a different individual
10 candidate chemical, how do you go about starting to try
11 and tackle that?

12 **MR. PALMER:** I would just add a little bit. I
13 think part of the challenge is that, broadly speaking,
14 it's really difficult to talk about what tools or
15 methodologies are appropriate until you actually get to a
16 specific category.

17 And in any of these categories there may be
18 specific tools, or information sources, or strategies
19 that might be helpful, that would be helpful to us. It's
20 hard to do that without getting to some specificity.

21 So, if anything jumps out at you, you know, in
22 any of these categories that you think would be a
23 wonderful approach to start, and it's going to be an
24 iterative process whatever we do, that would help.

25 **MS. MORAN:** And I'm going to -- don't feel

1 constrained to be general. I'm going to take the Chair's
2 prerogative and just jump in on a couple of these things.

3 On degradation products, the UK's Office of
4 Pesticide actually has developed a structured process for
5 identifying degradates and then sorting through them and
6 identifying those of potential significance, either
7 toxicologically for humans, or for the environment.

8 And they have a group they call the ROCKS
9 (phonetic), and I cannot remember what that stands for.
10 It's (indiscernible) -- of concern, and it might be
11 knowledge-based system.

12 And they are using some structure activity
13 relating to models to try to figure those out. And this
14 is now a systemized process and they are using it in
15 reviewing every pesticide that that they're working with.

16 So, that's something that I encourage you guys
17 to take a look at. It's probably too complicated for an
18 AA, but it might help in pointing people at certain
19 issues that need to be thought about.

20 The other thing is that in terms of exposure to
21 potential -- I've done a lot of food source implications,
22 so I tend to be standing in a particular place, in sort
23 of a water place, and figuring out all the ways that a
24 pollutant gets there, and trying to sort through big and
25 small.

1 And this is not easy, but it is possible. And
2 so, if you're trying to figure out the relative
3 importance of exposure, there are ways of doing that. We
4 had talked about this before.

5 Some of the most helpful tools are emission
6 scenarios that people have done. OECD has done a set and
7 OPTTS has done a set.

8 And they're not great, but for screening
9 purposes to say big or small, does this matter or not,
10 they're actually really useful. So, that's just a couple
11 of other tools.

12 There's a model called EPENDS (phonetic), that
13 OPTTS has done, and they go down the drain, but have a
14 number of other pieces where, again, they're just trying
15 to screen through what are the exposures, or what are the
16 ones you might want to think about a little bit more for
17 the chemical in place. You know, do you want to think
18 about (indiscernible) anymore for this chemical and this
19 set
20 of -- you can answer that question pretty quickly with
21 some of these tools.

22 So, on to Helen and then Julia. And then --
23 okay, so Helen. And then I'll give you a -- at this
24 point and then we'll move on to the other.

25 **MS. HOLDER:** Just wanted to give a more

1 detailed answer for the question list. So one of the
2 approaches that we use at the (indiscernible) -- the
3 criteria, and I'll just give you an example of one.

4 There is evidence that the substance hinders
5 responses (indiscernible) -- there is evidence that a
6 large portion of the substance remained in the recycling.

7 There is evidence that the substance was
8 measured and it had an elevated level in the environment
9 in the treatment facilities.

10 So, these sort of yes/no, logical things you
11 may find helpful. And it left some kind of deep skillet,
12 a bit, so they don't have to have an expert risk
13 assessment doing it every -- you know, answering every
14 question. I'm not going to personally do that, things
15 like that but, you know, this is straight forward; is
16 there evidence of this?

17 And I can give you that.

18 **MS. MORAN:** Thank you. So, last bites of the
19 apple, anybody else?

20 All right, so we're going to move on, now, to -
21 - Meredith, did you want to say anything else before we
22 move on?

23 **MS. WILLIAMS:** No.

24 **MS. MORAN:** Okay, the next topic here is about
25 stakeholder engagement. And there are some questions

1 from DTSC on the second page of the little memo that they
2 gave us, and they put them, handily for us, up on the
3 screen.

4 And it's important to recognize here that
5 department's asking a lot of questions about engaging
6 businesses because they're specifically looking for
7 advice on this.

8 This does not mean the department is not
9 interested in talking to everybody else in the world, and
10 getting other kinds of stakeholder advice.

11 And we had preliminary discussions on that,
12 because that was my take on this, too. So, I want to
13 make sure that everyone who's listening recognizes that
14 the department's actually interested in that.

15 And, specifically, they really want to know
16 what are the experiences that you guys have that can
17 inform DTSC's way of approaching businesses.

18 You know, so if you're a business have you
19 shared information with government? What has been your
20 experience? Has anything bad happened? What were the
21 barriers to doing that?

22 Some of these kinds of questions. I'm really
23 going to pick on you industry folks here. So, Don's been
24 pretty quiet today. I'm going to be picking on him real
25 soon.

1 So, maybe just to kick off the conversation, if
2 you folks don't mind, if you are either from an industry
3 or you work with an industry what kind of experiences
4 have you had and what is the outcome.

5 And, Don, are you willing to start?

6 **MR. VERSTEEG:** I'm willing to start with Mike
7 because he's up first.

8 **MR. CARINGELLO:** But I mean if Don is ready --
9 (Laughter)

10 **MS. MORAN:** Well, let's let Don go, he hasn't
11 talked today and I'd be happy to count on him to really
12 give us a full story on that one.

13 **MR. VERSTEEG:** Okay, so, you know, virtually
14 nothing's off the table. I mean, you can ask industry
15 questions on anything. You know, what tox data do we
16 have? What's our exposure assessment? What's our hazard
17 assessment look like? What was our decision matrix?
18 What's the volume? You know, what products we use it in?
19 Where we ship those products?

20 All those questions we've gotten from
21 regulatory agencies around the world.

22 Now, it's difficult to share them in an open
23 forum, the answers in an open forum, so CBI certainly
24 comes into effect, so that becomes important.

25 Recognizing that a lot of that information is already

1 being shared in the European study, so the tox data, the
2 (indiscernible) data, discom (phonetic), things like
3 that.

4 But we've also successfully used train sessions
5 to gather data from multiple suppliers, or multiple
6 foremen layers, you know, in my parlance, or in down-the-
7 grain-chemical company kind of things, so use days guy
8 (phonetic), or another organization, CSPA, to gather
9 companies and say, okay, how many products do you make
10 that have this ingredient? What's your maximum level in
11 end product, what's your average level in product, what's
12 your tonnage?

13 CSPA, for a consultant that they hire, takes
14 that information, anonymizes it, puts ranges on it, and
15 sends it in.

16 So, virtually, nothing's off the table, you
17 just have to ask.

18 Now, you know, I think part of that is, you
19 know, entering into the discussion, you know, you
20 mentioned data quality. And so, that's kind of a data
21 quality.

22 That, in my mind, kind of starts the clock, you
23 know. You obviously have an interest in that product,
24 you have an interest in the chemicals that you're asking
25 questions on that helps to put industry on notice, hey,

1 you know, this one has kind of emerged from the fog of
2 all chemicals and all products into, hey, this product,
3 this set of products and these chemicals.

4 So, that would be very helpful for industry.
5 So, I would expect there would be great partnership in
6 that kind of venue.

7 **MS. MORAN:** Have you ever experienced anything
8 bad out of sharing information voluntarily, either
9 directly from your company or through industry
10 associations?

11 **MR. VERSTEEG:** I, personally, haven't. I'm
12 sure something bad has happened to someone, at some point
13 in time. But I haven't experienced it.

14 **MS. MORAN:** Thanks Don.

15 Mike?

16 **MR. CARINGELLO:** I agree with pretty much
17 everything Don was saying. That, really, if the agency
18 comes and asks industry a specific question, there's
19 really no limit to what you can ask.

20 A more problematic approach would be saying
21 tell us everything about and have us -- I mean, because
22 we've got an immense number of files and new files
23 coming, but we've got historical records at multiple
24 archival sites that are hardcopies, and you can't do an
25 easy keyword search on, oh, what past data did we find

1 out about this material, you know, in the 1930s. Because
2 it's still -- you know, a lot of those tests are still
3 very relevant.

4 So, you know, the more targeted the questions,
5 the better off we are.

6 I know I've had a number of discussions with
7 the agency and found them to be fruitful for myself, and
8 I think they found them helpful at the time, and at
9 various points of the process. And I know other members
10 of industry have said the same, that DTSC is very open
11 and transparent at talking to people. And that should be
12 encouraged.

13 Because the more dialogue there is, the more
14 mutual understanding there is and I think things are more
15 productive.

16 So, I would say don't hesitate to ask anything.
17 And I like what Don was saying, well, with the trade
18 associations you can make a lot of information available
19 that can really be broken down into useful bits that are
20 more understandable. I mean, they can not only take our
21 information and aggregate it, and make it anonymous, but
22 we can supply it down to a very discrete level, like
23 here's how much we sold in the State of California.

24 And really start to get you data that's not
25 very region-specific outside of California. Because the

1 last thing you want to do is say, oh, we talked to CSPA
2 and we know there's this chemical and this type of
3 consumer product. Well, it turns out that really only
4 people, you know, in Florida like that. People in
5 California hate it because of whatever reason, so it
6 doesn't get sold out here.

7 So, you know, looking for information that's
8 specifically of value.

9 What is really important to industry is
10 protecting our confidential information. We do consider
11 our sales volumes, our exact formulations, things like
12 that, we consider that confidential.

13 You know, we don't want our competitors to have
14 our formulations. So, making sure that if we have a
15 conversation, either individually, or as groups that that
16 information is held confidential is essential.

17 And I will give the opposite answer Don did,
18 when Kelly said have bad things happened when you shared?
19 Not with DTSC, but with other agencies and other groups
20 we have had our confidential information inadvertently
21 given to our competitor.

22 And so, there's a lot of sensitivity on our
23 part and other members of industry that it's very easy,
24 especially nowadays, when things are accumulated
25 electronically, that flip the wrong switch and off goes

1 all our stuff to someone else.

2 So, make sure that as you get that cooperation
3 that you have the safeguards in place that people are
4 confident that they're sharing.

5 **MS. MORAN:** So, Meredith, did you want to jump
6 in here?

7 **MS. WILLIAMS:** Just to clarify a question. In
8 the bad scenarios, were they electronically based or were
9 they paper based, or could you say anything more?

10 **MR. CARINGELLO:** One was paper based, one was
11 electronic. So, both cases were.

12 **MS. MORAN:** Okay, I think Don wants to answer
13 this question, too, so I'll let you go ahead.

14 **MR. VERSTEEG:** Yeah, Mike just reminded me of a
15 case that we had where electronic information was
16 provided into a database and it was required that we
17 comply with the database requirements. They queried the
18 database and wanted to inform us of some issues that they
19 found with some ingredients, and they actually sent us
20 some data from another company, and thought it was from
21 TNG. So, data from another company was shared with us on
22 their ingredients.

23 So, that happened. You know, you can imagine
24 some data entry person, whether it's at the company that
25 entered the data, or somewhere down the line, picking the

1 wrong box. And then when they queried the system and
2 sent it out, it came to us.

3 **MS. MORAN:** All right, Bill, and I'm going to
4 pick on Helen pretty soon.

5 **MR. CARROLL:** So, that was kind of a bonus
6 then, huh, Don?

7 (Laughter)

8 **MR. CARROLL:** Well, okay, so of the industry
9 people here, I think I'm the one that's furthest upstream
10 in terms of materials that we make. So, in a way, it's a
11 very different question when you're talking to companies
12 that make products that almost directly go into the hands
13 of the consumer versus, you know, for us who are way up
14 the supply chain, maybe, in the commodity count.

15 So, I don't know that I've got the same sorts
16 of issues.

17 But it strikes me that for this particular
18 application, that for chemicals that are already on some
19 of the lists that we've talked about, you're not doing
20 your first work on this. There's a history of each of
21 these. So, you're not starting from scratch. There's a
22 relatively good-sized dossier on this to begin with.

23 If you're asking about where the materials are
24 used that, of course, is a different story. But if
25 you've already picked a product that's a priority

1 product, then you at least have a suspicion that it's
2 there.

3 So to me, it's more -- it's more a textural
4 discussion to say, tell me how this product is made?
5 Tell me about how this material functions? Give me a
6 little bit more background on how this works.

7 It's not the same kind of primary data that it
8 might be if you were starting from an unknown molecule
9 and trying to gather together toxic data.

10 It also matters where you're asking this in the
11 process. And if you remember, some of our earlier
12 incarnations, we had discussions about how you might go
13 about dealing with CBI in the context of an alternatives
14 assessment.

15 Then, we talked about the possibility of
16 creating a third party who, if there were CBI, that this
17 third party would sort of look at the data and assure the
18 State that the analysis that was done was, in fact,
19 legitimate based on the material provided, but that would
20 not allow for the CBI, itself, to be revealed.

21 So, you know, there are kind of referee ways of
22 getting at it, if it's that part of the process that
23 you're asking about.

24 So, I think that those are the things that
25 strike me as a person in industry, but I defer to the

1 people who are much closer to the consumer for the real,
2 you know, applicable parts that you're going to be closer
3 to doing.

4 **MS. MORAN:** Thank you, Bill, very much.

5 Ann and then I'm going to go to Helen.

6 **MS. BLAKE:** So, I just have a clarifying
7 question to Mike. You said that sales volume would be
8 CBI, but you also said you can provide California-
9 relevant sales data. So, I assume you mean the product
10 sales volume is CBI and the chemical you might be able to
11 provide in a relevant -- for impact for California?

12 **MR. CARINGELLO:** So, we don't want to release
13 our specific product sales information for a variety of
14 specifics. So, as Don was saying, you know, if we were
15 to merge all that data from a category together, as CSBA,
16 we could provide here is the total -- you know, here is
17 furniture polish and here's how much we sold in
18 California.

19 Certainly, if there was CBI in place, and DTSC
20 asked us for that information, just for ourselves, we
21 could provide it. But it is considered a confidential
22 piece of information, especially as a non-publicly held
23 company.

24 **MS. BLAKE:** Thank you.

25 **MS. MORAN:** Thank you. Helen, I'm going to

1 pick on you, now, and then come back to Art.

2 **MS. HOLDER:** Yeah, I'm going to agree with a
3 lot of the comments that have been made about being able
4 to generally share toxic assessments and the toxicology
5 work that we perform, assessments work that we have done.

6 It was very open about general efforts, you
7 know, to phase things out, the environment types of
8 things, those are easy out. Things like noise reduction
9 and things that may be relevant, you know.

10 (Indiscernible) -- for example, which would be relevant,
11 very straight forward to share.

12 As downstream users, a lot of times we can
13 actually share, in some ways, more information than maybe
14 one step back because we're kind of agnostic about some
15 of these questions, about what chemicals are used as like
16 additives, for example. What we care about is the final
17 material, not so much what the additive was, in some
18 cases.

19 And so, sometimes when my manager will ask me
20 for an assessment of flame retardants, I'll actually go
21 upstream, look at of the flame retardants that are coming
22 into the electronic industry, see how that's broken out
23 by component type, or product type. And then, that could
24 -- that's usually based on public information, off of
25 reports or an industry report. And that's, again,

1 something that can be shared, you know, relatively
2 straight forward because it's not like specific to a
3 product or specific, even, to a company. We can estimate
4 what the tonnage of bromide in flame retardants that are
5 used in electronics. These types of numbers are actually
6 available.

7 And it's sort of this combination of what's
8 being produced and where is it going. And so, if you
9 pick the right place, it's fine for us to talk about
10 those things. you know, the bromide flame retardant
11 companies might not be as forthcoming, but it's all
12 public knowledge or public in the trade.

13 So, that would probably be the only addition.
14 Yeah, total shipment volumes, we have to do that for
15 Canada and for you, anyway, so if it's something that's
16 in the products and if it's something that's reportable
17 in other jurisdictions, they're going to be very easy to
18 ask because we should be doing those calculations,
19 anyway.

20 **MS. MORAN:** All right, Art and then Ken will be
21 next.

22 **MR. FONG:** All right, thank you. I just want
23 to second what Don and Mike said about what types of data
24 it's easy to get. So, again, industry-wide data is
25 easier to get than company-specific data.

1 And answering questions that are very narrow
2 and specific, it's easier than just, you know, oh, what
3 about what-kinds-of-chemicals-are-you-using kind of
4 questions.

5 (Laughter)

6 **MR. FONG:** And another thing that's actually --
7 another type of question that, you know, I always respond
8 to is what the agency's going to do with the data, even
9 with CBI in place. So, that just makes it easier for me
10 to make the case to my senior management why we should be
11 sharing the data. Okay, just what are you doing with it.
12 Thank you.

13 **MS. MORAN:** Before I turn it over to Ken, this
14 is a good transition point. I think we've heard from all
15 our industry members and now I want to come back to
16 everybody else and ask the question.

17 What examples can you share with us of
18 successful experiences in getting information of the
19 kinds that DTSC is looking for, from the industry. Where
20 have you been successful? What were the keys to that
21 success? Can you give examples?

22 And I don't know if you're heading that
23 direction or not, Ken.

24 **MR. GEISER:** I'll try to tie that together.
25 Actually, I was going to talk about I've seen, you know,

1 some emerging initiatives within sectors. So, I think
2 back to the auto sector and how they started to share
3 chemical information across the big three and other
4 providers as a good example.

5 And most recently, the air space sector,
6 through the International Air Space Working Group, has
7 been conducting a pilot where they've identified, say, a
8 thousand chemicals of concern within their sector. And
9 they work with their suppliers to begin to collect data
10 on where those chemicals are showing up within those
11 particular components.

12 And they've also identified, to my
13 understanding, about ten chemicals, priority chemicals
14 that they'd like to work together on as a sector.

15 Another good example, I think, is the -- in
16 tying this to your project work plan would be, for
17 example, with clothing, I know that the Outdoor Industry
18 Association, and the Sustainable Apparel Coalition have
19 started to look at those issues within their own sector,
20 and they sort of are taking off.

21 So, to the extent that you can stimulate more
22 of that kind of activity around what you're doing from a
23 regulatory stand point, that's good.

24 Think about furniture, if you consult BOMA
25 (phonetic), or another group that works together on these

1 kinds of things.

2 And that applies to your question about
3 industry leaders focusing on where that leadership is
4 coming from, and helping to support that, and open up
5 opportunities to dialogue, to share, you know, practices
6 within those groups.

7 So, I'll just leave it there.

8 **MS. MORAN:** Okay, Meg?

9 **MS. SCHWARZMAN:** Just in response to your
10 question about working with industry and what kind of
11 information we've gotten, I would share a little bit
12 about the program that we've done for the last 30 years,
13 on the Berkeley campus, with our Greener Solutions
14 Program that we've done a bit in partnership with DTSC,
15 so I know that staff knows some about it.

16 But I'll just sort of abstract from it a little
17 bit to say, so, the basic structure of it, what everybody
18 follows, is that it's a graduate level class in which we
19 partner interdisciplinary teams of students to work
20 within industry, who is interested in looking for a safer
21 alternative to a chemical in a product that they make.

22 And so, we're obviously working with industry
23 leaders because they're looking for safer substitutes at
24 some level.

25 And our students are -- basically, they're not

1 getting to a bottle, you know, of the solution by the end
2 of the semester, but they're kind of defining an
3 opportunity space, in a way.

4 But if you're looking for an alternative to
5 this chemical, in this product, here are the directions
6 that we think you should look in and here are the ways
7 that we think you should evaluate the alternatives, both
8 from a technical stand point and from a health and
9 environmental impact stand point. So, providing
10 frameworks and directions.

11 And we've partnered with the Bioenergy
12 Institute (phonetic) to give the students the starting
13 places. So, we take the chemical that the industry is
14 interesting in eliminating, and we take it back to a
15 functional level, and then we query, in partnership with
16 the Institute, the biological literature to say -- so,
17 for example, last year we were working with Levi's on a
18 couple of applications of chemicals that basically do the
19 same thing, just cross-linking.

20 And so, we queried the biological literature
21 of, like where does the biology cross at, and gave those
22 as starting places to the students, who then started
23 looking at alternative ways of meeting that function in
24 the product.

25 So, we worked very closely with the industry

1 partners, and some of them are in this room. And for our
2 purposes, they're mainly a source of technical guidance.
3 What are the technical constraints that this product has
4 to meet?

5 If we're looking to actually just replace that
6 chemical, what's the system it's going into and what are
7 the technical constraints of that system?

8 If we're just looking to replace the function,
9 what are all the (indiscernible) of the function. So, we
10 might not be looking for development or chemical
11 replacement, we might be looking for a larger change in
12 material, or a system, but we need to understand the
13 system that it's functioning in and all of the technical
14 constraints.

15 So, it's a little bit different than the kind
16 of information, I think, that DTSC might be trying to get
17 industry's help with, but it's another piece of it which
18 is a little bit more in-depth on the kind of technical
19 application and the ways that the company meets that
20 application, and their own operating conditions. Which,
21 you know, to come up with a friendly revision to that
22 process really needs to meet their needs, right.

23 So, we work with them that way and I can say
24 that I think our success has really been working with
25 industry leaders, people who are looking and are very

1 curious at what solutions might be out there. And some
2 of them have been very generalizable.

3 So, one of our teams is working with -- working
4 on several preservatives. And the question has come from
5 a combination of a cleaning products company, so that's a
6 generation as a partner. And then a cosmetics company,
7 it's a beauty counter.

8 And then, recently, we've gotten inquiries from
9 other, you know, for method, and can we get involved,
10 too?

11 And so, I think there's great opportunity for
12 the kinds of things that Ken Geiser was talking about, of
13 when you start to investigate a potential alternative in
14 one space, there are many places that could go within
15 related industries that use that function.

16 And there are lots of -- at least my experience
17 so far, through this work, has been that there are lots
18 of potential partners to work on that.

19 And from there, it can also start to diffuse to
20 the people who don't understand the need for it as much,
21 yet. But, you know, get their product very well in the
22 industry very well.

23 **MS. MORAN:** Helen and then Ken.

24 **MS. HOLDER:** I wanted to kind of touch on this
25 industry thing. I think it's great to identify

1 (indiscernible) and want to -- and at the end it has to
2 be a level playing field.

3 Because it's really not right to penalize the
4 companies that are working very hard to do the right
5 thing and then turn around and (indiscernible) or
6 whatever, for whatever reason a company that doesn't want
7 to do these improvements and make these changes.

8 You know, you can benefit in the marketplace by
9 having these kinds of issues for solutions. Just not
10 have a regulatory burden of compliance.

11 I mean, I think this is one of the things, it's
12 part of why, you know, some companies are more forward in
13 advocating for regulation and for certain types of
14 engagement because it's not -- it's not all trying to
15 save the world. There's a part of wanting to save the
16 world and make it all good.

17 But then there's also let's make a level
18 playing field. You know, so if you're going to take a
19 regulatory action after seeing this, it really needs to
20 be applied to everybody and not just to the
21 (indiscernible) --

22 **MS. MORAN:** Ken?

23 **MR. GEISER:** Well, for people like myself, and
24 Ken, and Kelly, and Ann, and others who were around at
25 the beginning of the first intervention group, and I

1 think this conversation is apparently some of the
2 conversations we used to have.

3 Because the question there was from where we
4 have not even a voluntary capacity to work with, we
5 needed to know what chemicals were being used and what
6 was being emitted, or discharged. And we needed to know
7 it on a facility-wide basis, which is the most sensitive
8 place for that kind of information.

9 And there were many questions from that
10 experience. And I'll just say a few of my own. And that
11 is context matters a lot. Firms share information, but
12 they feel safe and they share information where they can
13 see the benefit for sharing it.

14 They share information where it's not going to
15 be -- they're not going to be held to it by a regulatory
16 or a compliance issue, where it would -- we used to do
17 these exercises and they were just sort of -- I was
18 pretty new at this game at that point and I didn't know
19 much about what was happening, and who to pull together
20 and isolate metal platers, or the the plastics
21 compounders, or whatever, who would be doing all this
22 chemical -- we didn't -- I didn't know how to do it. I
23 mean, I'm with the folks, but I didn't care.

24 And we really have made (indiscernible) --
25 around representatives from various firms come in. And

1 we'd say, well, so, we need to know about your waste, we
2 need to know about your chemicals and all.

3 And we would go out and get these big tables,
4 like long tables and roll out butcher paper down the
5 table. And, you know, these guys, they'd all just stand
6 around this table and go like, well, so, now explain to
7 us how it is you actually do the plating? Kind of what
8 are the steps and the paths, and what are you actually
9 doing?

10 And, you know, there would be some hesitancy
11 and then, eventually, one or two of them would start to
12 sketch on it and go, well, here's how we do this, and
13 here's the chemicals we use for this.

14 And then somebody else would jump in and say I
15 can't believe you do that, because that's so old. Here's
16 how we do it. And there would be this context in which
17 people would begin to share information.

18 You know, did it cross over into the trade
19 secrets? I don't know that it did. But there was at
20 least to the degree that people were voluntarily in a
21 comfortable place, talking about the kind of chemicals
22 and processes that they had, that they were working.

23 There was a context of understanding this isn't
24 a compliance-driven thing. This is we're -- I know, as
25 we used to say, the State, we're here to help, you know.

1 (Laughter)

2 **MR. GEISER:** You know, and it was a joke, but
3 it was also true. And so, given the context, I believe
4 that it was right. Ask what you need to ask and do it in
5 a way that feels comfortable, and safe, and the use of
6 that data's going to be for people's benefits.

7 **MS. MORAN:** All right, so I'm going to jump in,
8 briefly, before going to Julia. I've got a lot of
9 experience with smaller and mid-sized businesses, which
10 is sort of a different size class than yours. And that
11 was when I worked in local government, in these early
12 days.

13 And my experience with small businesses, if you
14 want to get in their place, they'll share, here's what
15 I'm using. Yeah, and why did you pick up the better
16 product, you know, it's always reasonable.

17 But I found that in mid-sized businesses
18 sometimes, more or less, a lot of times a lack of
19 knowledge. The thing for me, my experience in both of
20 those, is going to them is super important.

21 One of DTSC's problem histories is that they're
22 expecting everyone to kind of come to them. And so, you
23 want to have conversation with the largest businesses and
24 their industry associations, and you'll get a much more
25 real picture of the world if you can get out and I know

1 travel, now, is a problem. But getting out and getting
2 into some actual places, it's just incredibly informative
3 for some of these things. Just seeing what the
4 manufacturing's about and talking to the people there.

5 It's their setting and so that increases their
6 comfort level just because you're going to their place,
7 instead of them coming to your place. It just feels
8 really, really different.

9 In terms of industry associations, I've had
10 some positive and some less positive experiences. The
11 positive ones are exactly the ones that are being
12 described here about aggregating data and I agree that
13 that's a process that makes a lot of sense.

14 The less positive part of that, though, is
15 often industry associations don't have everyone who sells
16 their product in the State as a member. And sometimes
17 that's very significant, particularly if that's folks
18 overseas who have different principles for deciding
19 what's in their formulation.

20 So, you could have some fairly significant
21 differences in products.

22 I've also found that industry associations tend
23 to, because of the way it is to manage a nonprofit, their
24 representatives have to kind of focus on, always, common
25 denominator. So, whoever's the most afraid is the one

1 that's going to end up driving how much they're going to
2 be open with you, how well they're going to work with
3 you, what they're going to be able to tell you.

4 So, sometimes that's there, so I don't
5 recommend that to be the only way that DTSC approaches
6 this.

7 I have found that sometimes, particularly
8 industries that have chemical-formulated products,
9 everybody tests everybody else's products. And everyone
10 does that.

11 And people will often tell you, you should be
12 worried about this or that ingredient. And this is
13 another, again, if you go to conferences is people will
14 freeze. They start telling you about this or that
15 ingredient that you should be worried about.

16 And sometimes they're doing that for
17 competitive advantage, so you have to be careful how to
18 interpret that information. They're selling something
19 they think is going to get market shares or result.

20 But you can get information from businesses
21 about other ones and you've got to really think about how
22 to use that information and what that means.

23 But when you're trying to find out what
24 chemicals are in products that you might be worried
25 about, sometimes you're going to have to go out and have

1 some of those individual conversations, too, because the
2 industry association can have trouble talking to you
3 about a lot of them.

4 So, a little bit of negatives but, hopefully,
5 some positives there.

6 And I want to go to Julia, and then Bill, and
7 Becky.

8 **MS. QUINT:** I had a negative experience to
9 share, but I think I won't share it. I think, because
10 it's a different context.

11 In occupational health, it's very difficult to
12 find out where chemicals are used and so several years
13 ago, many years -- well, 2002, we decided to try to --
14 this is a program that issues alerts for emerging
15 hazards, nonregulatory, in the Department of Public
16 Health, now.

17 So, we have -- there are no databases that
18 provide this information. We did a study with UC
19 Berkeley to look at databases in the State, nationally,
20 to try to find out if when you queried the data on a
21 chemical would it tell you where the chemical was used.
22 Because if it isn't used in California, we're not
23 interested.

24 And we were also interested in being able to
25 buy information at the place where it was used, as

1 opposed to sending out information just randomly.

2 So, we were very unsuccessful when we wrote
3 manufacturers, asking them about their California
4 customers. We got -- I think we sent out 96 inquiries,
5 we got six responses. So, people were not able to do
6 this, were not willing to do it voluntarily.

7 So, switch forward to 2014, a piece of
8 legislation was just passed which will require
9 manufacturers of certain chemicals, when they are queried
10 by the department, this program, for uses, they have to
11 provide the information.

12 And, you know, at first there was a lot of
13 opposition to it. But then, I think just talking,
14 working, the Legislator working with the industry
15 opposition, we were able to explain things in a way that
16 made sense to them enough that there was not formal
17 opposition to the piece of legislation.

18 But this was a lot of negotiation and I mean,
19 you know, and give and take on both sides. And, you
20 know, that the information was not going to be used for a
21 purpose other than educating and informing, and that sort
22 of thing.

23 So, it took a long time and that was the
24 experience. And I think it is very context-dependent,
25 but it's also, you know, trust that you're not going to

1 be penalized, you know, disproportionately, if you work
2 with the State government.

3 **MS. MORAN:** Thank you.

4 Bill?

5 **MR. CARROLL:** Well, I hope I haven't totally
6 misinterpreted this discussion, but I think to some
7 extent what we're talking about here, we've gotten a bit
8 off the topic.

9 And let me tell you why I think so. Back in
10 the days when I was doing this stuff, I always felt that
11 if you could figure out what was in my product with an
12 afternoon and a sophomore in chemistry, then there was no
13 point in my calling it confidential business information.

14 And to some extent, when I look at the product
15 work plan here, the kinds of things that you're talking
16 about are about at that level of analytical chemistry.
17 There's a fair amount of this that's going to be pretty
18 knowable.

19 I mean, I can extract the material and I'll
20 tell you if there's a -- and it's just not that difficult
21 of an analytical chemistry thing to do.

22 Now, to some extent, even though you might know
23 the chemicals that are in there, process variables can
24 make a difference. How I would put it together is a
25 different story and I wouldn't talk about that.

1 But if you go to the lab and extract it, and
2 shoot it with GC and, you know, get an answer, there's no
3 point in like a waiver.

4 Because I looked for things in the work plan
5 and a lot of these things are well known, they're easily
6 analyzed for, they're not really going to be secrets.

7 So, from that perspective, I don't think
8 there's much -- there's much at stake here. You're
9 talking about, you know, whether someone would tell you
10 whether this is in a product. You can know that.

11 In a way, what's the more interesting question,
12 and we haven't talked about, is what's a meaningful
13 market signal in these contexts? And there are a bunch
14 of market signals.

15 You know, simply, you know, being named, as we
16 talked earlier, or suggesting being named, that's a
17 signal to the market. And there are offensive signals
18 and defensive signals.

19 If you happen to be the chemical of concern and
20 the product of concern, that probably suggested a
21 defensive approach.

22 On the other hand, you have competitors and
23 they may well come forward and start taking the offense
24 from that suggestion.

25 There's another market signal and we talked

1 about this the last time, when you're named, does that
2 mean that everybody who's bought this in the past has
3 bought an unsafe product? The answer is no. You're
4 asking a different question, but that's kind of a market
5 signal that you can be sending, as well.

6 So, there's all kinds of things that happen
7 simply when you have made the suggestion that you're
8 interested in this. Which is one of the reasons why I
9 think you can have some of those discussions, you know,
10 on a low level basis beforehand, get your information,
11 understand the product and process before making the
12 final decision because there are consequences for that.
13 There are consequences for everyone when you do.

14 So, I'm sorry for sort of a wide-ranging
15 intervention here, but these are all sort of the topics
16 that I really wanted to touch on, and maybe offer other
17 perspectives on.

18 **MS. MORAN:** All right, Becky and then Ken, and
19 then we may take a break.

20 **MS. SUTTON:** I just wanted to echo a few of
21 Kelly's cautions about solutions. And in particular,
22 I've had experiences where I've aggregated industry
23 information and it has had a few key missing ingredients.
24 And so, we just want to always double check everything we
25 get, I guess.

1 I mentioned this morning, also (indiscernible)
2 -- having certification from a source of information for
3 what's going on in the industry.

4 And then, also wanted to bring up keeping in
5 mind the advocacy groups for the State can sometimes get
6 a company to disclose ingredients, whether in a
7 cooperative/collaborative spirit or more aggressively.

8 **MS. MORAN:** Thank you.

9 I've got a Ken and Carl, check with you before
10 we go to the break.

11 **MR. ZARKER:** So, yeah, just to pick up on where
12 Bill left off on market signals, I think DTSC does a lot
13 of this, but just a couple of ideas to consider.

14 As you know, the Interstate Commerce
15 Clearinghouse Guide has an extensive section in there on
16 stakeholder engagement. I think, as you know, I think
17 putting off, at some point, the enforcement guidelines,
18 or what your strategy is going to be in terms of a level
19 playing is important to have a physical document that
20 talks about how you proceed through a violation and
21 notice, that kind of thing.

22 We've found that case studies are a really good
23 example to share like stories. It shows how
24 organizations have actually done this. And just putting
25 those simple case studies out there shows organizations

1 that it can be done and this is how you can do it.
2 Particularly, if you can find small companies that have
3 taken on these kinds of projects and maybe reformulated
4 or come up with a leading product.

5 State purchasing, obviously, think about
6 leveraging the work you're doing into State procurement.

7 And then my only other kind of out-of-the box
8 idea would be to think about things like the Global
9 Reporting Initiative, there's a bit of a foothold there
10 to promote this kind of thing within sustainability
11 reporting.

12 And a lot of companies, now, are moving towards
13 GRI's kind of standard for sustainability reporting. And
14 getting that message into those reports I think is
15 important.

16 **MS. MORAN:** Okay, thank you, Ken.

17 Cal, do you want to weigh in here?

18 **MS. BAIER-ANDERSON:** No, I have no comments.

19 **MS. MORAN:** Thanks. Sorry to put you on the
20 spot there.

21 So, we're going to take about a ten-minute
22 break. And when we come back, I'd like to circle back
23 around to a few things we haven't touched on very much.
24 One of those is this meaningful market signal question.
25 And particularly, the business folks that are here, if

1 you can think about that for a couples and see if you
2 have anything to add for DTSC, in helping advise them in
3 that area.

4 I'm also really interested in how DTSC can
5 entice businesses -- or keep telling me this, how we can
6 entice businesses to join up and share information, and
7 so forth.

8 What I've heard in terms of examples and my
9 experiences were largely voluntary, and something I
10 actually tremendously admire as a result of that.

11 One of the problems with those programs is DTSC
12 is working to get information because it's thinking about
13 regulating. So, that means it's a little more negative
14 right from the get go. It's perhaps not as negative as
15 if it's data, calling it in, and we're going to do that
16 to you. But, I mean, maybe that's part of the enticement
17 is the how of it. But that's not normally how you try to
18 work with people proactively.

19 So, we'd like to see if we can think a little
20 bit more about the approach, how can DTSC interest folks
21 in working with them, without giving away the store in
22 terms of promising to not do anything.

23 I'd also like to come back and ask questions
24 about trade secrets and if there's any other ways of
25 handling them, other than the industry association and

1 private consultant method that we talked about, because
2 that is going to be an issue for information management
3 for DTSC.

4 And, in fact, I don't know if DTSC will want to
5 comment on that, now?

6 And then, finally, we have a question here
7 about suggesting other stakeholders with whom DTSC might
8 wish to engage to gather information, to collect
9 ecological impacts of chemicals as transport. So, these
10 are all things we'll come back and hit on those specific
11 ones.

12 And then, somewhere between 3:30 and 4:00,
13 we're going to change topics and have a briefing from
14 Helen and Julia about the National Academy of Sciences'
15 Alternatives Assessments Report, and before we wrap up
16 our day today.

17 So, see you back, it's 2:37, so 2:47.

18 (Off the record.)

19 **MS. MORAN:** All right, I'm calling this meeting
20 back to order. So, let's bring the conversation back to
21 order. We've got a little less than an hour to cover
22 some more topics before our presentation.

23 And we were tackling this meaningful market
24 signal question and just would like to see if there's
25 follow-up conversation on that. So, that, and I'd really

1 like to include in that part of the conversation how can
2 DTSC entice businesses to share information in this
3 context.

4 So, Bill made some provocative comments in that
5 regard.

6 Who would like to start? I'm going to pick on
7 our industry folks again. I think Helen's getting ready
8 to say something.

9 **MS. HOLDER:** So, I think in some ways I'll
10 speak for all the industries, but I don't know how much -
11 - but I would second the idea of what Ken had mentioned
12 about GPP, Green Public Procurement, always sends a
13 strong signal. GRI, looking at GRI always sends a strong
14 signal.

15 Within our industry, I would say the more
16 effective signals are specific. And that may not be true
17 for all industries, but for us being specific and
18 thorough tend to work a little bit better than throwing
19 in that wide because you tend to get a lot of resistance
20 when you throw it in that wide. Whereas, if you have a
21 very specific case that has good data supporting it, you
22 tend to just get a lot less resistance.

23 But if you get a company to come like, yeah,
24 you're right about that, we can probably do better than
25 that or we have an alternative to that.

1 And I think my own experience has been when
2 there's a clear link between an observable effect and the
3 substance, you know, with that -- I know it's not always
4 that simple, but when you've got that, that's the most
5 powerful case. When you can say if we do something about
6 this substance, we expect this bad thing that's happening
7 to stop.

8 Again, it's not always that clear, but when
9 you've got those, you should proceed with those.

10 This question of how to get companies to work
11 together, how to entice companies, this was an
12 interesting one for me. And I was thinking about what
13 would -- what would make us, in our industry, more
14 willing to do an alternatives assessment.

15 And I said, you know, if we could basically
16 avoid the actionable priority product process that would
17 be very enticing.

18 And we talked about this in some of the code,
19 pre-regulatory, many years ago, versions, offerings, but
20 good offerings to say if we did an alternatives
21 assessment on something, let's just say a chemical that
22 was going -- that was under scrutiny in a different
23 jurisdiction, and our industry did an assessment of the
24 alternatives, that if that kept us from having to go
25 through another round of restrictions in this

1 jurisdiction, I think that would be a big enticement. To
2 not have to deal with like two different jurisdictions,
3 maybe taking two different thresholds or maximum
4 concentration values, that would be very appealing to us.

5 And we actually thought about that, ourselves,
6 again in the earlier days, of if we, say, did a DECA
7 (phonetic) -- the DECA pilot that we ended up doing was -
8 - you know, would that be doing it sort of outside of the
9 process, would that kind of get us out of the formal
10 process.

11 That's, I think -- it has its downsides, too,
12 but I think in terms of being a market signal, of being
13 an appealing thing to companies is to get out of having
14 to do the full regulatory burden of the assessment.

15 Or I should say, you can even do the
16 assessment, but not have to go through the process.

17 **MR. GEISER:** I've got to say I love it. The
18 message is, if you don't want to be involved in the
19 California consumer product safety, do alternative
20 assessments. Do it and then we won't pick on you with
21 your product.

22 **MS. HOLDER:** Kind of, right, do it first.

23 **MS. BAIER-ANDERSON:** Can you please speak into
24 the microphone?

25 **MR. GEISER:** Sorry. It was just a funny,

1 that's all.

2 **MS. MORAN:** Art, you've been thinking a lot
3 about these questions. Are you comfortable commenting on
4 them right now or would you like to wait?

5 **MR. FONG:** Could you come back to me, please?
6 I was kind of thrown off my train of thought by Professor
7 Malloy placing this apple in front of me and I just don't
8 want --

9 (Laughter)

10 **MS. MORAN:** Oh, that's okay, Don's not shy.

11 **MR. VERSTEEG:** Okay, this may be a little bit
12 off topic and not germane, but I'd like to talk about it,
13 anyway.

14 Recently, two retailers, in early October, had
15 a meeting where they called in a whole bunch of
16 stakeholders, their suppliers, so the ECJs and the J&Js,
17 and the L'Oreal, and the Proctors of the world had a
18 discussion about chemicals and products, and what needs
19 to be done.

20 And so, in that realm, all FDA-regulated
21 products had their ingredients listed, with the exception
22 of fragrances, and flavors, and many companies, notably
23 SEJ and Proctor and Gamble, eventually are going to be
24 listing all of their fragrances, and flavor ingredients
25 on them.

1 So, if you're thinking FDA-regulated products,
2 those lists you can get for TOSCA-regulated products.
3 Many companies also disclose those, too.

4 So, at least in the formulated products arena
5 you should be able to find those materials or find those
6 ingredients.

7 So, this retailer meeting, they talked about,
8 you know, how to progress, you know, safer chemicals,
9 essentially. And one of the big ideas was to move and
10 get suppliers together to work on alternatives programs.

11 And so, they have a task force that's going to
12 go off and start doing that, and so you may want to track
13 that program. And I can give you more information on
14 that.

15 But it struck me that that's really almost the
16 wrong place to start.

17 And in a perfect world what I would do,
18 recognizing it's not a perfect world, is I would have a
19 smaller list of chemicals and I would put that out there
20 and say here's where we're really focusing. And then I
21 would go to the suppliers, like Bill, and say -- because
22 we develop some new chemicals, ourselves, but typically
23 we've got, you know, company after company after company
24 of suppliers to us saying we've got a new emulsifier,
25 we've got a new (indiscernible) -- we've got a new

1 preservative, we've got a new fragrance, we've got a new
2 (indiscernible) -- and we've got a new builder.

3 And, you know, we take that information in and
4 we try to fit it where we have problems. And, obviously,
5 the chemicals that are on our narrow list of we want to
6 replace these for whatever reason, those are the ones
7 where we're really hungry for information.

8 And we'll even go out to suppliers and say,
9 hey, we're looking for a new non-sulfated surfactant that
10 provides grease benefit in curly hair, for a shampoo.
11 And they'll come forward and say, oh, we've got this
12 whole new class of, you know, yada-yada, for you to think
13 about.

14 So, thank you.

15 **MR. FONG:** Well, you know, when I was thinking
16 about enticing industry to provide information or be more
17 forthcoming with information, I actually had a problem in
18 terms of even though Kelly and I have been working with
19 DTSC for the last month and a half, trying to come up
20 with the questions that you see in front of you, what
21 questions -- what information would be helpful for DTSC?

22 I think, you know, industry's going to be able
23 to give you a much better answer if you can tell us what
24 types of information you're looking for.

25 So, things like, you know, chemical contents,

1 Bill made a really excellent point. Most of the
2 chemicals that's on the list right now, the chemistry's
3 actually very straight forward and there's no reason why
4 you can't even figure that out.

5 So, if you can just give us a sense of what
6 types of information would be useful, I think industry
7 maybe would come up with better answers.

8 **MS. MORAN:** Meredith?

9 **MS. WILLIAMS:** Yeah, I've been thinking about
10 that because so much of the discussion was about
11 ingredient disclosure. And I think there is tremendous
12 other types of information, whether that is exposure
13 levels, toxicological data, safety reporting, lifecycle
14 assessment in terms of particular lifecycle costs.

15 I'm sure that many companies, now, are doing
16 full lifecycle assessments. You know, understanding
17 where the lifecycle critical points are, those kinds of
18 things.

19 So, we do want to think broader than just the
20 ingredient disclosure when we ask, when we engage in
21 discussion depending, of course, on the product.

22 **MR. FONG:** So, are there situations in which
23 DTSC can point to a specific case situation or case
24 studies in which they've used the data and not abused the
25 data?

1 (Laughter)

2 **MR. CARINGELLO:** Scooting away from Karl there.

3 **MR. FONG:** Well, I'm not actually smart enough
4 to give you a definition. However, when I run into
5 problems like, we'll call Bill Carroll. But he's here
6 today, I don't have to do that so --

7 (Laughter)

8 **MS. MORAN:** Go ahead, either of you, either
9 Karl or Bill.

10 **MR. PALMER:** Do I have any examples where DTSC
11 hasn't abused the data? No, I don't. But I'm not sure I
12 have --

13 (Laughter)

14 **MR. PALMER:** I guess I would say, Art that, you
15 know, we try pretty hard to be transparent about what we
16 do. And so, if there's been an abusive of data I would
17 say, one, it's not been intentional. And two, it's from
18 lack of data or understanding that maybe give people the
19 wrong impression. I don't think we --

20 **MR. FONG:** No, actually, I was just kidding
21 about that.

22 **MR. PALMER:** Yeah, I know but --

23 (Laughter)

24 **MR. PALMER:** But I think there's a serious
25 point there because some of the stakeholders we talk to,

1 when we come out with information, you know, maybe
2 because they don't understand the context of what we're
3 trying to ask or understand, we give the wrong message.

4 And so, it is important, context is really
5 important. And the questions we need to ask maybe need
6 to be very specific in the right context for us to make
7 decisions and to gain understanding.

8 Because I think, as you've pointed out, it's
9 easy if you know the chemical, we can go find the hazard
10 traits of chemicals. I mean, that's not a big deal.

11 But what we do with that information and when
12 we start looking at exposure scenarios or potential
13 impacts to certain receptors, that's where we need more
14 information, probably.

15 And when we start looking at data gaps, where
16 there's not information.

17 **MR. FONG:** Yeah, I think, again, if you can
18 have case studies so you can demonstrate situations where
19 you've made good use of the data to generate a work
20 product that did not punish industry but, in fact, was
21 beneficial, I think that would go a long way towards
22 getting industry buy-in in terms of providing information
23 that you're looking for.

24 **MS. MORAN:** So, Art, for example are you saying
25 that examples that DTSC gave us this morning about

1 changing their definitions, and clarifying them, and in
2 some cases narrowing them, of the proposed -- the first
3 three priority products, is that an example that you
4 think would meet that?

5 **MR. FONG:** Yeah. I mean, that just -- again,
6 specific information is always better than general
7 information so, yes.

8 **MS. MORAN:** And, Bill, you're looking to weigh
9 in on this so --

10 **MR. CARROLL:** Well, I kind of do and I wanted
11 to take off a little bit on what Don had to say because
12 he's absolutely right.

13 And, you know, people down the supply chain,
14 like Don, who have specific requests about materials that
15 they would like to replace, for whatever reason, and you
16 can think of a million reasons why that is, but they
17 always push that back upstream to the supplier.

18 So, the impression that I would not like people
19 to take away is that somehow industry's absolutely
20 stagnant, that none of this work goes on, nobody
21 innovates to try to address these.

22 And we do, because of exactly those kinds of
23 requests. It doesn't have to be us. We're way further
24 up in terms of the commodity material.

25 But the people who supply materials to you, and

1 that you formulate from these products, that goes on all
2 the time.

3 Why you don't get different products, there can
4 be a number of different reasons for that. Sometimes you
5 can make a better product, but you can't make it at a
6 cost that the customer can afford, at least not yet, or
7 perhaps not at that scale.

8 Sometimes you, as a manufacturer, make other
9 things that you don't have the pots and pans to make, you
10 know, exactly what would be the right material for that
11 application. There would have to be another supplier who
12 would do it, who does have the right engineering
13 technology.

14 But I think a lot of times the discussion about
15 green chemistry seems to go to, geez, nobody innovates.
16 And that's not true, they do. But it's not easy and
17 there are barriers that are sometimes very mundane
18 barriers, like it costs a lot to do this.

19 Or, for that matter, I'm working in a space
20 that's very well explored and there aren't a lot of
21 alternatives that no one's ever thought of before in this
22 particular surfactant space that haven't already been
23 tried and found to be somewhat deficient. And that's a
24 much more difficult innovation problem than it might
25 appear at the outset.

1 Don, I don't know, this is -- you're proceeding
2 on that, does that plan jump with your knowledge?

3 **MR. VERSTEEG:** Yeah, absolutely. Yes.

4 **MS. MORAN:** All right, I've got Tim and then
5 Ann.

6 **MR. MALLOY:** Thank you. Two points, one --
7 well, three. It's been really interesting hearing the
8 views from all the folks from industry. I think it's
9 great to kind of collect that. And I've learned a lot
10 from the conversation.

11 The other two points, one is I have trouble
12 processing these questions because it seems to me that
13 what underlies this is information for what purpose?

14 So, Art kind of helped it along by saying,
15 well, what specific information?

16 But then, Meredith, your answer kind of triggered
17 in my mind also this question of for what purpose? And
18 you said lifecycle assessments, exposure information,
19 concentrations and so on, and so forth.

20 And that got me thinking, we're talking about
21 in terms of implementing the priority product work plan
22 and it seems to me, to identify the information you want
23 to have, you probably need to articulate in somewhat more
24 fullness the structure of the prioritization process.
25 How are you going to make judgments under it? And then

1 you can figure out what information is really important
2 to get and what is less important to get.

3 And I think that would help along the lines of
4 what some of the industry folks have said, where they
5 say, well, tell us why you want it? What are you going
6 to use it for?

7 So, having something that says, well, here's
8 generally how we're going to be making decisions, that's
9 why this is important. That would help.

10 The second point is I was thinking about some
11 of the work that I -- you know, our group and some other
12 of our colleagues in the business school, and otherwise,
13 use for collecting information from industry when we're
14 doing projects.

15 And what struck me is there's this kind of
16 moving back and forth in the conversation between whether
17 what you're talking about is information gathering, like
18 kind of research to get data, and whether you're talking
19 about negotiation as part of this interaction.

20 And so, you saw it a little bit in Helen's
21 comments where there the notion of exchanging information
22 takes the form of a negotiation or a dynamic, as opposed
23 to you going out to get information which you're then
24 going to put into an administrative process.

25 And I don't really have a comment about that.

1 My guess is it's probably a little bit of both.

2 But if what you're interested in is primarily
3 information gathering, which then would support an
4 administrative process, which then would be defensible
5 from a (indiscernible) -- and all that.

6 One of the things that we tend to do, depending
7 on the industry size and structure would be a series of
8 semi-structured interviews that you go out and do with
9 folks, who you can identify in a variety of means, to
10 kind of get your broader sense of the sector and the
11 things that matter. Learn the vocabulary. Identify who
12 the players are.

13 And then, if it's a big enough sector, what we
14 then do is generate a survey that could be administered
15 that is -- that captures a lot of that. But then you can
16 get that information and then maybe even, to some extent,
17 to the extent it's relevant quantify some of it. You can
18 still get qualitative information through these surveys.

19 And then you take the survey and you pilot it
20 with a few people from the industry to make sure that it
21 will be meaningful, and understandable, and so on and so
22 forth. And then you do the survey.

23 And sometimes, if you've got a small group, you
24 don't need to do a survey, just a set of really well-
25 designed semi-structured interviews would be enough,

1 followed by document -- you know, getting document.
2 Because one of the things you want to do is you want to
3 do those interviews and then get documentation, and then
4 kind of triangulate your, you know, different interviews
5 with documentation to kind of legitimate, to make sure
6 you've validated the information.

7 Because, you know, in a sense you've got the
8 people at the table from industry are people who care and
9 are involved in this, and take it seriously.

10 My past life, at EPA, and in private practice
11 tells me that not everybody is as kind of forthcoming
12 with their information, and many people are very
13 strategic, especially in a regulatory setting.

14 So, I think when you're collecting information
15 you have to kind of build that into it. And part of
16 doing that may be to have a way of validating the
17 information you get and kind of sort out when your people
18 are acting strategically and when people are actually
19 provided kind of their unblemished viewpoints.

20 **MS. MORAN:** Thank you, Tim. I think those are
21 some nice comments on the structured survey and sort of
22 approaches.

23 But before that you were making some remarks
24 about information. And, Karl, we'll work on that just a
25 little bit before we go to Ann.

1 **MR. PALMER:** Yeah, thanks Kelly. I think what
2 I want to do is just step back a little bit and
3 highlight, as Kelly pointed out, the two main criteria in
4 deciding a priority product is one, the chemicals in the
5 product and, two, that focus on some determination that
6 that chemical exposure contributes to some potential
7 significant adverse impact.

8 And that's where the hard part is, in many
9 respects is, wrapping around what -- how can we collect
10 data and go through this process? Yeah, this is a
11 significant potential adverse impact, that's where the
12 hard part is.

13 And so, sometimes we get ahead of ourselves
14 looking towards alternatives and making assumptions, and
15 we're not there yet. I mean, so I just want to bring
16 people back a little bit to that perspective.

17 What we struggle with often is, even once we
18 find information and data, how do -- what, you know,
19 other tools or models, or even if it's common sense, what
20 do we put that through to gauge and to share, in a
21 transparent manner with everyone that we've made this
22 determination and this is why we think this is of
23 potential significance.

24 **MS. MORAN:** All right, with that preface, Ann.

25 **MS. BLAKE:** I'm hoping I'm not reiterating but,

1 hopefully, reframing a little bit what I've heard.

2 Tim laid out a fairly detailed process about
3 establishing a landscape and I had two thoughts. One was
4 abstracted from an offline conversation with Mike, so you
5 can kick me if I mischaracterize our conversation.

6 But the idea being that this could be -- it is,
7 as you mentioned earlier, it's product and sector
8 specific. So, to some extent it's not going to be
9 generalizable. And it's going to be an iterative
10 process.

11 And this is particularly around the CBI
12 information because it took a couple of back and forth
13 with Mike for me to figure out what will be CBI. And
14 it's very often something that we're, as a former
15 regulator, I'll put that hat back on for a moment, that
16 it may not be the information that we're concerned about.

17 So, just to go back and forth to figure out
18 exactly what is CBI. So, I was asking Mike, for example,
19 you know, I could find out for you, anyway, for a
20 regulatory agency you could find out how much exported
21 (indiscernible) -- sells in California.

22 You may not be able to say the relative number,
23 but that isn't really what you're interested in because
24 you're using that as a proxy for exposure for a
25 particular chemical concern, potentially.

1 So, just to say that that's -- it's going to be
2 an iterative process and it may -- you may involve, you
3 know, a sort of semi-structured survey, such as Tim
4 suggests.

5 And then, I'd like to point out, kind of back
6 to our running joke about DTSC abusing information, but
7 models. Models of data columns that you have within your
8 agency, historically, the SB14 data call in.

9 That's another one where you went out, this is
10 a pollution prevention reporting process, where you went
11 out and you looked at the landscape of an industry that
12 you were interested in.

13 And it's actually a lot like what Tim described
14 about, how you talk about -- how you evaluate industry.

15 And then you came up with specific, detailed
16 questions that were somewhat generalizable because you
17 wanted to get best practices in this case, best practices
18 for pollution prevention from each sector. And so,
19 you're teasing that out.

20 And then you went back out to the industry and
21 saying can you answer these specific questions that are
22 now targeted to your industry, but also has this
23 overarching goal of improving pollution prevention
24 practices.

25 So, build on what you've already got. You've

1 got a lot of experience in the department on SB14. And
2 so, back in some of the historical documents around that,
3 and that might be an interesting way to structure some of
4 the landscape evaluation.

5 **MS. MORAN:** Okay, so we've got Mike, Helen,
6 Bill. And then, Cal, I'll check in with you after Bill
7 to see if you want to say something. Bill, not.

8 Okay, Mike, Helen, and then Cal, I'll check in
9 with you.

10 **MR. CARINGELLO:** Okay, I just want to kind of
11 pester the whole concept of meaningful market signal a
12 little bit. You know, to me a market signal was given to
13 at least the big players when the Act, itself, was
14 passed. It caught our attention right away, started
15 getting tons of information and calls.

16 So, you really have to differentiate when
17 you're looking at a market signal because then I think a
18 lot of other industry, when that first priority products
19 list came out you caught a whole different set of people.
20 There was a very clear market signal and it was, perhaps,
21 a pleasant market signal to those industries captured.

22 And so, you know, the whole is it meaningful
23 doesn't necessarily mean it has to be less pleasant.
24 Because I think the work plan then caught another whole
25 new subset of folks.

1 So, that market signal does depend very much on
2 the target. You know, the large industry is equipped and
3 knows to look for these things. Sometimes other
4 industries or more specific trades don't look.

5 And so, you know, we've heard a lot of
6 comments, if you go through what's on the website, and I
7 know you guys have. But the comments of how were we even
8 supposed to know we were covered by this? We didn't even
9 know this regulation existed.

10 And so, I think it's not a fault of DTSC. I
11 mean, I think you hear the same things from some
12 generators, don't know how long that's been on the books.

13 But it's a very complex question you're asking
14 because we can't even really get to what is meaningful
15 until we get to what is the market signal that's going to
16 get everyone's attention.

17 I think you've done a great job with the
18 workshops, you're getting a lot of attention with those.

19 Meredith is going to keynote at a conference
20 this week. I think there will be more attention that's
21 gained that way.

22 But there's a limit to how much outreach the
23 agency can do and I will stop -- I'll think about, you
24 know, ideas. But I think, you know, it's something that
25 needs to really be brainstormed, how do you reach

1 different audiences?

2 You know, you've done an excellent job reaching
3 certain audiences. And it's those maybe small ones, and
4 some of the medium that, you know, they see it and it
5 becomes a source of panic rather than, okay, there is a
6 market signal, we have to start to look at this.

7 Instead of, you know, thinking it's like Calvin
8 and Hobbs and, you know, the boulder is rolling down to
9 the snowman down below and, you know, we're all going to
10 be crushed. So, I think that's where we need to get.

11 **MS. MORAN:** I'm so glad I'm not the only one
12 who still reads Calvin and Hobbs.

13 (Laughter)

14 **MS. MORAN:** Helen.

15 **MS. HOLDER:** I just wanted to follow up on
16 Tim's idea of the semi-structured interviews. This is a
17 very common market research approach and, you know,
18 consultancies can be hired to do it. You know, you could
19 do it yourself, but if resources are constrained, then it
20 may be another line in your budget that is less
21 constrained.

22 You definitely can get knowledgeable
23 consultancies to do it. You know, we do that and we've
24 had others. Yeah, I've been a participant, you know, or
25 an interviewee in some of the internal issues. So, just

1 food for thought that you don't have to do it all
2 yourself, you can actually have others do it for you.

3 **MS. MORAN:** So, Cal, we'd like to offer you the
4 opportunity to break into the conversation here, if you
5 want to weigh in on the market signal or the enticing the
6 industry to share information, not just chemical
7 composition, but toxicity, or other information.

8 And in addition, it's probably about time to
9 turn the conversation towards suggesting other
10 stakeholders with whom DTSC might engage to gather
11 information. And, specifically, they had questions about
12 ecological effects and failing transport.

13 So, if you want to weigh in on any of those,
14 please do.

15 **MS. BAIER-ANDERSON:** Okay. I just have a few
16 kind of small comments. First, I want to support Ann's
17 comment on the information that's needed and not just
18 specific, and that some type of iteration and dialogue is
19 needed.

20 I think that's -- that resonates with our
21 experience and it helps to reach out and have that
22 dialogue.

23 The other thing I wanted to point out was we
24 engage with a lot of very small companies. And just as a
25 reminder that, you know, some of those companies actually

1 don't know all the chemicals that they are working with.
2 So, they're buying mixtures or substances that are
3 mixtures from a supplier. And that supplier maintains a
4 list of ingredients as confidential business information.

5 So, you know, I think we've got these types of
6 issues with the very small companies maybe not knowing,
7 not having the knowledge of the supply chain. And I
8 think we have to keep that in our minds. That's it for
9 now.

10 **MS. MORAN:** Thanks Cal.

11 I've got Meg and Mike. And again, I want to
12 open the conversation on the other stakeholders and what
13 might be possible from them.

14 **MS. SCHWRZMAN:** I just wanted to raise the
15 issue of sending the market signal to companies or small
16 firms who have potential for alternatives. And it's a
17 hard group to get at the table. And so, I kind of wanted
18 to conjure them and bring them into the room, because
19 they're kind of waiting in the wings for the market to
20 shift in favor of, you know, open an opportunity for
21 them, potentially.

22 But I think it's part of who -- it's one group
23 that DTSC is designing this around, but they're a hard
24 group to find and to talk to.

25 And there may be some places where, you know,

1 given that there is this criteria in the statute, or in
2 regulation anyway, that gives DTSC the power to
3 prioritize something because of the existence of safer
4 substitutes, those may be some places where you could
5 identify somebody with whom to have a structured
6 interview about what do you need to make your product a
7 viable alternative in the marketplace.

8 You know, you think you have a technologically
9 viable alternative, but what do you need to be able to
10 complete?

11 Because in a sense that's part of what I
12 believe the association had to do at a large scale, or an
13 overview level with its regulation is level the playing
14 field for those folks to compete with the oldies, but
15 badies, who are not currently disincentivized based on
16 their environmental impacts.

17 And that if there are safer substitutes that
18 are kind of waiting in the wings for the regulatory
19 climate to advantage them, it might be very enlightening
20 to have a conversation with them that looks like what do
21 you need? What would put you in equal standing in the
22 marketplace?

23 But in any case, I just wanted to bring into
24 the conversation, a little bit, this other stakeholder of
25 the makers of safer substitutes who might be kind of

1 waiting for the conditions to change to make their
2 products viable in the marketplace.

3 And there's a market signal that needs to go to
4 them, too, in a way, and not just sort of the makers of
5 the status quo.

6 **MS. MORAN:** Mike?

7 **MR. CARINGELLO:** Yeah, I'll try and be quick.
8 But another market signal that we're seeing right now,
9 that we've asked to avoid, or to work with, and in a way
10 it bounces back to data sources, is CARB is, at the
11 moment, doing a very comprehensive survey of the industry
12 which is causing quite a bit of consternation because
13 it's very difficult data to mine and get into the exact
14 format they want.

15 So, as you look for data, if you can get data
16 in the format that they've already prescribed, so we
17 don't have to recreate the world yet, again, to do
18 something.

19 So, I'm not saying go and get the data from
20 them, necessarily, but at least give the format that
21 they're doing. But try not to ask for the world when
22 you're asking, because the market signal -- you know, and
23 it kind of goes back to what Ann was saying, the market
24 signal there is that you don't really know what you want
25 to use, you just want everything.

1 And then the concern becomes what do you really
2 do with it?

3 But I can say that the current survey, you
4 know, and CARB is working diligently to try to make it
5 work out, but there's so much data involved that we all
6 have good systems to put it together, or hope we do, but
7 it's still beyond the capability to easily compile that
8 information. So, do watch out for that.

9 **MS. MORAN:** And so I want to continue with this
10 questions, both the other questions if anyone has anymore
11 to add, and about the other stakeholders. And just
12 mention a few of, for example, the folks in stormwater
13 and wastewater have some interesting experiences about
14 these. So, California actually has associations CAPA
15 (phonetic) and CASCA (phonetic) that think about these
16 kinds of things with regards to the ecological effects.

17 And more importantly, they can really --
18 organizations like that, that are really specific to the
19 government can really help you validate your conceptually
20 levels. So, you're asking questions about exposure. How
21 do we tell exposure pathways? How we got our conceptual
22 model about the way this product flows through the
23 environment and down in the end game.

24 So, the California Product Stewardship Council
25 is interested in a lot of, probably, more in the waste.

1 And again, there's a lot of folks in
2 government. You're probably going to have to reach out
3 to them. They aren't going to walk in the door for you.
4 But they can really help with some of these questions.

5 And I strongly suggest that in any kind of
6 conversation with that, also public health groups,
7 consumer groups and unions.

8 So, thinking about workers, a lot of folks have
9 kind of the wrong conceptual models about products and
10 how they're used, and so forth. And people get in their
11 mind they're own personal experience. I do it this way,
12 so everyone does it this way. I live in this kind of
13 urban environment, so everyone who lives in this kind of
14 urban environment -- I can't tell you how often I've had
15 to tell people in Washington D.C. that the geography --
16 the land uses in California are really different. We
17 have ten-acre lots, we have quarter-acre lots, we have
18 third-acre lots. And we don't have that much lawn,
19 especially now that it's a drought, we have a lot of
20 pavement.

21 That changes everything about the way things
22 flow through the environment.

23 And, similarly, that's true that different
24 kinds of groups of people, sometimes folks who have
25 different cultural backgrounds and so forth, we can see

1 really great exposures. So, we see examples of that, a
2 lot of things that people aren't really thinking about.

3 So, I do encourage DTSC to get out there.
4 These people are not going to come to you. And so,
5 although we're having a conversation here around the
6 industry, because I think you're seeing huge benefits to
7 getting that information, but there are also huge
8 benefits in terms of public health and environmental
9 protection. So, getting out and really focusing on
10 filling in the conceptual model so that you really
11 understand what the uses are of the products that you're
12 thinking about moving towards. So that you really
13 capture those significant ones, that you're capturing the
14 sensitive populations that you've prioritized here, the
15 children and work groups. I think you could get a lot
16 there.

17 So, other folks? I see Julia wanting to weigh
18 in on this. And if any other folks want to, now's your
19 time.

20 **MS. QUINT:** For indoor air exposures, there is
21 an Indoor Air Quality Group in the Department of Public
22 Health, so they would be a good source. They do a lot
23 of -- Jed Waldman (phonetic), who's now in charge of the
24 lab in general, but before that he was in charge of this
25 Indoor Air Group.

1 And they have a lot of the experimental data.
2 They do a lot of studies. So, they would be of help for
3 some of those.

4 **MS. MORAN:** Great. I don't see any other
5 cards. Meg's going to come up and then I'm going to turn
6 back to Meredith and Karl and see if there's other things
7 that they want to fill out before we go to our
8 presentation.

9 **MS. SCHWARZMAN:** I'm hoping this isn't too much
10 of a stretch, but I was just thinking about -- it's not
11 on the list because it's not ecological or transport, but
12 I've had sort of a nagging discomfort throughout the
13 conversation about children's health effects. I mean it
14 pops up occasionally.

15 And something that I think is in -- sort of how
16 we generally look at children's exposures has to do with
17 the products that we use directly around children. And
18 the science, in fact, doesn't quite bear up that as
19 necessarily the most sensitive exposure period. And it's
20 moving earlier and earlier. And the more you look, the
21 more it matters both prenatal exposures, but also
22 preconception exposures.

23 And so there aren't a lot of great data sources
24 about this because it's emerging. But I kind of wanted
25 to mention it because it's sort of my role on the panel.

1 So, I would be -- it would be an absence not to say so,
2 just to mention that to really -- to really be where the
3 science is about protecting that sensitive subpopulation,
4 if you're looking at children's developmental end point,
5 you really need to be looking prenatally and
6 preconception.

7 So, it's more like exposure to women of child-
8 bearing age, or pregnant women.

9 So, when we look at like children's products,
10 it's the tip of the iceberg, and I think not even the
11 highest impact place to be looking.

12 And so, as you're thinking about targeting
13 children as a subpopulation, I would encourage you to
14 look a little bit earlier in the developmental process
15 and where those exposures occur. And think of targeting
16 some exposures based on really early development, not
17 even childhood.

18 And there are some data sources, not so much
19 for exposure that comes right to mind, but in terms of
20 health impacts. TEDEX (phonetic) has a -- at this point
21 limited, but increasing timeline that catalogues the
22 science for a small handful of chemicals at every
23 developmental stage.

24 So, if you're looking to gather the evidence on
25 health impacts based on a particular developmental stage

1 and a particular category of end point, there's a place
2 that consolidates the evidence for you.

3 And I can think a little bit more about some
4 other data sources for you.

5 **MS. MORAN:** Thank you. Don.

6 **MR. VERSTEEG:** I don't know if this is jumping
7 forward or not, but the question was asked what other
8 sources for environmental data there may be, exposure and
9 the environment. Trent University has an environmental
10 modeling center and it's world renowned.

11 ACI has the I-Stream program. PHARMA has the
12 PHATE model, P-H-A-T-E.

13 And there's one other one that I'm forgetting
14 right now. WERF, Warren Environmental Research
15 Foundation. You're shaking your head, you know about
16 them, okay.

17 So, depending on what questions you're after,
18 there are certainly a lot of other sources out there.
19 Thank you.

20 **MS. MORAN:** So, coming back to Meredith and
21 Karl, are there other things you're looking for in this
22 section that we haven't covered?

23 **MS. WILLIAMS:** Well, you've touched on lots of
24 things. No, we touched on many of them, the things that
25 we had questions about.

1 **MR. PALMER:** Yeah, I was just going to say I
2 think Meg's example is a classic perspective that is
3 helpful to us because we don't have physicians on staff.
4 And so, any of those things that would be unique, or
5 special, or that might rise to the level of something
6 that would help us get new perspective is very helpful.

7 **MS. MORAN:** Thank you. Julia?

8 **MS. QUINT:** Yeah, I just wanted to actually
9 follow up on Meg's comments.

10 The Program on Reproductive Health in the
11 Environment, at UCSF, is a good source for dealing with,
12 you know, issues of pregnancy and fetal development, and
13 that sort of thing. And they have done bio-monitoring
14 studies, if that would be of help to you.

15 Also, the Occupational Health Branch has been
16 dealing with issues of pregnancy and work for over 30
17 years, and has quite a bit of experience in terms of
18 chemical exposures in publications. But that's been an
19 area that is of great interest to people when they work
20 and they're pregnant, about chemical exposure, so they've
21 dealt with that for a long time. So, that would be a
22 good source.

23 I also wanted to mention, in terms of personal
24 care products, The Nail Salon Collaborative, that you may
25 be aware of, they are very knowledgeable on the worker

1 end about nail salons. And there, you get both consumers
2 and workers, which is largely, in this State, Vietnamese
3 workers. You know, and they have a lot of access and a
4 lot of information. They have advisory committees that
5 work with them, so you can -- and they've done some
6 exposure monitoring, as well. So, they're very
7 knowledgeable and up-to-date on the latest in nails,
8 which is constantly evolving.

9 It's been an issue for a long time, but the
10 products keep changing. So, they would be a good source.

11 **MS. MORAN:** And Julia's remark reminded me of
12 how important it is to be at least touching base with
13 some of the environmental justice community folks. That
14 that is something we usually pick up on in terms of
15 setting up facilities.

16 But another way that that has played out, in my
17 experience, is there's sometimes products that are coming
18 from a particular country or being marketed in a
19 particular group. And a great example of that was an
20 insecticide with chalk that was coming largely into the
21 Asian community.

22 And children were picking up the chalk pieces
23 and eating them. And this is something that if you're
24 somebody who always shops at the normal stores, and not
25 the Asian language stores, you wouldn't have even run

1 into the product.

2 And it was tremendously harmful and significant
3 for the small population that was affected. And after it
4 was discovered, it was able to take some pretty strong
5 action in that regard.

6 But that's an example of the kind of thing that
7 you might find when you're talking to some different
8 kinds of groups.

9 So, Ann?

10 **MS. BLAKE:** Thank you. Your comment and
11 Julia's comment reminded me that we've already touched on
12 the California Helping Out Collaborative. But
13 environmental justice groups for particular exposures
14 and, particularly, Kelly, you said the stakeholders
15 shouldn't -- but there are a lot of folks, particularly
16 in that group, exposed to certain high levels of
17 products, such as the Vietnamese nail workers that are
18 not organized work places, that it would be harder to
19 reach that way.

20 So, environmental NGOs and environmental
21 justice NGOs, particularly. And then on the nail salon
22 work, there's a new report coming out shortly from the
23 collaborative. And one of the organizations of the
24 collaborative are summarizing data on nail salon health.

25 **MS. MORAN:** Great. Cal, do you have anything

1 else you'd like to weigh in on, on this conversation?

2 **MS. BAIER-ANDERSON:** Well, it seems to me that
3 the CHACA (phonetic) -- university-funded, from UC
4 Berkeley, they're funded to primarily around pesticide
5 issues.

6 Some folks in the room may be much more
7 familiar with that. But, recently, they have been
8 focusing on chemicals and consumer products. And so,
9 they may be a source of information as well.

10 **MS. MORAN:** Thank you.

11 So, at this point I'm not seeing any flags up,
12 so I'm going to assume that we're -- this conversation is
13 complete.

14 And that takes us on to our next item, assuming
15 that the slides can be brought up for Helen and Julia's
16 presentation.

17 For those who don't know, we're rearranging our
18 agenda due to a last-minute emergency, and taking an
19 item, the item that was supposed to occur this afternoon,
20 a briefing on conceptual models, we'll be getting that
21 tomorrow morning.

22 And I want to thank (indiscernible) for her
23 flexibility on that.

24 And, instead, we are fortunate to have two
25 members of a panel that advised, actually, a National

1 Academy of Sciences Panel, that developed a report that
2 was just published a little more than a week ago, called
3 *The Framework to Guide Selection of Chemical Alternatives*
4 *and Advancing Alternatives Analysis*.

5 This recently-published report, I know the link
6 to the report has been shared with the panel members.
7 And with all of your busy schedules, I'm assuming that
8 most of you haven't been able to carefully read and think
9 about this report at this point. So, it is really quite
10 wonderful that the two panel members on our panel, who
11 were also on that panel, Helen Holder and Julia Quint,
12 are able to briefly give us an overview of this report.

13 And we can come back and react to this when
14 we've had a chance to read it and, in fact, we can think
15 about what it means for the department's AA guidance at
16 our next meeting, where we're going to be talking about
17 the AA guidance.

18 So, this is information to help stimulate our
19 thoughts and to help us formulate recommendations to
20 DTSC.

21 This conversation might spark some comments
22 tomorrow. We'll have a more general discussion. But I'm
23 thinking that since most folks haven't probably read this
24 in detail that we'll really be coming back to this and
25 thinking about it in terms of major guidance.

1 So, Helen Holder, I understand you're going to
2 lead us off and then bring in Julia at the appropriate
3 point in the slides.

4 **MS. HOLDER:** Yes. Can you hear me? Terrific.

5 Well, I'm the lucky one because I get to stand.
6 But I will try to at least keep everyone from fading out
7 before the end of the afternoon.

8 So, I'm going to give you just a little bit of
9 the background and the approach to the study that we did,
10 the overview of the framework, and then Julia and I are
11 going to hit some of the big advancements or key issues
12 in it.

13 So, as just some background, the EPA came to
14 the academies and said we want to have you do some sort
15 for us. We want you to look at developing a framework to
16 inform decisions around safer chemical substitutions.

17 And for those who are not as familiar with the
18 academy panels, as I was when I first started this, the
19 statement of task is what governs the work that the panel
20 could do.

21 And this is very important because if Meredith
22 and Karl would have written that path, it probably would
23 have been slightly different. Right? Right.

24 So, this is what the EPA asked us to do and it
25 bounded our work.

1 So, I'm going to go through this very briefly.
2 It's actually several paragraphs worth of statements of
3 tasks. But there are some key things in here that are
4 important to understand because it affects the work
5 product that comes out of it.

6 So, we did have to look at early chemical
7 design, so that was actually in the statement of task.
8 We had to look at both human health and ecological risks.

9 We had to integrate multiple and diverse data
10 streams, including new methods and new data streams,
11 which was something that they have been interested in for
12 some time.

13 We had to look at tradeoffs between different
14 factors, including product functionality, efficacy of the
15 alternatives, process safety and resource use.

16 We had to actually give the tools and
17 information sources.

18 And, very cleverly, they also made us
19 demonstrate it. So, it wasn't enough for us to sit in an
20 ivory tower and say, well, what you really need to do is
21 these million things. We actually had to do it,
22 ourselves, in a case study, at least two, actually. Two
23 in there. And we had six months to do it.

24 So, we did not start with a blank sheet of
25 paper. That would have been suicidal. We didn't do

1 that.

2 What we did do was we looked at the existing
3 frameworks that were out there. And very fortunate for
4 us, the OECD and some other groups had done surveys of
5 existing frameworks. This was a great start for us.

6 And so, we were also able to look at other
7 reports, basically whatever we could get our hands on.

8 Now, in the course of doing this we had to ask
9 ourselves what is an alternatives assessment? And in the
10 course of defining this for ourselves and working within
11 the statement of task, we actually had to define some
12 things it is not.

13 So, an alternatives assessment is not a safety
14 assessment. It's not a risk assessment. It's not a
15 comparative risk assessment. And it's not a
16 sustainability assessment.

17 And part of that is driven by what was in the
18 statement of task. Because the statement of task has us
19 focusing on a safer alternative. Which, interestingly
20 enough, is not necessarily a more sustainable one.

21 And we can talk about definitions of
22 sustainability later.

23 But this was very important for us to
24 understand what we were talking about and what it wasn't.

25 So, what it is, is a process for identifying

1 and comparing alternatives, to identify the safer
2 alternative to a chemical of concern.

3 Now, one of the things that's important about
4 this is that the statement of task bounded us to chemical
5 substitutions. Now, as a panel, we knew that material
6 changes and design changes were absolutely going to be on
7 the table if you were really trying to phase out a
8 chemical of concern.

9 But the statement of task bounded us. So,
10 that's just one thing as you're reading the report, which
11 I'm sure you will, we acknowledge it in the text, but we
12 don't go into great detail on that just because it was
13 not within what we were asked to look at.

14 Okay, actually, let me go back for a second.
15 So, I said that we did not start with a blank page. What
16 we did was we looked at the OECD-identified alternatives
17 assessment frameworks and we did a critical review of
18 each of them. So, that's actually very important.

19 We were thinking, maybe, that one of them would
20 have met the requirements of the statement of task, which
21 would have been fantastic. We could have said, yes, this
22 is wonderful or maybe tweaked this one little thing.

23 Unfortunately, nothing that was in the meta
24 review actually met all the requirements, both of the
25 statement of task and of our own expectations, from a

1 technical merit perspective.

2 And so what we did was we then used that
3 information from when we had done those critical reviews
4 to inform what we would recommend as our own framework.

5 So, you will notice that there are some common
6 elements that you're going to recognize and you should
7 recognize from those frameworks. But it's very important
8 to note it is not a superset. So, we didn't just take
9 everything out there and jam it into one and just say,
10 yeah, just pick what you want.

11 We really put a lot of thoughts into what
12 elements were critical, what elements could be optional,
13 what shouldn't be in. So, everything in there has had a
14 lot of consideration of does it belong? What function
15 does it serve? What order does it need to be in?

16 Okay, so actually, we do have some handouts of
17 this, if that would be helpful. I know this is a little
18 hard to see.

19 **MS. MORAN:** Just a quick time check, okay,
20 because we're only allotting about half-an-hour,
21 including questions, for this presentation.

22 **MS. HOLDER:** Okay. I'm not going to go through
23 every one of these in great detail, but I will give you
24 the general shape of this and point you to think that I
25 think I think is the most important advancement.

1 So, the beginning portion of this framework has
2 some sequential steps that involve framing, scoping,
3 identifying alternatives, gathering information. These
4 are the kinds of activities you would normally have
5 expected to be in any type of assessment. It's best
6 practices and so on. We've expanded it, but it's
7 basically there.

8 But moves into the technical part of the hazard
9 and looking at the safer, is an alternative safer? So,
10 the technical part of that.

11 Looking at the physical chemical properties,
12 the human health hazard assessment, the eco-toxicity.
13 And also, a comparative exposure element. And that's
14 what I'm going to talk about in a minute, but I'm going
15 to come back to that.

16 After these technical assessments are done, all
17 that information is brought back and integrated to decide
18 whether an alternative is safer or not. And if it isn't,
19 it gets kicked out. If it is safer than the chemical of
20 concern, it gets passed on to the rest of the process.

21 There's a lifecycle thinking step. There are
22 some optional assessments that might include performance
23 and economics. If those additional assessments are done,
24 there's another cross-domain integration that goes on and
25 selection alternatives implemented.

1 I'm going to skip this scoping thing. We did
2 expand it.

3 But the most important thing that we did, in my
4 opinion, is this, in the statement of task we were given
5 a formidable challenge. We were asked to resolve the
6 age-old question of hazard versus exposure.

7 And we had a lot of substantive discussions
8 about how to introduce exposure considerations into an
9 alternatives assessment.

10 I mean, I would even say, Julia, that was a
11 major topic. That was a major topic that got quite a lot
12 of deep discussion.

13 And where we -- what we ended up doing, we had
14 a bit of an epiphany, actually, and important epiphany
15 that the EPA, the EPI program, often when they do an
16 assessment will say for this application we assume that
17 the exposure is substantially the same, substantially
18 equivalent.

19 So, we brought this to the panel and said, is
20 this been acceptable practice from an exposure
21 perspective? Can we do that?

22 And the epiphany came when one of the panel
23 members said, hey, you just did an exposure assessment.
24 And that's exactly what it was for me, at least. And I
25 said, yeah, so after, again, a lot of discussion, what we

1 said is that, yes, that practice can continue. You can,
2 for certain applications, say that an alternative has a
3 substantially equivalent exposure as the chemical of
4 concern.

5 But you have to ask the question. You have to
6 ask the question is it substantially equivalent and this
7 is where you have to do it in the process.

8 And so, we think that this is really the best
9 place in the process that's going to inform how you view
10 the hazards that you identify. It's going to help you
11 understand.

12 It's not an excuse to not look at hazards.
13 It's not risk assessment light. It's not risk assessment
14 light, you need to tell Alex (phonetic) that, this is not
15 risk assessment light.

16 **MR. ZARKER:** He might be listening.

17 **MS. HOLDER:** Good. Alex, are you listening?

18 This was a big break through. And so, if you
19 read nothing else, read that part of the report. I
20 encourage you, though, to read all of it because every
21 single one of these bubbles has a whole story underneath
22 it. And there's a lot of nuance.

23 Don't just take the flow chart and go, yeah,
24 yeah, yeah, that looks kind of like the one I use, I'm
25 done.

1 Okay, so now I'm going to turn it over to Julia
2 to talk about the human health.

3 **MS. QUINT:** And in the interest of time, and
4 laziness, I'm going to sit and do this.

5 I would say the other big innovation in this
6 report is the use of physical chemical properties and
7 using them differently than has been used before.

8 Oh, I guess you can't see me.

9 Not that they haven't been used in other
10 frameworks, they are used. But not to the extent that
11 they're used in their committee's framework. So, that
12 would be the other innovation.

13 So, and that comes in -- let's see -- so it
14 comes before the human health and eco-tox evaluation.

15 Okay, yeah, so as it says here, they were
16 broadened. And one of the ways in which they were
17 broadened is to determine the environmental compartments
18 of chemical -- where chemicals partition in different
19 compartments. In the soil, air, and Kelly will be happy
20 to hear this, I think, and to not just focus on aquatic
21 toxicity, which is then the case for most of the work.

22 And estimating the potential for bio
23 concentration and bio availability. Bio concentration
24 has been, you know, assessed in all of the -- in most of
25 the frameworks. The bio availability has not been

1 addressed that well.

2 I can't even read this slide. Yeah, and then
3 to estimate the likely routes of mammalian exposure, and
4 Helen will talk about that.

5 And bio availability is important because if
6 it's not bio available, it won't cause harm. So, that's
7 very important.

8 And then, estimating the likelihood for high
9 aquatic toxicity.

10 So that, along with the comparative exposure
11 probably are the things that are most different.

12 The other thing I must say, it's worth reading
13 the report because it offers a state of the science
14 review of the (indiscernible) and in vitro methods, which
15 I think it would be very helpful to this group.

16 And those things are important because we want
17 to look at the data core chemicals. When we talk about
18 alternatives, a lot of the chemicals won't have data.

19 Also, this is a trend that's going to happen.
20 We're not going to be able to use animals forever.
21 They're time consuming, there's lots of reasons not to
22 use them. Human data we don't want to get. We don't
23 want to wait until humans -- the whole idea is to be
24 preventative.

25 So, those data are going to be used more and

1 more in the future. And the report does a really good
2 job.

3 And I also want to say that this report was --
4 this committee was a group of experts in different
5 fields, of which we're only two. And some of what I'll
6 be talking about in a few minutes it not my area of
7 expertise. So, you should read the report to get the
8 real impact of the work of the committee.

9 Okay, so physical chemical properties, of
10 course we're talking about physical properties, salvation
11 properties, and molecular attributes.

12 And physical properties, a boiling point, you
13 know, vapor pressure, those types of things. And they
14 have been used in existing frameworks in various ways.

15 What this chapter does is to go beyond where
16 the other frameworks went, and then also to really do a
17 good job of looking at the novel methods that are out
18 there for looking at some of these -- you know, that will
19 help us actually decide what's eco toxic and what's toxic
20 to humans.

21 Salvation properties have to do with a chemical
22 reacting with various phases and partitioning between
23 phases. And again, that can be water, aqueous versus
24 lithospheric (phonetic) phases, which is the optimal
25 water is the one that's most commonly used, and used by a

1 lot of the frameworks.

2 But they go further to talk about air, water,
3 and soil and water. And this does a lot because then
4 you'll have different toxicities and you'll have
5 different things affected.

6 Like, if you look at air and you look at soil,
7 you're going to have different things as water.

8 And then the molecular attributes has to do
9 with the electronic properties of molecules and how --
10 and chemical reactivity, which is also important because
11 you can tell -- that, in turn will decide whether or not,
12 how they react with biological specimens, you know, in
13 toxicity, nucleophilic and electrophilic substances.

14 And all of these things, as it shows on the
15 arrow, will impact environmental fate. Where are these
16 things going?

17 And this is what the committee's framework will
18 allow you to separate out the environmental fate, not to
19 just treat it all going to one place. So, that will be
20 important.

21 And then, also, the biological and ecological
22 processes, bio concentration, which is done now, bio
23 degradation and then, of course, as I said, human
24 toxicity and eco toxicity.

25 So in the eco toxicity elements, the most

1 important thing that is done now, I think the first and
2 the -- let's see, the first one has probably been done
3 all along, reviewing physical chemical data to review --
4 to determine where the chemical is partitioning.

5 But now, the eco-tox data, the toxicity data
6 will be identified in the compartments, themselves. I
7 think that's what's different about this framework versus
8 the others.

9 And then, an estimate of the toxicity for the
10 missing data, using these -- and that's also been done in
11 some frameworks, but here we have the more novel methods
12 that are being used and reviewed. So, you know which is
13 what and it's not just measured data.

14 Even for the measured data there's a lot of
15 references about where to find data, where to find these
16 different data. And it's a critical review of them, so
17 that will put us ahead if we were to use that as a data
18 source.

19 And then, the final thing, I think the last one
20 is also an innovation of the committee's framework
21 because the hazard is then graphically shown in different
22 media. So they are game you will have and, of course,
23 different media, different value of that are affected.

24 So, this, I think, would be the main highlights
25 of the eco-tox part of it.

1 Human health assessment. We, as a committee,
2 decided to recommend that the GHS health end points be
3 used. And there were ten of them. And we added one
4 that's not currently covered by GHS, which is endocrine
5 activity.

6 These coincide very well with the existing
7 frameworks you're using.

8 And we also -- you know, for some of the
9 frameworks they didn't use the GHS descriptors, although
10 they used the criteria.

11 So, in our framework you would, to the fullest
12 extent possible, use the GHS end points, along with the
13 same descriptors. And, you know, it discusses in the
14 report the different descriptors that were used, which
15 can be a little confusing.

16 And GHS is important because it's
17 internationally-recognized end points. They also can
18 help you use data core chemicals because the screening
19 information data sets use GHS.

20 Also, the hazard communication standard, and
21 material safety data sheets that are used to protect
22 worker health are harmonized with GHS, now.

23 So, it allows you to do all of that and it
24 allows you to use the database because a lot of the ends
25 points have been, or are consistent with information in

1 the database, which is also GHS.

2 And we're, you know, using green screen, and
3 DFE do a great job of benchmarking or doing hazard
4 determinations of those. And we're doing that as well,
5 describing those as high, medium and low.

6 And one of the things about GHS is that it's
7 very expert judgment driven. There are only a couple of
8 end points that are just based on data, and that's the
9 acute toxicity, which you use LD-50 results for.

10 But the rest of it, you have to use expert
11 judgment. So, one of the things that we're recommending
12 is that to make this transparent and consistent, both
13 within frameworks, when you do one chemical versus
14 another, and a cross framework.

15 That you use, say use established guidance.
16 The EPA risk assessments for several end points,
17 reproductive, developmental, neurotoxicity all have
18 guidance in terms
19 of -- and this is a hazard identification card. It has
20 nothing to do with risk assessment, per se, because we
21 are not advocating risk assessment.

22 But those guidelines tell you the minimum
23 evidence needed to call something a reproductive
24 toxicant, or development toxicant, or a neurotoxicant.
25 And also, the minimal evidence you need to say that it is

1 not a reproductive toxicant or a developmental toxicant.

2 So, those are good guidelines because it's very
3 consistent. They've been peer reviewed and all of that.

4 We're not saying that you have to use those,
5 those are just examples. But the framework, if you're
6 doing this in your scope, you should have a method that
7 you're using to decide when you're calling something a
8 hazard and when you're not, because that's way it's
9 consistent. It should be done high priority, instead of,
10 you know, down the line. So, that's one of the things
11 that we're saying.

12 The other thing, as I said, state-of-the-
13 science review on in-vitro and ancillico (phonetic) data
14 used for human health. There's a lot of those data, but
15 it's not ready to be used for primary data. That was our
16 conclusion.

17 But, except for end points like neurogenicity
18 (phonetic), which has been used for a long time. But it
19 can be used to fill data gaps, and so we are advocating
20 that.

21 The other part, where we depart from existing
22 practice and frameworks is in terms of when you summarize
23 data, based on hazard, we're not conducting -- we're
24 leaving the data -- we're not -- in the green screen, I
25 think you summarize, and then you do a data gap analysis

1 and you know, which is very convenient and very easy to
2 do. I mean, it really makes it easy for people to do
3 this.

4 What we decided is not to keep the data and
5 this -- whether or not they have high, medium and low,
6 but there are different end points.

7 Within the health domain you can see, you know,
8 you have reproductive toxicity, neuro toxicity and it's
9 hard to decide which is more important.

10 I mean, if you're pregnant, a developmental
11 toxicant is more important than a cancer hazard, at least
12 in my perspective because I'm more concerned about the
13 developing fetus.

14 So, we leave those neutral. And we also listed
15 the degree of uncertainty that went into deciding whether
16 or not it was high, medium and low.

17 And then that's carried forward in the rest of
18 the framework because then you have to integrate all of
19 these other things.

20 So, that is a departure from what is normally
21 done and that's one of the things.

22 And then we also list, I didn't name the ten
23 end points, but the ten end points are the ones that you
24 might expect acute toxicity, you know, carcinogenicity,
25 mutagenicity, immunogenicity, genotoxicity together. And

1 respiratory and skin sensitization. You know, those, and
2 so but there are ten of them.

3 And it's really important. I think the
4 challenge for us, with the California regulations, is
5 that you have a lot of end points and I don't know that
6 there's established criteria for how to determine whether
7 or not those end points exist. So, that would be that's
8 something that we're going to have to figure out.

9 And in the scope, if you don't -- we're not
10 saying that those are the minimal end points that you
11 should do. We didn't make that as a recommendation.

12 But if you don't consider those end points in
13 our framework, we need to write that in the scope. You
14 need to say which end points you didn't do.

15 We also, as with green screen, use an
16 authoritative list. And for that, you should list the
17 criteria, define what an authoritative list is and this
18 green screen does, but then use what criteria have
19 criteria for using those lists, or when you didn't use
20 those lists.

21 Because it was sometimes hard for us to
22 determine when, based on the definition of the
23 authoritative list, why certain lists were used and other
24 lists weren't used.

25 So, that should be defined in your scope for

1 your, you know, your score.

2 So, those were just minor refinements to what's
3 being done.

4 And the other, final thing I would say about
5 that, is the GHS requires human data for a lot of end
6 points and there aren't a lot of sources to do -- there's
7 usually a weight of evidence between animal and human
8 data that they require.

9 There are a lot of data sources that aren't,
10 but it wasn't obvious that they were being used. So, we
11 made some recommendations about other sources of both data
12 that people could use to identify chemicals, and we think
13 that's very important because you can miss things.

14 Some of the frameworks, like Tory (phonetic),
15 did list a lot of those same data sources, which was
16 good. But for most of the frameworks are unique in that,
17 I think. Most the frameworks, you know, GHS heavily
18 relies on animal testing and those are not the data that
19 most of us, who are doing public health look at ever, so
20 it's important.

21 So, this just summarizes, and I'll stop here,
22 this just tells you the state of when you incorporate in-
23 vitro data and ancillico (phonetic) data in the health
24 hazard assessment.

25 And so, it was a consensus of the committee

1 that we need to move beyond traditional data, which would
2 be the animal data and the human data, to these new data
3 sets. And right, as I said in summary, that it's not as
4 primary evidence, but may need to fill data gaps.

5 And I think the one end point, other than
6 mutagenicity, was endocrine reproductive toxicity that
7 they felt could be used.

8 And what is needed, and I think Tim will have
9 some very good follow up on this, is ways to bench mark
10 these new sources of data and the way to integrate them
11 is still needed. That's something that hasn't been done.

12 In other words, with animal data we know how to
13 adjust for that versus human data. You know, we use
14 certain factors, we do a lot of things to adjust for
15 that, but we haven't had that experience with the in-
16 vitro and ancillico data, so those are needed as we move
17 forward with this.

18 So, I'm going to turn it back over to Helen to
19 finish up.

20 **MS. HOLDER:** I think we can just take
21 questions, actually. I think that's the rest of these
22 are pretty straight forward. Any questions?

23 **MS. MORAN:** That's the last slide?

24 **MS. HOLDER:** Yeah, well-ish.

25 **MS. MORAN:** Okay.

1 (Laughter)

2 **MS. QUINT:** Helen did a great job of trimming
3 the slides.

4 **MS. MORAN:** I really want to thank both of you
5 for doing this and pulling this presentation together.
6 And I know that all of this report was the product of
7 very many people.

8 In fact, maybe just quickly can you tell us a
9 little about who's on the panel? You guys are stretching
10 the news on pieces of this and I really appreciate you
11 doing that for our group.

12 **MS. MORAN:** There we go.

13 **MS. HOLDER:** Right, so we had a lot of
14 different experts, a lot of different experts in a lot of
15 different fields. And in fact, it was much a hindrance
16 as a help, at times, because it was such a broad question
17 that was asked that they needed to make the committee,
18 you know, have this makeup. Yet, it was each person
19 could have written a book on their own and many of them
20 have, you know, in the field.

21 So, this was the committee. We had a wide
22 range of experience and backgrounds.

23 **MS. MORAN:** Thank you. So, we've got some time
24 for questions here and Tim's the first one up to bat.
25 But again, I do want to thank you guys.

1 And please, in asking the questions, recognize
2 that these two folks aren't the be all at all for the
3 entire report.

4 **MS. QUINT:** I just want to say, too, that those
5 listed people can be resources from you. And you can
6 tell from their bios who knows what, probably.

7 But the person who did the -- who was expert in
8 physical chemical properties I think is the person that
9 would be very helpful, very knowledge and energetic, and
10 I'm sure would love to interact with you about
11 environmental face and how to use physical chemical
12 properties to look at some of these things.

13 Also, as Helen mentioned, the great Paoli
14 (phonetic), the person who knows a lot about exposure --
15 it's the committee's report, so nobody did one thing.
16 But just expertise in certain areas, I think if you look
17 through that, would be very helpful. Of course, Joel is
18 an expert in all of this. But some people had stuff that
19 I think would be good for this group.

20 **MS. MORAN:** Thank you. So, Tim, Don would be
21 next.

22 **MR. MALLOY:** Thank you, that was great. So, I
23 couldn't help but on the exposure thing, so what happens
24 when you look at it and the presumption that the
25 exposure is going to be the same is not true?

1 **MS. HOLDER:** I'm glad you asked that. There
2 are a couple of different, there are three different
3 outcomes, actually. There we go. There are three
4 different outcomes.

5 You can find that it is substantially the same.
6 And in fact, in the case study, one of the case studies
7 we illustrate two of the three possible end dates.

8 In the imaging study we did DECA BDD being
9 replaced by it -- so DECA ether being replaced by DECA
10 epe (phonetic). That happens to be an extremely good
11 case of when it's identical or substantially the same.

12 Another alternative that could have been used
13 for DECA was RDP, with a little bit of TPP in it. So,
14 that is not the same and so then it triggers some
15 additional work.

16 And there's a little bit of guardness about
17 what that next step would be. But it was so much in
18 knowing about how to do exposure assessment and modeling
19 that we didn't really try to cover that again. But we
20 would then, potentially, do that additional work.

21 **MR. MALLOY:** But when you do -- like you do the
22 work that you've got exposures, do you then, you know,
23 take a look, do you integrate risk into the final outcome
24 to find out if one is safer or not?

25 **MS. HOLDER:** No, it's more like a lens. So, in

1 the case of TPP as the potential, so what you'd be doing
2 is you'd be getting rid of the DECA and you'd be
3 replacing it with, potentially, this phosphorous-based
4 flame retardant that an aquatic elasticity.

5 And so what you would then do is to say is that
6 okay? Is it actually safer?

7 So, as we all know, it's very unusual to have
8 all kinds of (indiscernible) -- so the exposure becomes a
9 part of understanding does it matter? Does it matter
10 that you've got a slight indication of aquatic
11 elasticity?

12 And so, in the case study we looked at, we then
13 triggered this to say, well, what really happens? What
14 is the solubility? How much of that really goes in it
15 and so then that's the work that follows up. You trigger
16 what's appropriate to what you want, to know whether it's
17 an acceptable --

18 **MS. QUINT:** I also wanted to interject is that
19 it can also -- it's really comparative. At this point
20 you're looking at different alternatives, so it could be
21 a deal breaker for one alternative versus another. You
22 know, so it helps you in the selection of alternatives is
23 kind of like the real benefit of it, I think. You know,
24 if you're choosing between alternatives and
25 toxicologically they look pretty similar, or whatever,

1 but the exposure is like really worse for one versus the
2 other then you would -- you know, you'd move away from
3 that one.

4 So, in addition, I think that's one of the
5 benefits of it.

6 **MS. HOLDER:** Or better.

7 **MS. QUINT:** Or better, right.

8 **MS. HOLDER:** So, the third outcome is that it's
9 actually preferential and then you would factor that in.
10 You'd go like, hey, you know, it's a little bit better
11 from a hazard perspective, but the exposure, there's
12 almost no exposure today.

13 **MS. HOLDER:** All right, Don, then Meg.

14 **MR. VERSTEEG:** Yeah, first of all, great job.

15 **MS. HOLDER:** Thank you.

16 **MR. VERSTEEG:** I mean, I read the entire
17 executive summary.

18 (Laughter)

19 **MR. VERSTEEG:** But I can't wait to get to the
20 conclusion because the parts about, you know, performance
21 assessment and economic assessment, and I would include
22 in there kind of manufacturing supply, you know, there's
23 so much that goes into an alternative analysis. Most
24 materials are thrown out for other reasons, other than
25 the safety reasons.

1 But I do want to ask one question, other than
2 congratulating you on it. What do you do when for an
3 existing chemical you've got the data, you've got, you
4 know, carcinogenistic studies, and repro studies, and
5 aquatic studies, and avian studies, and then for the new
6 chemical you've got in-vitro and maybe some of the holes
7 are filled with ancillica?

8 **MS. HOLDER:** Yeah, do you want to answer that
9 or do you want me to answer that?

10 **MS. QUINT:** Well, go ahead.

11 **MS. HOLDER:** So, there's actually an entire
12 chapter on how to do data integration. And it breaks the
13 space up into four quadrants, where you have high
14 uncertainty and how do you deal with that. And so, high
15 uncertainty and big differences in sort of high trade off
16 levels.

17 And so, when you've got a lot of uncertainty in
18 tradeoffs, maybe you look at an MCDA type method, things
19 like that.

20 So, I would just say, I think, I believe it's
21 chapter 9, but uncertainty is directly taken on because,
22 you're right, it is really one of the big problems.

23 So, actually, this is important though,
24 actually, and I should say this just flat out is that we
25 wanted to be data neutral. So, we don't want to assume

1 the worst, we don't want to assume the best. If we don't
2 know, we don't know. And if we don't have enough data
3 you don't score it or you don't -- you go to fill the
4 data gap. You don't assume the best or the worst,
5 because that was the only thing that was intellectually
6 defensible, because you end up with wrong conclusions if
7 you do anything else.

8 **MR. VERSTEEG:** Perfect, thank you.

9 **MS. QUINT:** So you either have a data gap or
10 not data. And the no data would be after you've tried
11 these other models and all those things, and the newer
12 methods that are recommended in the report.

13 **MS. MORAN:** All right, I've got Meg, Ken
14 Geiser, Ken Zarker.

15 **MS. SCHWARZMAN:** That was my question. I was
16 going to how it can be dealt with, uncertainty and data
17 gaps. And so you've started. So, if you have anything
18 to add about that in a more general sense, I'd love to
19 hear it. But otherwise, I think you can pass on to the
20 next one.

21 **MS. MORAN:** All right, Ken Geiser.

22 **MS. HOLDER:** Yeah, I would also congratulate
23 you and the --

24 **MS. MORAN:** Microphone.

25 **MR. GEISER:** I congratulate you and the

1 committee. I have had a very full earful and so you
2 might get some calls. So, I'm just kept up to speed on
3 it.

4 I'm just going to ask a sort of a simple
5 question here. There's so much in the report and I
6 encourage people to read it, as well, I have gotten
7 through most of it at this point.

8 But from our point of view, from our safer
9 consumer products point of view, we're asking firms to
10 basically look to alternatives assessments to make some
11 decisions.

12 In step four, is it, it's sort of when there's
13 nothing enough information there it's referring to
14 further research and development.

15 But if you're trying to make a decision about
16 what alternative to use, you can't wait for that research
17 and development to give you all that information.

18 Is it fair to just have this kind of default
19 out there that pushes everything -- when it gets
20 complicated, it all goes off to, well, let's do more
21 study?

22 **MS. HOLDER:** I think that in the case of
23 complying with the regulations, there are a couple of
24 different paths, right. So, to comply you might do your
25 assessment and find that there's nothing today and that's

1 perfectly acceptable under the regulation. You write up
2 what you find, you submit it to the department and they
3 assess whether they thought that you did a thorough
4 enough job.

5 And regulatory response might be agreeing to
6 (indiscernible) -- so, I think it does actually work. I
7 think it's not the speed that you might like. I know
8 that you, of course, want that to happen as quickly as
9 possible. But if you think that it does work in the
10 system, that's another --

11 **MS. QUINT:** It's my understanding that the
12 company wouldn't be penalized if you look at their tests
13 to do an -- I mean, not the tests, but their alternative
14 assessment and they don't come up with an alternative
15 that, you know, works, then that's end of game. I mean,
16 you know, they can continue to use whatever they have.

17 **MS. HOLDER:** We anticipate that as a possible
18 result to the alternative analysis.

19 **MS. QUINT:** Yeah, that's where the criteria for
20 what is valid when you make that decision, I mean that's
21 what's going to be important. How well did they look,
22 you know, and all of that.

23 **MR. GEISER:** That's a good point, thanks.

24 **MR. ZARKER:** So again, yeah, thank you for
25 doing this. Could you speak a little bit about the case

1 studies you mentioned earlier, any things you wanted to
2 share about that?

3 **MS. HOLDER:** So, anyone who's followed any of
4 the DECA cases should recognize it. It very much draws
5 from the EPA, and from Washington, and from other studies
6 of it.

7 So, there are two case studies. There's the
8 DECA case and then there's the glitazone (phonetic) case
9 study.

10 So, one is a small company or it's made up to
11 be a small company who's trying to get out -- break into
12 the EU market for displays and kiosks that you might use
13 at, say, a mall or something like that. They are able to
14 use DECA because they're U.S. now. They're actually
15 based in Washington, fictionally. And it's relevant
16 because of the TPP.

17 So, anyway, they want to break into the EU
18 market. They now have to go from not being ROSS
19 (phonetic) compliant to ROSS compliant. And so now they
20 have to figure out what are they going to do with their
21 HIPS (phonetic) with DECA housing.

22 And so, what's interesting about that case, and
23 this was in the statement of tasks, as well, is that we
24 had to be able to have a method that was usable by small
25 and medium businesses because the EPA wants to push this

1 out to industry. And so that's why I constructed the
2 case the way I did.

3 And there's extensive reference to and quoting
4 of existing work and that's really one of the sort of key
5 parts of that demonstration was that in order for a small
6 or medium business to be able to do this process, they're
7 actually going to rely very much on existing work that's
8 been done by regulators and other researchers.

9 So, this is kind of making the point back to
10 the EPA that they can't just go, oh, yeah, we're going to
11 push this out now, right. They still actually have to be
12 there, as well, to do some of the primary generation.

13 So, in that case, the fact that this little
14 company was based in Washington because, well, in the
15 story line they find that their RDP has TPP in it, and
16 they care about water issues.

17 And so within that, you know, fictional story,
18 they go and look at that and then they come up with their
19 answer out of it. So, that was one.

20 The other is -- I'm less able to speak to
21 because that was the other case study, but it's a
22 pharmaceutical case where you would have gaboodles of
23 this data, and what do you do with it? Right, so it's
24 more the high throughput data. And so, it's fascinating
25 if that's what you do, but I'm just less able to speak to

1 that one.

2 **MS. QUINT:** And the other thing that the other
3 case study demonstrates is different data streams. So,
4 it's a hybrid use of both traditional data and the novel
5 data, the in-vitro and ancillico data. So, it
6 demonstrates that very well. And then uses this graphic
7 presentation called "Tox Pie" to graphically show the
8 data, so you can look at it and see, you know, where you
9 have lots of data and where you don't, and all that sort
10 of thing.

11 **MS. MORAN:** Cal, do you have any questions?

12 **MS. BAIER-ANDERSON:** No, not at this time,
13 thanks.

14 **MS. MORAN:** Thanks. I want to thank you for
15 your patience in not having the slides in front of you
16 because of this last-minute switch. So, thank you for
17 dealing with that. And we'll make sure you get a copy of
18 it.

19 **MS. BAIER-ANDERSON:** I do have thoughts so --

20 **MS. HOLDER:** She's seen this before.

21 **MS. HOLDER:** That was excellent. Thank you to
22 the staff.

23 I don't see any other flags up for questions.
24 So, I again want to thank Helen and Julia for putting
25 this together and taking the time to share with us. And

1 again, thank everyone for their flexibility in doing the
2 rearrangement today.

3 **MS. WILLIAMS:** And can I just echo what Kelly
4 said when we started this conversation, which is I really
5 hope that we can return to this and really talk about the
6 overlap between our approach and all of the conclusions
7 that were grown here, what's going to work, what doesn't
8 work, where can we continue in thinking ahead based on
9 the findings of this report. So, I'm really excited for
10 staff to dig into it. So, thank you so much.

11 **MS. HOLDER:** Thank you.

12 **MS. QUINT:** Thank you.

13 **MS. MORAN:** Thank you. And that portion was a
14 homework assignment for all the rest of us, the other 13
15 members who weren't on the panel.

16 (Laughter)

17 **MS. MORAN:** So, we are at the wrap-up time on
18 this meeting. There's -- Art, you and Meredith were
19 going to do a little summary and then I've got a few
20 things to wind up the meeting today.

21 Do you want to start? Art doesn't have
22 anything, right.

23 **MS. WILLIAMS:** So, we have -- the staff have
24 already realized that there were very few action items
25 today, so we don't have any of those to really capture.

1 We always take away a lot of homework and a lot of things
2 that we want to follow up on.

3 It's very hard for you to know and, hopefully,
4 tomorrow you can get a sense of how it is that we take
5 what you give us and use it. And so tomorrow, when we
6 dig into the conceptual models, you can get a sense of
7 that.

8 But I know that, again, we got a lot out of
9 today in terms of our thinking, particularly about the
10 stakeholder engagement and just the very practical nature
11 of it was very, very helpful.

12 I mean, if the only thing we had gotten today
13 was use the trade associations to aggregate the data and
14 make it anonymous and you'll get the market analysis that
15 you're looking for, I'm done. But that was the tip of
16 the iceberg.

17 So, I really just -- I want to thank you all
18 for all the thinking today.

19 **MS. MORAN:** And I want to thank everybody.
20 Although, we had a little higher level conversation about
21 how to get from the work plan to the priority products,
22 you guys gave some tremendously interesting, diverse
23 advice. A lot of different kinds of considerations on
24 fairly specific data resources and methods, and some big
25 picture things that I'm really hoping will be useful for

1 the department based on the shaking heads. So, I guess
2 more than helpful.

3 So, for tomorrow we'll be talking about
4 alternatives assessment or alternatives analysis, and
5 I'll call it AAs, but that's the wrong word.

6 We'll be talking about that. The staff has
7 given us a memo with some general overview. Part of the
8 purpose of tomorrow's conversation is also because a lot
9 has happened in this world. It's a very fast moving new
10 profession that's being developed.

11 And so, many of you have had professional
12 experiences related to this that inform your advice. So,
13 we had a conversation a long time ago about this, and in
14 addition to just reacting to that framework, it's a
15 really big opportunity for you to pause and ponder the
16 experiences that you've had and share with the department
17 your latest advice and your latest thinking.

18 I've certainly, personally, been thinking about
19 how forward, on some of the issues that were raised
20 before and made some progress in that area. And I think
21 some of you have in your work, also.

22 And so, we'll be looking to have a conversation
23 where we're asking and challenging each of you to share
24 is there something new, some new insight, some new
25 approach, some new other advise that you want to share

1 with the department, in addition to those specific
2 questions that you have in front of you.

3 So, something to ponder for tomorrow.

4 And before we go, just a couple of minor items.
5 First, and really important item, I do very much want to
6 thank staff. And I'm sorry so many folks have already
7 had to depart because our meeting's gone a little longer
8 than planned in this section.

9 But there is a huge team of staff that are
10 working not just to make our meeting possible, but
11 actually to do the substantive work here. And the number
12 of folks who sat patiently and didn't get to respond and
13 engage us, I know how hard that is being a staff member
14 and wanting to ponder, how about this and that, to who
15 are here today.

16 These folks are really working very hard for
17 our State. And so, I want to thank everyone on the DTSC
18 team, the support staff and the leaders who get the
19 privilege of sitting at the table with us, for your work
20 for our State and your effort. So, thank you.

21 (Applause)

22 **MS. MORAN:** All right, and now our logistical
23 things. There is a Science Panel member dinner tonight.
24 Is anyone who's here not going to be attending? So, I
25 think Helen's not attending the dinner or are you?

1 GREEN RIBBON SCIENCE PANEL

2 October 21, 2014

3
4 MS. MAJHAIL: Good morning, everyone. How are we
5 all today? Great? You all look happy and smiling and
6 here, so that's a good thing.

7 So again, I will do my regular spiel again. I
8 will tell you about the restrooms, even though you know it.
9 There might be somebody in the public that aren't -- that
10 is not aware of the housekeeping items.

11 So for anybody in the room, the restrooms are out
12 the door to your left, all the way down the hall.

13 And we have these three doors as fire exits.
14 We're not expecting any fire drills today, so we're okay.
15 Other than that, we have a café on the first floor, if
16 you've not visited. It's a good place. You can probably
17 spend some time during your break.

18 And today we are here again to discuss about
19 the -- to listen, to help facilitate discussion for the
20 Department to make -- you know, give us -- educate the
21 Department on more decisions for green chemistry.

22 We will be having a public comment period today
23 again, and members of the public, please note that this
24 public comment period pertains a direct -- should be
25 directed to words that grasp, not to words DTSC. And it's

1 only on the agenda items.

2 We do have public comment cards. If you wish to
3 speak, we have public comment cards. We -- we just hope
4 that you'll fill out your name and Coy is holding them in
5 the hands.

6 So if you need anyone, you just let us know and
7 we'll give you the card.

8 And once we call you up with your name, you'll
9 have your time and you can have your comment ready at that
10 point of time.

11 Other than that, I'll hand over to Meredith to
12 start on the meeting.

13 **MS. WILLIAMS:** Good morning. I've been asked to
14 say first things first, Go Giants. Yes, this is no
15 accident in the orange. And I was upstairs eating my
16 breakfast off of my Giants plate in my office, so just in
17 case you didn't get the message.

18 So we're excited to keep the conversation going
19 today. We're going to start -- start with a presentation
20 from Nancy Ostrom.

21 It's a direct follow-up to the feedback that you
22 gave us. And I really loved the way the team
23 talked -- took the conversation about conceptual models and
24 internalized it, shaped it, formed it into something they
25 think we -- different audiences can use.

1 And it really builds off of yesterday's
2 conversations. So one of the things that I'm enjoying
3 about this meeting is just the linkages between the
4 different topics. And there are always going to be
5 decisions -- decision-making themes that run through our
6 conversations, but there seem to be a lot of unification
7 around those ideas.

8 And I know really that we took away a lot of good
9 concrete tools for helping us think about how we're going
10 to make decisions and I think today, the -- the emphasis is
11 more on how we can advise the -- the responsible entities
12 in their decision-making process.

13 And so, Nancy's going to give -- demonstrate one
14 tool that we think can help folks do just that. And then,
15 as we get into the alternative analysis/synopsis, we'll
16 have a chance to think about that even more and I'll say a
17 few words at that point.

18 But thank you for all the input yesterday. And I
19 don't have too much more to offer, so I'd like to just
20 introduce -- no.

21 Art and Kelly, you're going to give some -- some
22 opening comments also. Thank you.

23 **MS. MORAN:** All right. Good morning, everyone.
24 Today is the second day of our meeting. It's also the
25 first day of the World Series. And like a number of other

1 folks in the world -- in the room, I'm a big Giants fan.

2 And the Giants are a pretty amazing team this
3 year in that they -- they've done some things -- well, in a
4 lot of ways, but they -- they're doing something in a way
5 that's really different from a lot of teams. And something
6 that I think is actually a real role model for a lot of
7 folks (laughing).

8 Bill Carroll's falling asleep. So the -- but
9 what's -- what's really cool about the team this year is
10 it's -- it's a group of folks that doesn't have a really
11 big superstar. They're working together as a team.

12 All of them are using really good quality in
13 their work, so you see them jumping, you know,
14 doing -- making an amazing catch, going the extra mile to
15 do that.

16 When they come up to -- to bat, they're not all
17 going in -- going to hit a big home run. They're trying to
18 get on base so the next guy can come up. They're keeping
19 the line moving.

20 And together, they're getting farther than anyone
21 one of them would have and they aren't looking to some Star
22 to fix it. And they've got a really great manager who's
23 giving them all the support.

24 They've got a coach whose helping them get the
25 best out of themselves. A lot of analogies here. And I

1 want to ask the folks from DTSC who's here and not
2 everybody's here, but can you just stick your hands in the
3 air, so everybody who's -- there's a big staff team here.

4 They're -- a lot of them have all kinds of
5 different skills. And together they're pulling together
6 and trying to do something that has never been done before.

7 They've got some really great management support
8 all the way from the Governor's office. And the
9 coach -- are -- are leaders here or coaches here have been
10 really wonderful with them.

11 And I just want to honor and thank this team and
12 be very happy. You know, we're an Advisory Panel. We're a
13 tiny little piece of this team.

14 And I really want to thank everyone to
15 work -- for working together to do something that's never
16 been done before and to do it in a way that's going to make
17 it succeed.

18 We're going to together do more than any of us
19 could individually. So thank you panel members and very
20 much thank you staff.

21 **MR. FONG:** Kelly, thank you very much. And
22 just -- just keep in mind that the three minutes that Kelly
23 used to talk about the Giants, I'm taking that away during
24 your break time, so keep that in mind.

25 It's a pleasure to welcome every -- everyone

1 back. Just some additional housekeeping information.

2 Helen Holder, Hewlett Packard is unable to join
3 us today because she had an overnight flight, a business
4 trip.

5 And also, Dr. Caroline Baier-Anderson is joining
6 us remotely as yesterday -- as she did yesterday.

7 We have actually -- you have three agenda items
8 today.

9 The first one, it's Tim Malloy's going to give us
10 a report on an Alternative Analysis Workshop that he ran at
11 UCLA a couple of weeks ago.

12 And this is consistent or a continuation of the
13 discussion that Karl pointed out about the excellent work
14 on AA that's being done out there.

15 And of course, we got that excellent report from
16 Helen and Julia on the National Academy of Science's
17 effort.

18 So today's we're going to hear from Tim about
19 some of the -- his efforts to build the knowledgebase and
20 network that's needed to develop an effective AA tools and
21 methods.

22 And following Tim's presentation, again, as
23 Meredith pointed out, Nancy Ostrom of DTSC is going to give
24 us an overview or what they've been doing on the conceptual
25 models, taking into our advice from the last panel meeting

1 and putting it into practice and implementation of the
2 regulations.

3 And finally, Meredith is going to give us a
4 synopsis on the AA guidance.

5 After the three topic presentations, we're going
6 to have a period for public comment.

7 So if you have -- you want to make comments,
8 please see Radhika or one of the DTSC staff to get a
9 comment card.

10 So at this point, Tim, if you're ready -- are we
11 cued up for Tim's presentation? Of course, it would be
12 better if the (unintelligible) can see. The presentations
13 went together?

14 **MR. FONG:** Okay. Is that okay? Okay.

15 **MS. BAIER-ANDERSON:** Hi. This is Carol. Can you
16 please send me Tim's presentation? Thank you.

17 **MR. FONG:** No.

18 **MS. WILLIAMS:** Yeah. That's important for Carol.

19 **MR. FONG:** I'm sorry. I don't know if you heard
20 that, but the presentations were just posted on the Web.
21 Does she have a Web address for that or --

22 Okay. Carol, please let us know if you are
23 unable to get to it and I can ask Corey or someone to send
24 that to you directly.

25 **MS. BAIER-ANDERSON:** Okay. I should be able to

1 download it. Thanks.

2 **MR. FONG:** Great. Now Tim.

3 **MR. MALLOY:** Okay. Thank you. Well, thanks for
4 inviting me to give this presentation. I should say thank
5 you, Art, for the intro.

6 This is more about what other people are doing
7 than what I'm doing. I mean, I'm doing some of it, but
8 it's more about building networks, as you'll see.

9 So, a couple weeks ago, we had what we're calling
10 A3. They're all Advancing Alternatives Analysis Working
11 Conference.

12 I'm going to give you a brief overview. I
13 thought the best way to do it would just be to answer some
14 basic questions that you probably had. The people at the
15 conference, especially the P2 people, you're going to like
16 this because I'm recycling the presentation I gave at that
17 conference. Right? So we're saving some resources here.

18 So first question that you might have,
19 what -- what was it, what were we trying to do?

20 This is a working conference and the focus of it
21 really was to look at what's being done in the area of
22 Predictive Toxicology and the area of Decision Analysis by
23 experts and researchers and practitioners and how that can
24 be brought in to inform what we do in Alternatives
25 Analysis.

1 Our impression was, and I think this was borne
2 out by the conference, is that many of the people who were
3 working in those related areas really didn't have a sense
4 of what AA was about or why it was important and what was
5 going on in it.

6 So, for example, one of the leading people in
7 predictive talks is Richard Judson out of EPA.

8 He did a paper a few years back where he did a
9 comparative analysis of oil dispersants associated with the
10 Deep Water Horizon catastrophe using Predictive Tox
11 approaches coming out of Tox Chaos and Tox 21.

12 And yet, there was no crossover between that and
13 the AA world. And we thought well, it was time to start
14 building those bridges.

15 So the goal was to do exactly that. We're going
16 to -- it's a starting point. So the goal of the conference
17 was not to -- to actually integrate. It was to start
18 figuring out what would we have to do to do it and what
19 also, to figure out whether it makes sense to try.

20 Okay. So why? I don't think I have to tell this
21 group so much why.

22 Clearly, in California, in Washington, globally,
23 it's important to do AA, but you may be thinking why me?
24 Why a lawyer? What's a lawyer got to do with Predictive
25 Tox and Decision Analysis.

1 And I'll just say from our perspective in my
2 program, Sustainable Technology & Policy program, we see
3 these tools, Predictive Tox, Decision Analysis, AA as
4 central to having kind of robust, legal frameworks, like in
5 California and elsewhere.

6 You just cannot have a prevention-based reg like
7 this if you don't have a robust, legitimate, defensible
8 methodology. And the clearest example of that is the
9 failed program at TOSCA, when back in 1989 and early 90s,
10 they attempt to phase out asbestos based on an Alternatives
11 Analysis failed and in part, because the Fifth Circuit
12 turned it back because of deficiencies in the methodology
13 that was used by EPA.

14 So from why do it? From a legal standpoint
15 because it's the whole game. I mean, if you like to speak
16 in baseball methodologies or analogies. I don't know.
17 Some people like to do that. But it's the whole ball game.
18 If you can't get that right, you're not going to be able to
19 support a legal framework.

20 Who -- so who came? As I mentioned a little bit,
21 we brought people from EPA, NTP and IEHS and various
22 academic institutions and other non-profit organizations
23 who are doing Predictive Toxicology at a very high level.

24 We also brought folks who are academics and
25 practical folks in Decision Analysis, together with kind of

1 the usual suspects from AA, right?

2 So I can share the attendee list with you. Many
3 of the people who are in this room were at the conference.

4 It was really kind of an astounding group of
5 people. We invited 50 people to come. Forty-seven of them
6 said yes. So there was clearly a lot of interest in that.

7 How? What did we do? So the idea was -- what
8 you have to do is you have to get these people in a room,
9 lock the door and not let them until they've actually
10 learned how to talk to one another. And that's exactly
11 what we did.

12 We broke them into three working groups: two on
13 Predictive Tox, one on Decision Analysis. And we mixed.
14 We had a bunch of AA folks mixed in with the Predictive Tox
15 folks. We had a bunch of Decision Analysis people mixed in
16 with them.

17 And we basically presented them with kind of
18 three goals. The first was to develop a tentative menu of
19 approaches or tools that might be useful in AA. All right.

20 The second was then to identify, to the extent
21 they could, advantages and limitations. What are the
22 barriers? What are the boundary conditions, so on and so
23 forth.

24 And then in the third working session, we tried
25 to develop a tentative road map of what you might do next

1 if this looked like it was a valuable path to take.

2 When you're trying not to over promise or be too
3 ambitious, we weren't again trying to answer the question
4 or identify that tool or another tool, but rather to kind
5 of do a -- a -- one might say kind of a thought experiment
6 about could this really work and if so, what would you need
7 to do in order to make it happen.

8 Okay. So -- and we were really interested in
9 concrete outcomes. So I'm going to tell you a little bit
10 about the concrete outcomes. I don't want to take up too
11 much time.

12 And what I'm going to try and do is focus it on
13 what's relevant to the DTSC in this panel in terms of
14 future things that we're going to be doing.

15 So we're going to be coming out with conference
16 proceedings, which I'd encourage you all to take a look at.
17 We also distributed some background documents that were
18 prepared for the conference; one on Predictive Tox and one
19 on Decision Analysis.

20 And we did that to try and bring people up to
21 speed who weren't really familiar with these. And in
22 preparing them, it really opened our eyes up.

23 So, for example, we talk about Predictive Tox as
24 if it's one thing and it's not. There's a variety of
25 approaches. And different theoretical perspectives about

1 even things like high throughput screening or what a quasar
2 is and what it can do.

3 So getting people in a room and giving them a
4 concrete case student to talk about this really highlighted
5 the fact that there's a -- a diversity of tools that are
6 out there. And the conference proceedings will kind of
7 illustrate and talk about what we think are the next steps.

8 We're also going to be generating a paper. I'm
9 calling it "Decision-making about Decision-making," where
10 we sat in a room and, I mean, you know, I know some of you
11 think of me as, like, all he's about is MCDI. He wants to
12 do MCDI.

13 And maybe a little bit. I mean, it is
14 interesting. But what came out in the room was it's all
15 about fit for purpose.

16 So the Decision Analysis people were talking
17 about situations in which the formal tools would not be
18 appropriate. All right.

19 And we started talking a little bit about so what
20 are the various -- kind of the -- the scope or the -- the
21 continuum of structured decision-making that you might be
22 able to use in different contexts.

23 And it was a really, I think, kind of very
24 contextual and rich discussion beyond what I've seen in
25 most other conversations where people are just kind of

1 thinking monolithic, like -- monolithically about MCDI as
2 if it's one thing. And of course, it's not.

3 The other thing that will come out of this is
4 what's the next conference. Everybody wanted to have
5 another conference. And I'm pretty sure the one we're
6 going to do is on -- focusing on Ecotoxicity and Predictive
7 Toxicology and decision-making for Ecotox. Because here's
8 the interesting thing.

9 If you ask where's the area where Predictive Tox
10 kind of first seemed to take hold in regulation. It was in
11 Ecotox with Eco-SAR and EPA developing that back in the
12 70s.

13 Where's it gone since then? There's almost no
14 discussion even at our conference about how to do these
15 things. And they're really thorny problems. So we think
16 that's the rich place to go next. So we'll keep you posted
17 on that.

18 Almost done. What's next, medium-term. This is
19 the -- kind of the fun stuff.

20 One thing that came out of it is we need an
21 infrastructure for continuing these conversations and
22 organizing research priorities and networking together

23 There was a lot of networking -- I mean, really
24 substantive interactions that took place. I'll give you
25 one example.

1 Meg Whitaker at the -- those of you who know Meg,
2 she's working on that project in Washington State on the
3 anti-foul paint.

4 You know, at the conference, she met Kris Thayer
5 from NTP and Kris has already provided her with some
6 Predictive Tox data on endocrine disruption that she's
7 going to use in that -- and that's exactly the kind of
8 thing that we were hoping to elicit, but we also want to
9 kind of systematize that.

10 So we're thinking about trying to create research
11 networks that would support this in a kind of more ongoing,
12 sustained way and also help develop projects and funding
13 mechanisms to support that work.

14 So, you know, anybody who's interested in hearing
15 more about that, let me know. We're also trying to think
16 how do we fit that in with existing initiatives, right.

17 So there's a group of us kind of led by Joel
18 Tichner that has AA commons and we're trying to think, so
19 how do we fit what we're doing on Predictive Tox and
20 decision-making into that framework already, so as not to
21 replicate and overlap, so on and so forth.

22 The other thing that I think is -- so the
23 research coordination network I think is going to be
24 relevant to -- to DTSC and your efforts because that can be
25 a resource.

1 I should also point out that within the UCs we're
2 trying to develop kind of an integrated way of dealing with
3 these questions. And we do have a proposal into the State
4 for multi-campus research initiative that links together
5 six UC campuses to work on these kinds of problems.

6 So that is kind of a -- a integrated research
7 coordination network, but it would also fund actual
8 research in a -- (unintelligible) areas.

9 The substantive research that came out -- I got a
10 list -- literally, it's this long. I mean, seriously, it's
11 this long of things that people want to do or said would be
12 relevant to do to advance this. I've put it down into one
13 slide and tried to make it relevant to you, but please know
14 there's lots more that is there and I've kind of very much
15 distilled it.

16 But in terms of substantive research, I'd say the
17 big winner was case studies. Everybody wants to do case
18 studies, but not case studies just for the fact of messing
19 around and see what happens, but directed case studies.

20 So, for example, case studies that would actually
21 compare different decision approaches using kind of
22 operationalized metrics.

23 So this leads into this other question of
24 developing evaluation methods. How do you know you have a
25 good AA method? How do you know your program's working?

1 Doing kind of evidence-based evaluation of methods and
2 programs came out of this conference as it's really
3 important.

4 So that's one of the thing that came out is that
5 we wanted to develop some case studies that actually do
6 that in an empirical way that we'd be able to compare
7 across different contexts and so on and so forth.

8 There's lots of other substantive research,
9 ideas, but the idea of doing case studies, both with
10 respect to how to use Predictive Tox in a meaningful way
11 and how to integrate Decision Analysis were two of the big
12 winners.

13 The other thing that came out of it was tool and
14 resource development. A recognition that these things have
15 to be tractable and accessible to users.

16 So both in terms of Predictive Tox, where folks
17 were talking about developing different kinds of resources
18 or clearinghouses that would make data available in an
19 accessible way, but also developing Web-based decision
20 support tools that would take, you know, not necessarily a
21 very formal MCDA model, although that certainly would be
22 part of it.

23 But also kind of expert approaches and structured
24 decision-making and making those available that -- so that
25 folks could use them and populating them with some of the

1 case studies, so people could see how they would work.

2 So I think that's particularly relevant to some
3 of the discussions that the Agency is having about what
4 kind of tools would be available.

5 And these would all be developed with an eye
6 specifically customized to AA and perhaps particularly AA
7 in California, although the goal, I think, would be to make
8 them also kind of applicable elsewhere as well.

9 And then the last was education and outreach. I
10 mean, we're academics, mostly, at least the people who were
11 kind of deeply involved in the conference.

12 So we're thinking about how do you build out the
13 next set of graduate students and leaders? How do you
14 teach them about this? How do you integrate it into your
15 education? How do you reach out to stakeholders and
16 practitioners now?

17 And there was a lot of interest in developing
18 some undergraduate and graduate curriculum and also
19 developing kind of systematic ways of doing informal or
20 professional education.

21 So what's going to happen next is we're sending
22 around a survey to everybody who came to the conference,
23 gauging their interest in various areas.

24 And what we're probably going to do is set up
25 some kind of steering committees under each of these areas.

1 We'll generate, hopefully with the research coordination
2 network, some proposals that will go to get some funding
3 support it.

4 And on the substantive research, we use those
5 workgroups to kind of scope out what those research
6 agenda -- that agenda should be and then start to think
7 about putting together proposals, and so on and so forth.

8 So that's -- you know, so I converted, like, two
9 days of intense conversation into, I hope, about seven
10 minutes. I don't know. I wasn't keeping track. I'm sure
11 somebody was. And then I just have and Bill did not fall
12 asleep, at least not noticeably, so I think I would rate
13 this a success.

14 So -- and I'll take any questions, if there are
15 any.

16 **MR. FONG:** Tim, thank you very much. We have
17 about five minutes set aside for questions. So if you have
18 questions, let's continue to use name tent method. Ken
19 Geiser.

20 **MR. GEISER:** (Inaudible).

21 **MR. FONG:** Mic.

22 **MR. GEISER:** Sorry. The background or the CHU
23 (phonetic) used for Predict -- on the Predictive
24 Toxicology, is that something you guys wrote or is it -- or
25 what I'm really asking is would it be useful for sending

1 out to the -- the grasp itself?

2 **MR. MALLOY:** It -- I think Corey sent it to the
3 GRASP and I think it would be -- that was something that we
4 generated and then we had it kind of basically peer-
5 reviewed by some of the people who were coming to the
6 conference. The same with the Decision Analysis piece.

7 And, you know, I do think it's really -- I would
8 say take a look at it because for me, I was involved in the
9 drafting with some other people. It was really helpful
10 because it really forced you to think through, well, what
11 do I mean by Predictive Tox? I didn't go into some of the
12 problems.

13 One of the things we did in the conference was
14 kind of, like, layout what are the obstacles to using it in
15 kind of a deep way. And it doesn't touch on those. That
16 will be in the conference proceedings. But there
17 are -- the fact is there are some challenging obstacles
18 that you're going to have to face, some scientific; some
19 institutional and the same on Decision Analysis, you know.

20 I would just say, you know, the conference
21 brought to light, I think, very legitimate concerns about
22 the role of different types of decision tools that I think
23 legitimately have to be addressed through research. And I
24 think that was one of the positive things.

25 And if I can add just one other thing, since we

1 have a couple minutes.

2 The other thing that we're doing that's kind of
3 linked with this is we have a survey that just went live to
4 folks in the Society of Tox -- Toxicology, SETAC and a
5 couple of other professional organizations that's looking
6 at from how familiar people are with various types of
7 Predictive Tox and the purposes to which they put it in
8 their businesses and in their agencies and non-profits and
9 so on and so forth.

10 So just an advertisement. So anybody who
11 is -- happens to be part of those, if you see it, give it
12 just another -- take a look at it; fill it out because it's
13 really -- I think you'll find it very useful. Because what
14 we did, instead of just asking about Predictive Tox, is we
15 defined it functionally. Broke it down into about
16 eight -- seven or eight different explicit types of
17 Predictive Tox approaches or tools and then asked how much
18 do you use that? What do you use it for? What does it
19 support? And I think it's going to give us a real snapshot
20 of where Predictive Tox is in industry and government right
21 now.

22 So I'd encourage you, if you see it, to go ahead
23 and please answer it.

24 We have about, I think, 500 responses so far and
25 we're hoping to get a couple thousand by the time the

1 survey's done. Thank you for the time. I appreciate it.

2 **MR. FONG:** Excellent. Just one quick question
3 for the DTSC staff members. Do you guys see any crossover
4 or -- with what you're doing and Tim's effort?

5 **MS. WILLIAMS:** The short answer is yes and I know
6 would -- do you want to say anything about what you
7 think -- I'm sorry. There you are. About what you think
8 we will apply in the near-term?

9 **MS. OSTRUM:** Sure.

10 **MS. WILLIAMS:** Thanks. So Nancy was able to
11 attend and so she'll -- she'll give a couple comments.

12 **MR. GEISER:** And Art, can I just say, if -- I
13 appreciate you say Tim's effort, but I just want to point
14 out it's like Julie is involved in it. Dalai, Meg's group
15 at UC Berkeley is on that proposal. There's people at
16 Riverside and UC Santa Barbara, too. So it's really kind
17 of a very large group of people who are involved.

18 **MR. FONG:** Oh, absolutely.

19 **MS. OSTRUM:** Yeah. I -- I very much enjoyed
20 going and I really appreciate them organizing it. It was a
21 wonderful discussion. I was in the decision group. And
22 I -- I took a -- a lot of information away to actually
23 apply in our guide the -- at the time, I've just started
24 writing the chapter on the decision part for the guide.
25 And it has really informed a lot of what I'm thinking about

1 in terms of what we're going to put in the guide.

2 **MR. FONG:** Excellent. Thank you very much. So
3 next on the agenda item -- and since Nancy's already
4 standing up there, it's -- Nancy's going to give us a
5 presentation on the conceptual model.

6 And just -- I just want to say we really
7 appreciate your flexibility in terms of rearranging your
8 schedule to accommodate Helen's travel needs. Thank you
9 very much.

10 **MS. OSTRUM:** No problem. I have to be here
11 anyway. So as -- as Meredith pointed out and Art also, we
12 took a lot of the information that we received,
13 particularly the comments from one of the previous Grass
14 meetings about the conceptual model.

15 And we took it back and spent some time talking
16 about it amongst ourselves and discussing it and thinking
17 of ways that we can apply the conceptual model in the
18 information we're providing to people on how to do
19 Alternatives Analysis.

20 And so this is a really brief overview of a
21 presentation that some folks in our team have developed to
22 introduce this concept to folks who are doing Alternatives
23 Analysis and suggest ways to use the conceptual model when
24 they're thinking about Alternatives Analysis.

25 Meredith will talk a little bit more about the

1 guide after I'm done, but I think Karl mentioned yesterday
2 that our ideas for the guide is not just, you know, a paper
3 guide.

4 It's -- our ideas for the guide involve a lot of
5 additional information in terms of maybe online sources,
6 training, workshops, that sort of thing.

7 So this could be a presentation that we might use
8 in a training for a certain audience, perhaps less
9 sophisticated in terms of alternatives or less experienced
10 in terms of Alternatives Analysis to sort of spark some
11 thinking about how to use the conceptual model.

12 So as you know, the conceptual model is a
13 graphical depiction. And it emphasizes how chemicals of
14 concern or chemicals are used in products; how releases
15 occur and how those releases can result in exposures.

16 And our emphasis is, of course, on different
17 product phases, not just on the use and disposal phase.

18 We think of the conceptual model in Alternatives
19 Assessment as a starting step, a way to sort of visualize
20 some of the connections in the way chemicals are used
21 and -- and what happens to chemicals throughout the life of
22 a product.

23 But it's -- it's really useful throughout the AA,
24 when you think about throughout the life of the product.

25 And -- and finally, one of the aspects of the

1 conceptual model is that it really shows differences in how
2 chemicals are used when you're looking at the chemical of
3 concern and other alternatives.

4 So we thought it was a perfect way to think about
5 relevant factors and identify the relevant factors and
6 those -- that would be used in the analysis.

7 So what we did for this presentation was we came
8 up with an example. And I promise you this example was
9 developed before the NAS report came out.

10 It's going to look very similar to an example you
11 heard about yesterday.

12 We have Chemical X, the chemical of concern,
13 which is a flame retardant. We have Alternative A, which
14 is a chemical substitute for that particular flame
15 retardant and Material B, which is a completely different
16 material replacement that doesn't require a flame
17 retardant.

18 And so, in this example, we're looking at
19 exposure during the use phase. We emphasize fate and
20 transport with some of the exposure implications associated
21 with those. And then we take it one step further and look
22 at some of the lifecycle considerations and -- and start
23 identifying relevant factors.

24 So I just learned how to animate in PowerPoint,
25 so everything is animated. I'm so excited. My -- my

1 daughter taught me how to do it, so it's awesome.

2 So here's our Chemical X. And so the first step
3 is to think about why the chemical of concern was listed.
4 We can look at -- for the listed chemicals; we can look at
5 DTSC's candidate chemical database and find that it was
6 listed for these health concerns. And because it's bio
7 accumulative and persistent.

8 Now, when we think about the exposure, one of the
9 things we're thinking about during use is the chemical is
10 released in the home environment and gets incorporated into
11 the dust in the home environment. And exposures occur
12 either directly to humans and then sometimes the dust is
13 swept in -- or occurs in the storm drain.

14 Now, remember, this is a made-up example. This
15 is -- these are scenarios that we made up for the purposes
16 of illustration.

17 And then in the disposal phase, we're assuming
18 that incineration has occurred and so there would be
19 emissions associated with the incineration.

20 And then this another depiction of a -- of a
21 conceptual model. And this is a little bit busy, but
22 it -- it focuses on the fate and transport and it talks
23 about some of the rates and amounts of emissions and
24 releases that could occur. And we see that emissions from
25 the city result in exposure to water and land.

1 And then it -- it's a little -- again, it's a
2 little bit busy, but it does sort of emphasize that the
3 emissions sort of travel over distances.

4 Okay. And so, we know it's persistent and bio
5 accumulative. And those are actually supposed to be a herd
6 of cows, although when I look closely, they look more like
7 sheep.

8 But the -- the emphasis is that the food sources
9 are exposed to the emissions and because it's persistent
10 and bio accumulative, it -- it builds up in the food
11 sources and humans are exposed to food sources.

12 Now, another way to look at this kind of a
13 conceptual model is a different emphasis. If we wanted to,
14 we could emphasize ecotoxicity. And -- and, you know,
15 consider impacts associated with those.

16 And this is a third kind of conceptual model.
17 This one is going to be a box diagram you'll see.
18 The -- this one focuses on use and disposal again. We're
19 still on use and disposal.

20 And again, this one shows that the -- that the
21 release goes into household dust. And this one focuses on
22 exposure. So, it shows that it's going into indoor and
23 outdoor air. We have inhalation exposure, dermal
24 exposures, oral exposures and environmental exposures.

25 So this is again, each of these emphasizes a

1 different aspect of the model and shows it in a different
2 way. So again, this is the -- the cute one that shows the
3 fate and transport of Chemical X. And how we're going to
4 compare it to the alternatives.

5 So here's fate and transport of Alternative A.
6 Now, when we see -- we do research on Alternative A and we
7 see that these are the health effects of concern. And this
8 is instead of being bio accumulative and persistent, this
9 particular alternative, we are concerned with aquatic
10 toxicity.

11 We have similar routes of exposures with these,
12 but we can see with this alternative, even though the
13 routes of exposure and the pathways of exposure are very
14 similar, our health concerns are different. I think
15 reproductive tox is the only one that's the same on both.

16 And then when we look at fate and transport of
17 the materials, switch out Material B, there are no
18 health -- health effects of concern with this particular
19 material in our -- in our assumption, in our made-up model.

20 We are -- we do have bio accumulation of
21 persistence that we're worried about. And so pretty much,
22 it's just the end of life phase that we're worried about.
23 We're not as worried about the use phase.

24 So now, we're going to look at another way of
25 looking at these with a lifecycle perspective. And again,

1 we're going to start with use phase. And here, we're just
2 looking at Chemical X in the first alternative, Alternative
3 A, which is the chemical substitution.

4 We have the same releases as before. And we have
5 the health -- oops; come on -- the health effects of
6 concern.

7 And so that's the use phase. Now we add in the
8 disposal and recycling phase. We saw those before.
9 Incineration and these are the concerns.

10 Now when we look at it this way, we can readily
11 see the differences in the concerns between the two
12 alternatives. And so, we know when we're looking at this
13 and a responsible entity is going to know, that those
14 differences are potential, relevant factors.

15 Now, they still need to determine if they're
16 materially different and if the impact is of material
17 importance. My mouth is really dry.

18 But it -- it gives an -- an indication at the
19 beginning of which -- which things they need to think
20 about.

21 Thanks, Bob. I should have brought it with me.
22 Okay.

23 So here, we have use and disposal. Now, we're
24 going to add in some of the other phases. And we know in
25 our requirements, we have to look at the complete lifecycle

1 of the product.

2 So now, let's add in the processing phase. We
3 see that the original chemical of concern, Chemical X, uses
4 more plastic, so that's an impact that we're going to have
5 to think about.

6 But Alternative A uses more chemical -- less
7 plastic, but more chemical. And so that becomes a factor
8 in the analysis that the responsible entity is going to
9 want to look at. Which of those is -- has a greater impact
10 and if -- if that can be determined and which one affects
11 the outcome more.

12 Okay. Now we'll take it back one step further.
13 Raw material extraction. Let's look at the mining impacts
14 associated with two different chemicals.

15 And the details are there for comparison, but the
16 real important thing is that one of them is a scarce
17 resource. So that is another consideration, another
18 difference between the two alternatives. Another
19 potentially relevant factor.

20 And then we'll bring in transportation. We're
21 always going to have to consider transportation. And these
22 are -- this is transportation among all the phases and the
23 factors are distance mode, weight of product, those are the
24 sorts of considerations when we're thinking about
25 transportation.

1 So that is -- that's -- that's an overlay that
2 occurs over all the phases.

3 So in summary, the conceptual models can help the
4 responsible entity when they're doing the Alternatives
5 Analysis to really visualize the differences,
6 particularly -- and -- particularly among exposures and
7 pathways and health impacts and other impacts
8 during -- throughout the lifecycle.

9 And so it clarifies some of the -- and it
10 visually clarifies some of the similarities and differences
11 and helps people to go beyond use and disposal phases and
12 consider other phases.

13 Jordan Chamberlain was a Student Assistant we had
14 over the summer. She developed some of these slides and
15 really is -- did a lot of the lifecycle stuff.

16 And so, in conclusion, I'd like to say Go Giants.

17 **MR. FONG:** Are there any questions for Nancy? I
18 already see Bill and Kelly, so Bill?

19 **MR. CARROLL:** Yeah. Thanks. Thank you, Jerry.
20 Thanks Nancy.

21 As -- as I'm looking at this, I'm -- I'm
22 wondering about the other side of the equation. As you set
23 these up, are you setting them up at equivalent benefit?
24 Presumably the reason the flame retardant is there is
25 because -- because you didn't want the laptop to catch on

1 fire.

2 **MS. OSTRUM:** Right.

3 **MR. CARROLL:** Is there any consideration to how
4 you normalize those -- those two scenarios to
5 the -- it -- the ability of the flame retardant? Or for
6 that matter, how you evaluate the use of -- of an
7 alternative material that might not be flame retardant at
8 all and -- and you, you know, you -- you take that into
9 consideration. Do you have any thoughts on that?

10 **MS. OSTRUM:** Well, the -- this actually comes
11 after we identify alternatives. So, the -- you know, this
12 is -- the alternatives have already been identified.

13 And so part of the identification of alternatives
14 takes into account equivalent function.

15 **MR. CARROLL:** May I follow up? And
16 maybe -- I -- I understand what you're saying, but I'm also
17 looking at this example where you specifically got a recipe
18 that shows, you know, 85 percent, you know, plastic in one
19 case and 70 in another, which tells me that you balanced
20 formulations, in this -- in this case, to -- to, I guess,
21 to take that in -- into account?

22 **MS. OSTRUM:** To -- yeah. To get the same effect.
23 That was -- that was the calculation that was done to get
24 the same, you know, sort of ultimate functional affect from
25 the product.

1 **MR. FONG:** Good. Kelly?

2 **MS. MORAN:** Yeah. I'm wondering if you can go
3 back to the slide on the indoor -- it's pretty early in the
4 presentation where you -- you're showing kind of the use
5 phase and what's going on during the use phase.

6 **MS. OSTRUM:** Can you start it again, James?

7 **JAMES:** Sure.

8 **MS. OSTRUM:** That way, we don't have to go
9 backward through all the animation.

10 **MS. MORAN:** Okay.

11 **MS. OSTRUM:** This one?

12 **MS. MORAN:** No. The one that -- the flowchart
13 and the use. So keep going a little farther.

14 **MS. OSTRUM:** Oh, the -- for the lifecycle aspect?

15 **MS. MORAN:** Yeah. I don't know if it was
16 lifecycle. It's here. It's this one.

17 **MS. OSTRUM:** Oh, okay.

18 **MS. MORAN:** And when you get them all in there.

19 **MS. OSTRUM:** Our box diagram.

20 **MS. MORAN:** Yeah. So what I -- what I wanted to
21 remark is that this kind of stuff is extremely helpful when
22 you're trying to review things and see if everything's been
23 thought about. And so I'm really psyched that you're
24 seeing that.

25 Because I was able to immediately look at this

1 graphic and say, oh, there's a pathway missing. And
2 that's -- so I've got my little -- oh, I don't if -- oh, it
3 won't work. Oh, it will work.

4 **MS. OSTRUM:** I've got a --

5 **MS. MORAN:** But the household dust can also get
6 to a sewage treatment plant because the dust can be cleaned
7 up with water or so forth and swept up or your carpet is
8 washed with a shampooer and it goes down the drain. And
9 we've seen that as a pathway for pesticides and other
10 things.

11 And what's cool about this is you flashed this up
12 there and I could look it over and see that in seconds.

13 **MS. OSTRUM:** See it immediately. Yeah.

14 **MS. MORAN:** And that's the power of this kind of
15 thing for you guys as reviewers. You can look at pathways
16 and say well, I think that's not so likely, but here's a
17 pathway that's missing, which is super-important to find
18 out what's not there when you guys are reviewing AAs.

19 So I -- I just want to be very supportive of you
20 guys using this kind of approach and give you a hands-on
21 example of how quickly it can work.

22 **MS. OSTRUM:** Great. Thank you.

23 **MR. FONG:** Thank you. I have Don, Ken Geiser and
24 Mike next on the list.

25 **MR. VERSTEEG:** Okay. Thank you, Art. A

1 question, then I've -- then I've got some input.

2 On the lifecycle assessment or the lifecycle
3 phases, I was expecting to see, you know, greenhouse gases,
4 energy, water, resource use. And I was also expecting to
5 see other chemicals that are needed during the production
6 process and their emissions to the environment and -- but I
7 didn't see that, so --

8 **MS. OSTRUM:** Yeah. This is -- this is a very
9 abbreviated --

10 **MR. VERSTEEG:** So did you think about that?

11 **MS. OSTRUM:** -- version --

12 **MR. VERSTEEG:** Okay.

13 **MS. OSTRUM:** -- of -- of the presentation. And I
14 think ultimately, there -- you know, if we were to do this
15 and prepare the -- well, the lifecycle part. This is just
16 a very small portion.

17 **MR. VERSTEEG:** Okay.

18 **MS. OSTRUM:** I just pulled out, you know, like,
19 four slides from the lifecycle presentation. The deck is
20 much larger. But yeah. Ultimately, I think we would
21 include all those aspects.

22 **MR. VERSTEEG:** Good. Thank you.

23 And then I think I'm -- where Kelly was kind of
24 going. I see -- you guys are going to have, you know,
25 spray foam products and paint strippers and, you know,

1 personal care products. So you're going to be in a lot of
2 different scenarios. And it's very important to get your
3 conceptual model right.

4 For me, a -- a flame retardant, the conceptual
5 model for the original and if it's chemically similar, the
6 conceptual model for the alternative, are very, very
7 similar.

8 What you -- what you do is you ask -- so both
9 could go to dust, but it's up to the -- the company, you
10 know, providing the data to say this is or is not a
11 relevant part of it and here's our data to support that.
12 And they take it off.

13 **MS. OSTRUM:** Exactly. Exactly.

14 **MR. VERSTEEG:** Rather than, here's one conceptual
15 model and oh, voila, our new chemical has a completely
16 different conceptual model, even though it's physical
17 chemical properties, toxicology, you know, exposure looks
18 kind of similar.

19 **MS. OSTRUM:** I think you described the -- how to
20 determine the relevant --

21 **MR. VERSTEEG:** Okay.

22 **MS. OSTRUM:** -- factors better than I did.

23 **MR. VERSTEEG:** Okay.

24 **MS. OSTRUM:** That was great.

25 **MR. VERSTEEG:** Well -- well, I just wanted to

1 make sure I understood and --

2 **MS. OSTRUM:** Yeah. Yeah.

3 **MR. VERSTEEG:** Sounds like it.

4 **MS. OSTRUM:** That's exactly the point.

5 **MR. VERSTEEG:** Okay. Good. Thank you.

6 **MR. FONG:** Don, thank you. Ken Geiser?

7 **MR. GEISER:** Well, first of all, I like it a lot.

8 I like what you're doing. I think it's very helpful and
9 I -- in the spirit of what Kelly said, which is just being
10 able to see it, then you quickly can go, like, oh, this is
11 missing or that's missing. And I think that's really,
12 really interesting.

13 I don't know why I want to say -- it's
14 partly -- partly because Bill said what he -- he said I
15 just want to pick up that theme, which is, you know, once
16 you get these things set up, you can begin to add other
17 things to them.

18 Like, factors such as performance and cost.
19 Because, of course, eventually, the selected alternative
20 has to meet more than just its hazard attributes. And it
21 just seems to me -- I guess, all I'm doing is sort of
22 following up and saying cost is another one of these that
23 comes in. But I think that the way to think about this is
24 for the Department to get a really good conceptual model
25 based on -- on hazard.

1 And -- and I think -- I think that Don's right.
2 It's -- you want to think about sort of the embedded hazard
3 of what chemicals are needed in production of the chemical
4 and what are the likely breakdown products after the
5 chemical enters the environment or enters human
6 health -- human body or something like that.

7 But once you have that all out there and it's big
8 and clumsy and remarkable and all --

9 **MS. OSTRUM:** Multidimensional.

10 **MR. GEISER:** Anyone can add, you know, costs and
11 performance and other such things that get you a much
12 richer texture for the thing.

13 So I like it. I think it's -- as a first step, I
14 think it's great.

15 **MS. OSTRUM:** Thank you.

16 **MR. FONG:** Thank you, Ken. I have Mike, Cal, Meg
17 and Tim. Mike?

18 **MR. CARINGELLO:** Thank you. Very nice job
19 presenting that.

20 And I'm -- I'm having to join the -- the Kelly
21 bandwagon here of saying I really like the graphical nature
22 of it. And -- and slightly different -- different
23 rationale on my part.

24 What -- what I've found is that it really draws
25 the -- the audience in. It -- it builds a common language,

1 so you can start the discussion.

2 So -- so you've got the graphic. Either the
3 lifecycle or in the end of the alternative and both sides
4 see the same thing. And as we're -- as Kelly was saying,
5 oh, I notice this is missing. And right away, it can be
6 added into the graphical presentation and flowed through
7 into later parts. I think that's going to be really key as
8 the program goes along with Alternative Assessments, is
9 getting common language between industry, between the
10 public, between the agency. I -- I think that's really
11 good.

12 So I apologize if I missed this somewhere, but in
13 the end, as we're looking for safer products through the
14 assessment, does this lend itself yet or is it a future
15 step, to having a quantitative sort of scoring system to
16 say okay. This one comes out as it's safer, or is it -- is
17 it the visual, graphic nature? You say, okay. This kind
18 of -- a preponderance on this side. It looks like, you
19 know, do you get a -- is there a possibility somewhere of
20 a -- a ranking system? Say, yeah, this one is safer or
21 not?

22 **MS. OSTRUM:** I'm not going to say there's no
23 possibility of that, but I think that the -- I think that
24 the complexity of the decision when you get to that point,
25 would -- would -- would be difficult to handle in -- in a

1 flowchart. But I think in a -- maybe a tabular form, kind
2 of, that -- that kind of, you know, maybe moves from the
3 flowchart or the -- or the model to tabular form that makes
4 that connection might be a good way to do that.

5 **MR. FONG:** Mike, thank you. Carol, are you on
6 the line? Can you hear us?

7 **MS. BAIER-ANDERSON:** Yes, I can. Thank you. In
8 the example presented, the scope was limited to use and
9 disposal phase, but with a material substitute, the major
10 differences may actually wind up being out of scope in
11 terms of, you know, the monomers used additive, et cetera.

12 So the scope might need to be adjusted to capture
13 key differences if the decision is kind of moving in that
14 direction, but just an observation.

15 Another point, and this is kind of building on
16 Mike's comments that often we hear stakeholders want an
17 algorithm that provides an answer. But, you know, clearly
18 so much of this is reasoning -- reasons, like, reasoning
19 through the conceptual model and going against different
20 paths and -- and finding kind of conflicts and trade-offs.

21 So there -- there really, at this point at least,
22 there -- it's not easy to compare the options. So that
23 means that transparency is really critical, so that
24 the -- the reviewer or reader can follow the path taken.

25 And then my third point is just a little on

1 build -- building on Kelly's comment that the dust can get
2 into wastewater.

3 There is a new study in Environmental Science and
4 Technology that suggests that the dust will attach to
5 clothes and then come out in the washing machine. And
6 researchers were able to track the chemicals in the dust
7 and in the washing machine wastewater and in the influent
8 and affluent treatment (unintelligible) treatment plants.

9 So there -- there is -- there's some data to
10 support that. That's all. Thank you.

11 **MS. OSTRUM:** Thanks, Carol. And -- and thanks
12 for reminding me on -- as far as your second point goes.
13 That -- that was one of the points I kind of wanted to make
14 is that when -- if a responsible entity is using a
15 conceptual model to show the connections that they've
16 detected within their product and throughout its lifecycle,
17 that then those aspects of the -- of the model need to be
18 described in the Alternatives Analysis.

19 And so that's one of the things we'll be looking
20 for is how things are described in the analysis and to make
21 sure that that aspect of the transparency is reflected in
22 the analysis.

23 **MR. FONG:** Thank you, Nancy. Meg?

24 **MS. SCHWARZMAN:** Thanks very much for the
25 presentation and for taking the conversation from our last

1 Green Ribbon Science Panel on this topic and taking it to
2 the next step.

3 One of the things that came up in that earlier
4 discussion was the prospect of the Department developing a
5 conceptual model as part of the priority product profile.
6 And sort of putting that out to explain as a graphic
7 explanation of the Department's understanding and how they
8 were conceiving of -- how you're conceiving of the possible
9 exposure routes and relevant lifecycle factors.

10 And this presentation was in the context of an
11 AA. And so I just wanted to ask what the status is of the
12 Department's thinking around including a conceptual model
13 as sort of a baseline in the priority product profile.

14 It's an appealing concept to me because I think
15 it gives you something to look at with your stakeholders in
16 the process of developing the priority product profile for
17 them to give feedback of the kind that Don was talking
18 about of, like, we would add this pathway. We don't think
19 this pathway is relevant and here's the data to support it.

20 But it would also then kind of set the bar, so
21 that all the AAs had to respond to each of the elements
22 that are in the conceptual model in the Department's
23 priority product profile.

24 And I think Carol's point is a really valid one
25 that certain alternatives that are proposed may raise other

1 elements that are points of comparison that are not in an
2 original conceptual model, so it doesn't cover all issues,
3 but I think it would be very helpful to have -- have at
4 least a common language at the outset, when priority
5 profile -- priority product profile is created that is sort
6 of a common understanding where everybody's starting.

7 So I wondered what the Department's thinking
8 about that?

9 **MS. OSTRUM:** And I'm not even going to look at
10 you, but I don't think we've made a final decision on this.
11 Is -- I -- so yesterday, Carl mentioned the fact that the
12 team had done a lot of work to think about the process,
13 standardizing the process for putting together the profiles
14 and that included everything from the background research
15 to the review process, internally and they're developing a
16 standard table of contents.

17 And I know we've kicked around the conceptual
18 model as part of that, and I don't know what the latest and
19 greatest thinking is.

20 **MR. ALGAZI:** Yes, Meg. So I'm Andre Algazi for
21 those of you who don't know me. We are, as Meredith was
22 just saying, looking at the contents of the priority
23 product profile, taking into account things we've learned,
24 the input that we've received from you all and we're really
25 not ready to brief Meredith yet on -- on what's going to be

1 in it, but that's definitely something we're thinking
2 about. Thanks.

3 **MS. OSTRUM:** So, maybe I could just follow-up and
4 state more clearly in light of that response then that that
5 would be my recommendation to include a conceptual model in
6 the priority product profile.

7 I think, in fact, you already do all the research
8 that's needed in assembling the profile. And so, it just
9 synthesizes your thinking and makes it much easier to
10 respond to, to present it in this format.

11 **MR. ALGAZI:** Thank you.

12 **MR. FONG:** Andre, thank you. Tim, are you still
13 interested in making a comment or asking --

14 **MR. MALLOY:** Yeah. I couldn't say it better.

15 **MR. FONG:** Okay. In that case, I have Julia up
16 next.

17 **MS. QUINT:** I want to second Meg's
18 recommendation. I'm not a picture person normally, so I
19 would have trouble -- more trouble coming up with something
20 like that. And -- but I think it's really important if
21 you're already have done -- or are thinking this way, to
22 put it out there, so that you don't have to sort through
23 everybody else's conceptual model to make sure that it
24 matches what you're thinking and that sort of thing. And I
25 think it would be really, really helpful.

1 I just wanted -- I was wondering about
2 occupational exposures in here because you have, you know,
3 custodians, janitors, people who are cleaning in situations
4 with lots of computers.

5 I don't know the literature that well on this, so
6 I don't know if that's been documented, but I think that's
7 really something to think about, you know, other than
8 babies crawling and -- and -- and, you know, and personal
9 computer use in homes.

10 And also, recycling of computers as well. And
11 what exposures that might be different than what you have
12 there.

13 **MR. FONG:** Thank you, Julia. Let's finish up the
14 answering -- question and answer session with Ann and Bill.
15 Ann?

16 **MS. BLAKE:** Thanks, Art. Yes, and I think what
17 you're doing there -- there, Julia, is -- is identifying
18 some other pathways that were missing and potential
19 exposures to a different population.

20 I wanted to -- I guess, I'm thirding Meg's
21 recommendation. And I wanted to point out because there
22 was also a lot of discussion last time about the -- the
23 large number of relevant factors and how to sort through
24 that. So I wanted to pull out from what Meg was saying,
25 but that's very key.

1 I think this conceptual model -- nice
2 work -- thank you very much for all the work that you've
3 put into this and all the thinking. And also the different
4 ways of visualizing. And I think that's really helpful.
5 It's a different -- folks who are -- may or may not be as
6 visual in the interpretation.

7 But I think this is really key that if you put it
8 into a priority product profile, you have the baseline
9 relevant factors identified and that would reduce a lot of
10 the -- the fuss of -- fuss and bother around sectors that
11 are having to deal with the 100 and whatever it was that
12 Helen articulated last time.

13 But also, when somebody's responding to the
14 product profile with an alternative, you can highlight the
15 differences of what the alternative might be, but there may
16 be different relevant factors when you switch, as you have
17 in this example, to a material substitute instead of a
18 chemical substitute.

19 So that it would be just much easier to visualize
20 what the difference is and trade-offs are when you do a
21 chemical substitution or -- or a material or redesign or
22 just how different an alternative is from the baseline.

23 So strongly support the recommendation.

24 **MR. FONG:** Thank you, Ann. And Bill is going to
25 have the last word.

1 **MR. CARROLL:** Thank you.

2 **MR. FONG:** As it should be.

3 **MR. CARROLL:** Thank -- thank the chair and -- and
4 I don't mean to be Eeyore here because I am kind of
5 a -- kind of a -- kind of a visual person as -- as well.

6 But just listening to the discussion, you can see
7 how -- how things can easily morph from being sort of a
8 simple block flow diagram that -- that allows you to
9 visualize things easily to a three-dimensional plot that
10 has all of the -- all of the contingencies, ifs and -- and
11 buts in it, and -- and the goal here is to do something
12 simple.

13 And I think Meg's suggestion is a good one. But
14 to recognize that you may not be able to capture all of the
15 nuances in a -- in a relatively simple block flow diagram.

16 And to Mike's point, I think this is exactly some
17 of the things that Tim's been talking about.

18 When you start -- if you start trying to reduce
19 this, you know, to -- to one number, you absolutely get
20 in -- in to MCDA.

21 And how you value such things as the cost, the
22 performance against all the rest of these. And those are
23 really tough -- tough things to reduce to a single number.
24 Thank you, Chair.

25 **MR. FONG:** Nancy, thank you very much for that

1 excellent presentation. The next item on the agenda, it's
2 Meredith is giving us an introduction to the AA guidance
3 synopsis.

4 **MS. WILLIAMS:** Thanks, Art. So I think that all
5 of you expected that this meeting was going to be a review
6 of the Alternative Analysis guidance. When we met last
7 time, we thought that that -- that's where we would be. We
8 thought we would have that draft. It would be in front of
9 you and that you would have a chance to weigh in on it.

10 And circumstances intervened. And -- and I have
11 to say that after this meeting, I'm feeling pretty good
12 about that simply because now we have the NAS report
13 to -- to rely upon. The IC-2 guidance has been out -- out
14 for a while. And we've gotten -- we know that the folks
15 working with the IC-2 guidance have gotten some feedback on
16 what works and what doesn't work for them.

17 And then, of course, Tim has brought together
18 some great thinking about Alternatives Analysis. So the
19 landscape is changing very rapidly. And so, we are -- we
20 will be the beneficiary of that.

21 So you have before you the guide -- the synopsis.
22 And hopefully, you've had a chance to look at that.

23 And in setting up this conversation, I think
24 probably Art and Kelly and I and the team proposed three or
25 four different very specific discussion topics.

1 We thought about talking about data reliability.
2 We thought about talking about how to evaluate the
3 Alternative Analyses. And it really turned out to be quite
4 a struggle to get to the -- again that -- that Einstein
5 quote about getting the -- setting up the right question
6 to -- to facilitate the problem-solving.

7 In some cases, we weren't able to do that. And
8 that's a combination of -- of challenges.

9 I think some of the challenges come from the
10 breadth of audiences that we're trying to reach, trying to
11 know the levels of sophistication of our audiences in terms
12 of how we craft the guidance. A lot of it is simply the
13 uncharted territory of where we are and the complexity of
14 the regulations in terms of the Alternative Analysis
15 process.

16 And so, we decided to just take that step back
17 and open it up to -- your thinking based on this synopsis
18 and really just listen and again, I challenge you to try to
19 help us get to the right question.

20 And we -- we want to be clear about how we
21 deliver the guidance. We do expect to publish what -- what
22 I call the Big Book of Guidance, but are there other tools?
23 Are there other methods to -- to provide people with the
24 information they need to prepare their AAs?

25 Before we dig into it and start getting your

1 feedback, and I'm -- I'm happy to go into any details about
2 any of the particular chapters.

3 I did want to talk a little bit about the guiding
4 principles. We've outlined six guiding principles for the
5 Alternative Analysis, the first of which is that we are
6 hoping that people will consider more than just chemical
7 substitution. That's very much in the nature of the
8 regulations.

9 Lifecycle thinking is critical. Obviously,
10 with -- given the number of relevant factors that are
11 called out in the regs that requires that people really
12 think about the breadth of impacts.

13 And then we get into what we're looking for and
14 what we receive. We -- we're really looking for people to
15 be transparent, to tell us. We -- we use the shorthand of
16 showing your work, but we really want people to document
17 and support the conclusions they draw when they -- when
18 they put together their Alternative Analyses.

19 The other thing we've realized in terms of how we
20 organize this is that trying to write guidance that's very
21 linear, isn't really consist with the regs in that the
22 first stage, you do certain things in the first stage and
23 then you go back to them in the second stage.

24 And so, what we ended up doing was proposing that
25 there's some certain fundamental things you need to do like

1 hazard appraisal and identification of relevant factors.
2 And you may circle back and -- and look at those again.
3 But the expectation is that it is an iterative approach, as
4 new information comes in.

5 As you eliminate certain possibilities, you'll go
6 deeper and deeper -- the rate -- in -- in developing the
7 content for the Alternative Analysis.

8 So that's kind of the big picture of it and I
9 really just wanted to open it up. Tell you what some of
10 our challenges were and we're happy to go into specifics
11 about -- about the various chapters and get any guidance
12 you might offer.

13 **MR. FONG:** Thank you very much, Meredith.
14 That -- are there any clarifying questions for Meredith on
15 the synopsis? We're going to have a panel discussion on
16 the synopsis itself after the break. So this is for
17 clarifying questions.

18 Well, seeing none, let's go on to the
19 next -- yeah. Right. Let's go on to the public comment
20 period of our agenda today.

21 **MS. MAJHAIL:** Are there any public comments?
22 Anybody interested?

23 **MR. FONG:** Yeah. Again, this is public comments
24 to the members of the Green Ribbon Science Panel and not to
25 DTSC. And please, again, keep in mind that this is a

1 working meeting, so the members are unable to answer your
2 questions and/or comments directly.

3 At this point, I just have one card and it's from
4 Dr. Veena Singla of NRDC.

5 **DR. SINGLA:** Thank you. Veena Singla with the
6 Natural Resources Defense Council. And my comment
7 relates -- Thank you.

8 My comment relates to the presentation from
9 yesterday and the presentation that we just saw. So I
10 think something that stood out to me from Dr. Quince and
11 Ms. Holder's presentation from yesterday on the NAS
12 Alternatives Assessment report is that Alternatives
13 Assessment is different from sustainability assessment.
14 And that all factors are not really equal in an
15 Alternatives Assessment.

16 In the NAS framework, there's sort of two tiers
17 with human health and ecotoxicity as the top tier. And
18 other factors evaluated in the second tier.

19 So I think this type of framework is important in
20 being able to sort of prioritize and sort through all these
21 many, many different factors that do come up in a lifecycle
22 thinking assessment.

23 And also related to the presentation from
24 yesterday, the Alternatives Assessment frameworks that were
25 evaluated in the NAS report had a few common themes. And

1 one of those was hazard reduction.

2 I think that's a -- a really critical theme and
3 I'd like to see that -- have the principle of hazard
4 reduction also called out in the guiding principles of the
5 Department's Alternative Analysis synopsis as well.

6 And finally, I would like to say that I very much
7 appreciate the emphasis on looking at a large breadth of
8 alternatives, including non- -- non-chemical replacements
9 in the guiding principles of the Department synopsis.
10 Thank you.

11 **MR. FONG:** Thank you very much, Dr. Singla. Are
12 there any additional public comments? Michael, I am going
13 to mess up your last name, so would you mind --

14 **MR. CARINGELLO:** That's okay.

15 **MR. FONG:** --introducing yourself?

16 **MR. CARINGELLO:** I'll pronounce it for you. How
17 that's? Okay.

18 **MR. FONG:** That's fine.

19 **MR. CARINGELLO:** I'm Michael Schmeida with the
20 OTA Company. I'm a manufacturer of rough plumbing
21 supplies. I'm also the chairman of ASTM Committee E-60 on
22 Sustainability.

23 And within that committee, Task Group Chair of
24 Work Item 40619, titled "Making Chemical Selection
25 Decisions in the Lifecycle of Products."

1 And it's a work item we've actually been working
2 on directly affiliated with or in response to some of the
3 work going on here in California. And I wanted to make
4 this panel aware of that work.

5 It's structured such that it addresses all three
6 tenets of sustainability across all five stages/phases of
7 the product lifecycle. Accounting for human health and
8 eco; social; other social aspects; and economics as well.

9 Also it has a reporting section built into it
10 that would require two levels of reporting. One would be
11 what I would like to call an Executive Summary. Four-five
12 pages. Here's kind of what we did and why and how and what
13 we came to. And then what our work group has called
14 colloquially the God-awful amount of reporting, which might
15 be something that might be submitted to the Department
16 potentially under CVI. The very detailed economic
17 analysis, the very detailed Alternatives Assessment
18 Analyses, stuff like that, as well as a continued
19 improvement section.

20 The kind of here's what we learned and here's how
21 we can get better. And so I wanted to make sure that this
22 panel was aware of that work. I know a couple of you are.
23 And of course, please feel free to look it up and if
24 there's any questions, let me know.

25 **MR. FONG:** Thank you very much for sharing that

1 information. Are there any more public comments at this
2 point? I'm seeing none. We're going to break for 10
3 minutes and reconvene at 10:20, at which time we will have
4 a panel discussion on the synopsis document.

5 So we'll meet back here at 10:20. Thank you.

6 **(Break)**

7 **MR. FONG:** All right. May I have your attention,
8 please? It's a little bit after 10:20, so let's get
9 started. Welcome back. And for the last session for our
10 meeting today, we're going to have a panel discussion on
11 the synopsis document.

12 I just want to make a note of the fact that
13 several panel members need to catch a flight back to the
14 east coast and will be leaving us, probably in about half
15 an hour.

16 And also, Dr. Barry Anderson will be dropping off
17 at about 2 p.m. east coast time, which would be 11 o'clock
18 here. And so just want to thank those members.

19 We really appreciate you making the effort to
20 participate in the meeting yesterday and today.

21 So the synopsis document panel discussions. Some
22 just -- general questions to, you know, we want to get to
23 or that would be helpful in terms of facilitating our
24 discussions.

25 Our first one is are there topics in the AA

1 guidance that should be included that are not noted in the
2 synopsis?

3 And the second question is are there particular
4 chapters or topics that are particularly important for the
5 AA guidance to emphasize?

6 So let's open up the discussion. I have Ken
7 Geiser. Ken?

8 **MR. GEISER:** Well, I'd like to just say something
9 general. So I -- the reason I threw that card up there in
10 the beginning. I want to just make a comment. I know that
11 I've made this kind of comment before in regards to the
12 guidance, but I -- I just want to say it again.

13 I mean, first of all, I think the guidance is,
14 you know, very thorough and it looks great and I like the
15 organization and the outline of it and all.

16 You know, I -- I reflect back, I guess, you know,
17 one of the reasons why -- why I'm valuable is I had this
18 experience in setting up the TURA program many, many years
19 ago.

20 So, you know, I go back and think about how did
21 we do a guidance document and what did we do and what
22 lessons we learned from it and -- and all.

23 And, you know, I remember our struggle back then,
24 because of course, we were doing something somewhat
25 similar. We were the State had set up this program and

1 firms either -- firms either liked it or hated it. We're
2 going to have to go through this thing.

3 And we were trying to figure out a way to get
4 guidance out such that (a) people would be working toward
5 getting into compliance with the regulation.

6 But at the same time, we were sort of trying to
7 make sure that this wasn't some kind of make-work thing
8 that just was another bureaucratic hurdle that corporations
9 had to -- to go through and all. And that it was really
10 creative.

11 And that it was really something that was
12 spurring innovation and development and in our little case,
13 making Massachusetts better competitively and all that kind
14 of stuff like that.

15 And, you know, I -- when I look at this, I -- I
16 think -- I -- what I -- I can't tell -- I just want to make
17 a message, which is that I think it's important to make
18 sure that we don't respond to these -- this guidance
19 document, and I don't think we do here, but I wanted to
20 kind of just a guidance on how to stay in compliance with
21 this law.

22 That it really is much bigger in the way you
23 think about the guidance. And the guidance is really
24 trying to help those who are "required to participant in
25 the program, to find value, to find -- to get something

1 much bigger out of it than just doing a compliance kind of
2 a -- of a thing to it.

3 So for instance, you know, it seems to me that
4 there's got to be a theme running through it, which is this
5 is what you have to do in order to meet the letter of the
6 law.

7 But there has to be in my mind a lot of stuff
8 about these are the kind of things that can make this
9 successful. This is the kind of things that will really
10 build your program in a much more robust way that's really
11 going to be helpful.

12 How do you -- how it helps the firm, how it helps
13 who needs to get involved, how you build teams, what do you
14 do about consultants?

15 All the other kinds of things which are going to
16 be things you can train on and all, but are the things that
17 really lift it up and make it sort of bigger -- and -- and
18 all. I -- I made a couple of comments and I'm trying to
19 remember.

20 I just remember -- I remember when we were first
21 doing the training, you know, some guy came up to me at the
22 end of what I thought had been a very, very thoughtful
23 presentation on what TURA was going to do for making the
24 universe a better place for organisms or whatever. And he
25 said I just want to know one thing and that is what do I

1 have to do?

2 And I said if all you want to do is know what you
3 have to do, read the regs. That's all you have to do. But
4 if you want to do something more than that, think big, you
5 know.

6 So, you know, just I guess that's a bit of
7 what -- and I'll continue to be on that theme as I try to
8 provide my own advice and all on this. So it's just a
9 comment.

10 **MR. FONG:** Thank you, Ken. Julie?

11 **MS. SCHOENUNG:** I'm just going to echo a bit of
12 what Ken just said. And as I -- my experience in trying to
13 teach some of these things in a classroom is -- and to
14 engineers who are also -- I mean, they're about as black
15 and white as you can get in terms of what do I need to do?
16 How do I do it, if there's one right answer. And the
17 classes I teach are mostly design classes.

18 So I spend a good amount of time convincing them
19 there is not one right answer. And how do you approach the
20 problem and think about the fact that I'm interesting in
21 how you approached it, not what your answer is.

22 And so when I go through teaching these
23 techniques, anything from lifecycle assessment to green
24 screen to what does OSHA look for and the problems with
25 MSDS sheets. And, you know, all of the background in all

1 of this.

2 And we get into, you know, some of the waiting
3 schemes and undoubtedly, I have a student who goes but, but
4 there's so many assumptions. How can you possibly believe
5 the answer?

6 And so my response to that is generally that the
7 answer is in many cases not the point. The point is to go
8 through the learning process of collecting all of the data
9 in the first place.

10 If you go through the learning, if you actually
11 look at your product, look at your process, look at the
12 different environmental attributes that are entailed, use
13 the conceptual models where it works. Again, I'll echo
14 that it does get unwieldy if you try to use it through
15 the whole process. But that learning of oh, the light
16 bulb.

17 I never really thought about the dust going down
18 the drain, because I'm thinking about making something that
19 my consume -- my customers are going to buy and use and put
20 in their houses.

21 And so getting them to even visualize, think
22 about, collect the information, I think is where the light
23 bulbs go off. And that, to me, is the -- the bigger part
24 of the whole exercise is that you want people to be seeing
25 things as they're going through the process.

1 The end of the process and where the numbers
2 crunch and whether you get a -- a numerical ranking that
3 you can compare becomes almost irrelevant because it's
4 almost indefensible regardless of how hard you've tried.
5 So it's really the -- the process.

6 And so, if somewhere in the guidance, you can get
7 that across that there should be lessons learned through
8 the process that the person writing the report should be
9 highlighting. And, you know, what does lead to the
10 relevant factors? What do -- what are the light bulbs that
11 might be able to justify why you're making the decision you
12 are.

13 **MR. FONG:** Julie, thank you. Let me just follow
14 up with a question. So, you know, this approach of there
15 not necessarily being a right answer.

16 How would that fit in with what Ken just said
17 about the, you know, regulator to impact the community,
18 saying what do I have to do? What you're -- you know, the
19 approach that you took in your class, how would that fit in
20 with -- in terms of compliance due to safe consumer
21 products regulations where I'm required to do an
22 Alternative Assessment and I'm in a way required to have an
23 answer?

24 **MS. SCHOENUNG:** Well, I think you need an answer
25 and you need to justify the answer, but I don't -- I think

1 there could be many right answers. And so being able to
2 explain it is in some cases more important than
3 what -- whether you get to the -- the same outcome.

4 Now, the regulatory world is a bit different, but
5 I think even in what I see in the outline of the guidance
6 documents for what the ultimate decision, you know, being
7 able to use hierarchical or other -- other methods for
8 making decisions.

9 There is some -- a bit of leeway in there for how
10 do you actually decide what your final answer is going to
11 be as to which alternative is better.

12 So I'm not saying you don't need to give an
13 answer. I'm just saying that there's so much more value in
14 the process of deriving the answer.

15 But that doesn't mean you aren't going
16 to -- people -- have people who just want a checklist. You
17 know, just -- just tell me the 10 things I need to give you
18 and -- and I will do that.

19 So you have both of those mindsets. But if you
20 could make the document in some way a bit of an educational
21 tool, so that people doing it actually see it as them
22 helping themselves, not just being in compliance.

23 **MR. FONG:** Julie, thank you very much. That's
24 excellent insights. I have Meg, Kelly, Bill and Tim. Meg?

25 **MS. SCHWARZMAN:** Yeah. I just wanted to pick up

1 on what Ken said because I think it's a really nice point.
2 And is in a way beginning to be reflected in the synopsis
3 in the guiding principles that Meredith drew our attention
4 to.

5 And I really liked the -- the addition of the
6 guiding principles in the opening with that, because I
7 think it's -- it helped set the tone that Ken was going for
8 of we're looking for some big changes here, not just
9 completing a checklist.

10 I am, though, anticipating a little bit of
11 difficulty translating some of these guiding principles
12 into actual guidance. You know, the overarching principles
13 is one thing, but squaring some of the principles with some
14 of the specifics, I started to notice some potential
15 conflicts. So I'm going to give you two examples that I
16 think highlight this.

17 So one is consider a wide range of alternatives,
18 not just chemical substitution. That's guiding principle
19 1, saying, don't just look for a drop in chemical
20 substitute.

21 And I was anticipating a little bit of difficulty
22 squaring that with Chapter 2.2, the section that looks at
23 functional acceptability and technical feasibility.

24 And I'm wondering how you structure an analysis
25 of functional feasibility and technical feasibility and

1 functional acceptability when you're asking to think very
2 broadly into the range of, like, material substitutes.

3 So I think that completely depends on how a
4 manufacturer interprets that. That a material change-out
5 would be completely not technically feasible if what
6 they're really looking for is a different chemical to drop
7 into their process.

8 And I -- I think there's an inherent tension
9 there that's going to be hard to guide people through in
10 this guidance and that maybe the Department needs to take
11 on squarely because otherwise, these guiding principles
12 won't translate into action, if the details of the process
13 don't also reflect the guiding principles.

14 So, like, there may need to be discussion in the
15 section on evaluation of functional acceptability and
16 technical feasibility that calls on manufacturers to think
17 beyond their current processes and their current
18 manufacturing equipment.

19 You know, what -- what are they allowed to say is
20 technically unfeasible. If it means they have to buy new
21 equipment, does that mean it's technically unfeasible?
22 Well, then you'll never get a material substitute.

23 So I -- I just think there needs to be a little
24 bit of consideration. I'll give you the second example.
25 Number 3, guiding principle 3 is capture the breadth of

1 impacts. Consider environmental, economic and social
2 impacts, consider impacts to workers, consumers and
3 environment across the lifecycle and the supply chain.

4 And one of the places I see that coming up in the
5 more specifics of the Alternatives Analysis is in the
6 economic analysis, where you specifically call out
7 accounting for external costs, impact on public health and
8 the environment, impact costs to government agencies and
9 non-profit organizations and those sorts of things.

10 So it's great that you started to put specifics,
11 but I think you need to recognize and acknowledge
12 explicitly the information asymmetries in that economic
13 analysis. So it's much easier to put a -- to quantify and
14 put a fine point on the cost to industry of making a
15 substitution but quantifying public health impacts by
16 attributing, you know, disability adjusted life years to
17 exposure to a flame retardant is really difficult and
18 really contestable.

19 And so, there's an information asymmetry that I
20 think is going to plague that type of analysis. And unless
21 you specifically acknowledge those difficulties, it's going
22 to be very hard to translate these guiding principles that
23 I think are good; that I think are great.

24 It's going to be hard to translate them into the
25 actual Alternatives Assessments that you receive.

1 **MR. FONG:** Thank you, Meg. Before going to
2 Kelly, let me just check in with Dr. Baer-Anderson to see
3 if she has a comment. Carol, are you still on the line?

4 **MS. BAIRD-ANDERSON:** Yes, I'm here. Thank you.
5 Well, so I'll give an observation and then a
6 recommendation.

7 The observation is, you know, what -- so much of
8 this process is navigating the tension between thinking
9 broadly and then bounding the universe so that you can
10 actually make a decision.

11 And so, it -- and that's a theme that comes up in
12 people's comments again and again, the tension between
13 wanting metrics to -- to -- so that you can get an answer.
14 Yet, wanting to also encourage those to think beyond kind
15 of the obvious.

16 So I think that that's a huge challenge to
17 capture that in a guide. You know, after all these kind of
18 big thinking comments that -- that I've been listening to,
19 I -- I have actually a really small recommendation. And
20 that is there be a scoping phase in the guidance that you
21 can -- so you can define the boundaries of the evaluation.
22 But then, even with this recommendation, we kind of come up
23 against this tension to think big.

24 So, you know, you don't want -- you don't want
25 the scope to be too narrow, so that it unduly constrains

1 the analysis and precludes options artificially. But, you
2 know, at some point, you do need to constrain the analysis,
3 so you can make decisions.

4 So I -- I think having a section in there that
5 talks about how you can think about how big or how small
6 the analysis should be might be helpful to people.

7 **MR. FONG:** Carol, thank you very much. I have
8 Kelly.

9 **MS. MORAN:** Thank you. And I actually want to
10 build on a couple of things Carol -- Carol said.

11 I do like the outline and I'm a little worried
12 about where this might go in terms of the length of the
13 documents that come in.

14 And so, I'm going to encourage you, as you're
15 developing this guidance, to think about helping people
16 figure out how to lay out or present information in a way
17 that's compact.

18 Because if -- if you guys are getting 500-page
19 reports to read, I -- you're not going to be able to dig
20 through it. I mean, this is actually a part of why I like
21 the conceptual model stuff so much is that it's efficient
22 for the Department.

23 And -- and that leads to another, like -- like
24 Carol, I'm seeing a tension here. Another tension is the
25 difference between what DTSC does and what the responsible

1 entity does.

2 And the structure of the law was to try to push
3 as much as possible on to the responsible entity. It's
4 their decision. They're -- they need to really go through
5 it all, so that they own their decision.

6 And in theory, that keeps the cost down, but in
7 practice, that's not always the case. From what I've seen
8 in other regulatory processes, sometimes giving people some
9 stuff makes it easier for you when you get stuff back for
10 review.

11 And this is why I'm a big fan of Meg's proposal
12 that we talked about before of having conceptual models
13 upfront and as early as possible in this process to help
14 people start that conversation about what -- what are the
15 end points that really matter in the analysis of this
16 particular chemical and this product.

17 You know, recognizing that alternatives will be a
18 little different. That it's more efficient for the
19 Department to lay out something that's complete than to
20 have to go through that with each individual company later
21 on, when you're getting their first AA.

22 And it's more efficient if the public weighs in
23 at that initial point. Oh, there's some gaps. The public
24 includes other expert scientists; it includes other
25 government agencies; it includes a lot of other people who

1 can say oh, you're missing this. The earlier that's in the
2 process, the less costly it is for DTSC.

3 And I'm really worried about how burdensome this
4 might be for DTSC to be able to review and what your staff
5 capacities are.

6 Another area where I see that coming out is when
7 it comes to looking at the data used that formed the basis
8 of the AAs. And I know there's some discussion of trying
9 to quantify the quality of data and I definitely think that
10 quantifying that is well beyond most of the capacity of
11 most of the people that are doing AAs.

12 But here's a place where making quality data
13 available at least for those -- the -- the priority
14 chemical -- the chemical of concern and as many
15 alternatives as you know about, having DTSC make that
16 readily available in an easier get to -- getting to way
17 could save a lot of pain down the road.

18 That means you won't be able to do that for
19 everything. You won't know all the alternatives. You
20 won't know all that stuff, but to the extent you can do
21 that -- part of the idea of the clearinghouse was to make
22 data available and DTSC has put stuff out there, but, you
23 know, I've got to tell you, in talking to people that are
24 trying to navigate that, unless you're an expert, it's very
25 hard to get the information back out.

1 And most of the people I know who are trying to
2 do this, even though you might have groups with
3 different -- people with different expertise coming
4 together to do an AA, oftentimes, you don't have that much
5 difference in expertise.

6 And so I talk to people about aquatic toxicity
7 data and I'm -- you would be shocked at the responses I'm
8 getting.

9 I'm just trying to understand what it is, what
10 the species are, not -- you know, much less the data
11 quality, the study design, the kinds of things you would
12 really want to evaluate to decide if a value is useful.

13 And so, sometimes that's just the Department
14 signaling don't use this study, you know, and don't use
15 this data point even though it's out there because we think
16 it's crummy because the science is bad behind it.

17 So doing that upfront, you know, to the extent
18 you can do those kinds of things to facilitate a better
19 quality product coming in will save you an enormous amount
20 of time down the road.

21 So it -- along those lines, I would recommend not
22 only that the flow chart conceptual models be something the
23 Department puts out to start with, but that also the
24 guidance strongly recommend. You know, I would have
25 actually liked the Agency to require that the AAs,

1 especially the first-phase AA, include conceptual models;
2 that some sort of drawing because it's so much faster for
3 you to do that. It increases transparency.

4 And there's another reason you really want to see
5 those in the AA is that you -- the identifying the
6 relative -- relevant factors really, really clearly, not
7 just for the AA, but you also need to want to pull out
8 which things matter the most for the decision.

9 So which things are the crux of our decision-
10 making when you're getting into the second phase AA, where
11 we're relying on information that -- you know, that are
12 just estimates or modeled values.

13 Maybe we should go back and do a few chemical
14 measurements here because the vapor pressure here
15 determines everything or this aquatic tox point here is
16 really a determinant in our decision.

17 Then that, by calling that out, DTSC can't
18 require those data be collected, but it can certainly help
19 companies appreciate that spending a few hundred or a few
20 thousand dollars might save them a lot down the road -- a
21 lot of agony and another reformulation.

22 But the most important thing is to -- in -- in
23 making a decision, some relevant factors are going to be
24 more relevant than others.

25 A great example of this is the marine anti-

1 fouling paint case studies that are -- UCLA's pursuing one.
2 The ICT Washington is pursuing one because of the ban on
3 cop -- bottom -- bottom paint in Washington.

4 And they are -- you talk to people and they're
5 doing things like green screens. So they're doing all
6 these human health criteria and then they're just, you
7 know, kind of taking a minor look at aquatic toxicity.

8 Well, copper boat bottom paint got banned in
9 Washington, because of aquatic toxicity. Most of the
10 exposure in the world is on the bottom of a boat in an
11 aquatic ecosystem. And specifically, a salt water aquatic
12 ecosystem.

13 So when you're thinking about decision-making
14 that should that -- the relevant factors associated with
15 that be kind of more important than the other ones?

16 So having a guidance that stresses that and makes
17 it obvious to do that is going to be really important.

18 Briefly, just a couple other points. I think
19 that there's going to be a struggle in this on what's
20 compliance in terms of preparing a written AA versus what
21 information DTSC needs to make its regulatory decision may
22 end up not being exactly the same thing. I'm really
23 worried about that.

24 And I think you've got to be really clear about
25 that up front that DTSC may be using information that's not

1 just presented there in making its decision, especially if
2 the AA is not very good.

3 And finally, I've been struggling a lot as you
4 all know, with how to deal with the environmental toxicity
5 piece. And it's -- there's not time enough to do this
6 today, but I've been looking into, because of my
7 professional work on pesticides methodologies for examining
8 exactly that question.

9 And the normal way for aquatic ecosystems has
10 been very well-developed since the 1980s. People use a
11 convention that water quality criteria. And it's based on
12 a distribution of the sensitivity of the species in the
13 ecosystem.

14 Because when we're talking and ecosystem, we're
15 talking about tons of species and when we're talking about
16 human health, we're only talking about one.

17 And there's a convention for that. The water
18 quality criteria uses the species sensitivity distribution.
19 You pick a particular percentile. There's numbers for a
20 bunch of compounds. There's also a methodologies for using
21 smaller data sets to try to come up with that same apples
22 to apples number.

23 And a water criteria and those folks who don't
24 like risk assessment will get mad at me immediately because
25 I'm talking about something that says here's an acceptable

1 amount of pollution.

2 But what's cool about this number is that it's
3 also very commonly used to indicate the relative hazard of
4 a chemical to aquatic ecosystems.

5 And it's a way of integrating data over a broad
6 variety of species to come up with one number that
7 represents the hazard to aquatic ecosystems.

8 So I'm thinking about and we can talk about this
9 further. I'm going to be talking about this at CTAC, the
10 idea of whether we can use that kind of concept in AA and,
11 you know, is it going to be feasible? Is it going to work?
12 How would we do it?

13 There's all these methodologies out there that
14 might be more robust in terms of addressing the concern
15 than the typical methodologies, which I have some concerns
16 about -- a number of technical concerns that we've heard in
17 the past, so I don't need to go into that again.

18 So anyway, long comments and thank you for your
19 patience.

20 **MR. FONG:** Kelly, thank you very much. I have
21 Bill.

22 **MR. CARROLL:** Thank you, Chair. And as -- as I
23 make these remarks, I want you to know that -- that I mean
24 them only in the most respectful fashion for -- for my
25 colleagues on the panel.

1 But I'd -- I would ask you, as you consider this,
2 to sit on the other side of the table and understand that
3 no one who is going to be doing one of these AAs is doing
4 it because he or she chose to.

5 And I doubt that many of them are sitting around
6 saying this is great. I'll probably learn something from
7 this.

8 So it's important to keep that in mind. And I
9 appreciate the idea that simple compliance is -- is -- is
10 the minimum, but in fact, it is the minimum. And in fact,
11 at some point or another, there is going to be compliance
12 associated with this.

13 So as you develop guidance, it has -- it has to
14 keep that in mind. Now, you may encourage people to do
15 things beyond that. You may encourage them to -- to widen
16 the scope, to do other things, to -- to be more expansive
17 about it, but in the end, compliance is what is -- is most
18 important as -- as a minimum, and you have to -- you have
19 to help guide people how to get at least to that minimum.

20 So then the question -- the question becomes what
21 is the purpose of guidance? And part of it is that. But
22 another part of it is -- is to understand that as you're
23 doing this the first time, you're setting the path for what
24 everyone who comes after will be doing.

25 And I suspect that if you try to work out every

1 one of these things before you go in, there will be
2 problems. And so I'm going back to a suggestion that was
3 made, I think, in one of our last calls, which -- which is
4 guidance and outline like this is pretty good. This is a
5 start. It's important to know what has to be in.

6 But then the purpose of guidance for the
7 regulated community is going to be don't let us go off and
8 do the wrong thing and spend six months on it. And then
9 when we bring it back, you say you know, I was kind of
10 hoping you'd do it in Times New Roman.

11 And I realize -- I realize I'm being facetious
12 there, but it's exactly what we're trying to avoid is to
13 get to the end of this and discover that you wanted it done
14 a different way.

15 So in -- in this case, and I think this was
16 suggested before. Some of the guidance, I think, ought to
17 be iterative. It may be on a Wiki. You know,
18 on -- and -- and developed as -- as you go.

19 This is -- you're doing a bit of launch and learn
20 here. And -- and everyone who does this is going to
21 be -- is going to be learning in -- in -- in the same way.

22 And I would ask that as -- that as you're doing
23 this, keep this in mind, recommend -- recognize that it's
24 going to have to be iterative.

25 Just record the decisions that you make along the

1 way, the advice that you give and recognize that -- that
2 you're just -- you're setting the ant path for all the rest
3 of the ants that come along afterwards. Thank you, Chair.

4 **MR. FONG:** So Bill, let me just have a follow-up.
5 So is there anything that DTSC can do to encourage the
6 responsible entities to, you know, go beyond doing the
7 minimum?

8 **MR. CARROLL:** Chair, I'm going to -- I'm going to
9 ask this back in a way that's a little bit direct, but
10 what's in it for me to do that?

11 **MR. FONG:** I have no idea. I'm part of the
12 responsible entity.

13 **MR. CARROLL:** So if you can answer that question,
14 then I -- then I think you can make that encouragement
15 to -- to say hey, going beyond the minimum can help you in
16 this way.

17 So whenever you have an interaction like this,
18 ask the question from across the table. What's in it for
19 me? Why would I do this if you're asking me to do
20 something extra. And think about -- think about that
21 before you ask the question.

22 **MR. FONG:** Excellent insight. Meredith, do you
23 want to follow-up on that?

24 **MS. WILLIAMS:** I just wanted to remind everybody
25 that on the diagram we gave you yesterday where we talked

1 about the guidance, it really does point to the fact that
2 it is a living document.

3 And that we are going to learn and we're going to
4 have these tools that we develop. We're going to try and
5 close some of the gaps that are existing in the knowledge
6 base and -- and finding ways. I like the fact that you
7 said a WiKi.

8 You know, we've talked about eBooks. We've
9 talked about WiKi's. We've talked about different ways of
10 delivering the contents, so that we can manage those
11 revisions as we learn.

12 **MR. CARROLL:** And I just want to add a little
13 regulatory perspective, too, is that the regs do -- did
14 envision a phase process that the two big phases at the end
15 of which there's a work plan and there's an affirmation by
16 the Department that you're on the right track, so you're
17 not fetching a rock or -- or using two new -- the wrong
18 font. So we appreciate that.

19 **MR. FONG:** Thank you very much. I have Tim, Ken
20 Zarker and then Ken Geiser. Tim?

21 **MR. MALLOY:** Thank you. I had just four brief
22 points. The first one, as much as it pains me to disagree
23 with Bill, I find myself in that position; that I both
24 agree and disagree with him.

25 I would just say I think it's probably

1 overstating to say that no one who's doing an AA is doing
2 it because they want to.

3 I think -- and this is my experience when I was
4 in practice, I had a variety of different kinds of clients.
5 And even in some large companies, what you find is things
6 like this can empower folks within the firm who actually do
7 want to take a progressive stance, but up until that point
8 hadn't had the opportunity to because they didn't have the
9 kind of power within the firm to do it.

10 So I think that in some companies, you are going
11 to find people who are -- maybe want to take the approach
12 that Ken and Julia had talked about and are going to be
13 open to a guidance that provides them with some leverage or
14 traction at least.

15 So to the extent that you can take those concepts
16 about going further and make them somehow quasi-minimum
17 requirements. Right? So pushing it so that then those
18 people kind of feel encouraged to go ahead and do it.

19 In the real world, although, firms are a mix of
20 incentives and you are going to have a large proportion, I
21 think, who are looking at the minimum for very
22 understandable reasons, so it would be helpful to identify
23 that.

24 So this leads to my second point, which is I
25 think in a lot of these situations, there's another

1 tension, which is companies wanting clear direction, as
2 Bill had suggested, but also flexibility and discretion.

3 So give me enough direction, but not so much that
4 I don't -- can't move around within a context that is best
5 for me.

6 And I think it would be helpful to kind of keep
7 that in mind as you're drafting -- I get the sense from the
8 outline that you are.

9 So just a couple suggestions. One is having a
10 guidance that's kind of performance-based that identifies
11 what the outcome you're looking for in these different
12 sections are, as well as providing some reflection about
13 what the minimum requirement would be I think would be
14 really helpful.

15 Identifying, perhaps, best practice along with
16 minimum. I'm thinking about the REACH guidance on
17 authorization and what they did with AAs.

18 And what I thought was really helpful there is
19 they gave lots of examples, you know. And they gave
20 multiple examples.

21 You could do it this way. If you're a smaller
22 company, you might do it that way. And I think that helps
23 kind of book-end what you're looking for and provide that
24 both that guidance and direction.

25 So I would suggest taking a look at that

1 and -- but I think for my look at this, it seems like
2 you're on the right track about how to do it.

3 Third point, the guiding principles, I also love
4 the idea of the guiding principles. I think there's one
5 missing. I know you didn't ask if there were missing
6 guiding principles, but in the regulatory response
7 selection principles and the regulations, there's -- one of
8 the guiding principles there is inherent protection. A
9 preference for inherent protection, avoidance and reduction
10 of adverse impacts achieving it through redesign rather
11 than engineering controls that limit exposure.

12 To me, that was kind of like the point of the
13 whole statute. And it's not in the -- it's not in the
14 guiding principles here and I think that it ought to be.

15 That doesn't mean in every instance you're going
16 to adopt an inherently safer approach, but it -- it ought
17 to be when you're thinking about a broad range, not just
18 chemical substitution, I think that ought to be front and
19 center and ought to be reflected in the guidance.

20 Last point. Not that I want to hold up Superfund
21 or New Service Review as paramount's of how to, you know,
22 run a regulatory program. There's good and there are bad
23 in each of them.

24 But I thought the guidance documents for these
25 programs could be useful to take a look at. I'm thinking

1 in particular the back layer guidance that EPA had in 1990
2 that was a draft guidance that takes you through how to
3 look at, identify best available control technology was a
4 really helpful guidance. It had lots of examples. It was
5 both performance-based. And so it's kind of along the
6 lines of what I talked about before.

7 And I also think that the record of decision
8 guidance and particularly EPA's two old people who remember
9 this -- I'm dating myself -- but you remember the two
10 volume ARARs guide and it's from Superfund.

11 Those were -- no one loves ARARs. Bill, nobody
12 wants to sit down and look at ARARs, but they were really
13 good guidance, I felt, like, in terms of giving you some
14 specification about what to do.

15 So I would suggest, like, maybe take a peek at
16 those, because when I think about a good guidance, I think
17 that they had problems, no doubt, but in terms of
18 structurally, it was really -- I found it helpful when I
19 was on practice on the other side of the table, those were
20 something that were really helpful to me. Thank you.

21 **MR. FONG:** Thank you, Tim. Ken Zarker.

22 **MR. ZARKER:** Great. Well, thanks. Great
23 discussion. And I applaud DTSC for putting this together.
24 I think we've learned a lot over the last several years
25 with the development of some -- this IC-2 guide and now the

1 Academy's report.

2 And we have this authorizing environment, which
3 is, you know, basically, the framework. And so kind of
4 back to the baseball analogy, you know. Where
5 we're -- we've got the guide book. We're in the club
6 house. We haven't even stepped onto the field yet.

7 And so, I think we're going to learn, you know,
8 more about implementation. I am concerned about how
9 we -- how we roll this out to two businesses, particularly
10 small to medium-sized companies. And they may need a
11 different vehicle to -- to learn.

12 We're also finding barriers right now. When I go
13 out -- when we go out as practitioners and offer to do
14 something as simple as a hazard assessment, we sometimes
15 get, you know, blank looks, you know, in terms of what does
16 this mean for my company? How do I do this? So I think
17 education is going to be important. And I like the fact
18 that you have grant resources to -- to build that piece
19 out.

20 So I think in building this network of -- of
21 practitioners and educators is going to be really critical.

22 This is a long-term endeavor. We're going to be
23 doing this for a while. We are going to learn how to do it
24 better and faster.

25 And learning from what we experienced with the

1 pollution prevention programs in the early days. We used
2 to talk about there -- where it was the letter of the law
3 and then there's also the spirit of the law.

4 And so, organizations that embrace that have
5 typically been the ones that are high-performing. The
6 businesses that are still in business today that have
7 embraced these.

8 And I'm also feel positive about the next
9 generation of environmental professionals that are coming
10 behind us that will be taking this on within these
11 companies. That's in -- I think another approach is, you
12 know, we typically talk to the health and safety folks
13 within organizations. And that is maybe not the right
14 audience.

15 We need to be more broadly thinking about the
16 designers and the -- and -- and companies, I think, get
17 this; the bigger companies that are doing this kind of
18 work.

19 So with that, thank you very much.

20 **MR. FONG:** Thank you, Ken. I have Ken Geiser
21 next.

22 **MR. GEISER:** Yeah. Let me try to be a little
23 more specific and pick up a few of these streams and then
24 make a few very specific comments.

25 Yeah. I think, I mean, the way I would think

1 about this a little bit is that the guidance document ought
2 to have running through it something that's very clear,
3 this is what you have to do.

4 So as you read each section, there ought to be
5 sort of a -- maybe a different color or a different -- or a
6 box or something like that that says here's what you have
7 to do for -- to get through this. And then around that,
8 ought to be a whole bunch of suggestions.

9 And -- and Tim's right. One thing we learned to
10 do was to make little vignettes, little examples or cases
11 that showed how you did -- did it and all.

12 I think it's important to withhold the idea that
13 the Department should be describing each one of these
14 things in great detail because you really begin to lock
15 down people's mentality about it when you do that.

16 If you -- you know, from the Department's point
17 of view, you want to be as -- I'm sure people want to be as
18 responsible as they can and say, well, here's exactly how
19 you can do that, you know, and all.

20 But, you know, that's -- that just kills the
21 whole energy of it. And I -- I agree with Tim that, you
22 know, what the experience is if you think about who's going
23 to do these things? You know, it's going to be an engineer
24 or it's going to be a couple of -- of technically-qualified
25 people, but they're going to be -- I mean, our experience

1 was, of course, we had -- we had a situation which
2 they -- these things had to be done over and over and over
3 again, the plans.

4 This is a task of a younger individual who is
5 kind of often, I think, Bill's sense of it. It's a narley
6 old person who thinks like -- you know, I -- just because
7 I'm a narley old person. I hate doing these things,
8 but -- you know, I think it's going to be more like
9 somebody who goes, like -- gets assigned to do this and
10 goes okay. I'm going to sit down and figure out how to do
11 this, you know, my jobs determined by this and this
12 is -- I'm going to make this interesting. And it's that
13 sense that actually makes it more than simply this -- sorry
14 about the narley -- but it's sort of like, I think.

15 And so, the things that I would add to this. One
16 is I would add a discussion on who does the actual -- how
17 you select the people who do the Alternatives Assessment.
18 And a big piece of it, is this done out of house or is it
19 done in-house? Because it's very different. The pros and
20 cons on whether you hire a consultant to do it or whether
21 you do it in-house with your own staff or you do it through
22 your -- maybe your trade association or any other way you
23 can think about it that might be interesting.

24 I think there ought to be a section clearly on
25 scoping. I think I -- I think Carol said this, but I think

1 I -- I'd expand that.

2 One thing to be -- it's important to do is be
3 clear what the goal of these are. Yes, of course, the goal
4 is to identify alternatives and to select the most
5 effective alternative.

6 But is it also to adopt those alternatives? Is
7 it -- is it to provide the best guidance to the DTSC on how
8 to do the regulatory response? I mean, there's a whole
9 bunch of other questions about what is the goal really?
10 And to be clear what the goal is of it.

11 Boundaries, yes. Decision rules. How are you
12 going to handle -- I know one place in here, there's a nice
13 section on handling information gaps or data gaps. But
14 things like what are going to be the approach to some of
15 the more complex things that I think that that's useful.

16 A very small thing on the economic section. Be
17 sure to include hidden and indirect costs because a lot of
18 the costs are not necessarily the immediate costs upfront
19 of the chemicals themselves or something, but what does it
20 actually cost to manage those chemicals, liability costs,
21 insurance and all the other kinds of things that come into
22 that.

23 I know that we're not asking people in doing an
24 Alternatives Assessment for the Safer Sewer Products Regs
25 to actually do a cost analysis and a performance analysis.

1 But I think you ought to at least suggest how those things
2 fit. If, in fact, one of the goals -- and I think this may
3 be, Bill, an answer as to why -- what's in it for the firm
4 is that the firm actually decides to adopt a safer
5 alternative.

6 I think that that would be, of course -- I mean,
7 if you step back from the whole program and say why are we
8 doing any of this, it's really to get people to move to
9 safer chemicals.

10 And if, in fact, the output for the firm is that
11 they identify a bunch of alternatives and then they don't
12 input that report on the shelf and never do anything with
13 it, it really was a waste of time for the firm.

14 But if it, in fact, leads to the adoption of
15 safer chemicals, I think that's important. One thing that
16 helps make that happen is that there's a clear way to begin
17 to think about a performance or cost assessment to make
18 sure -- to see whether it's even feasible to make an
19 adoption of a safer chemical.

20 I think there ought to be a clear thing also and
21 this goes to, I think, the point that somebody was making,
22 that it ought to be clear what the Department is going to
23 be looking for so that -- so that you don't get into the
24 font problem.

25 But really, what is DTSC going to be doing during

1 this time and when they review this, what are they really
2 going to be looking for? It's
3 different -- that's -- that's -- it seems to me really
4 important.

5 And to personalize it. This is what the
6 Department is going to be looking for. Blah, blah, blah,
7 blah, blah. I think it's important.

8 The last thing about it is I think that -- and
9 this just has to do with presentation of the guidance
10 document itself -- I don't know whether there's a way to do
11 it in stages such -- my interest -- my concern is, you
12 mentioned that Superfund guidance, that this isn't just
13 something that's, you know, 180 pages
14 since -- (unintelligible) sit down and read it for, you
15 know, really boring, dry text.

16 But it really is, I think in some ways, maybe
17 there's a short synopsis that's up front that there's
18 something, as you -- if there's a way to be simple but deep
19 and such that people get the idea and then they burrow into
20 it in a way that they learn more and more as they dig into
21 it more and more.

22 So if there's some way that it's easily
23 accessible for people who are just starting out, to try to
24 figure out -- who get the job and are going, like, now what
25 I do?

1 And so that is just some more concrete thoughts
2 on -- on maybe how to think about it, but -- yeah.

3 **MR. FONG:** Ken, thank you very much. I have
4 Julia, Ann and Mike. Julia?

5 **MS. QUINT:** Yeah. I'll be very brief. Regarding
6 the snapshot idea that Ken just mentioned, again, the
7 Committee's report and it wasn't my idea, so I'm not
8 bragging on something I did, but there is an "At a Glance"
9 box for each of the sections, which kind of gives you a
10 synopsis of what it is that you have to do and then it's
11 followed up by some step.

12 So I think there's a lot of text, but you know,
13 the use of the boxes and "At a Glance's," and then, you
14 know, showing you sequentially what you have to do to carry
15 out that part of the framework I think is very helpful.

16 But I just wanted to say that I think it's also
17 helpful to the extent that DTSC can do it, is to actually
18 go through one of these AAs and do it -- I don't know if
19 you were planning to do that.

20 But to actually do it yourself. That way, you do
21 know what is expected. I mean, you know the sort of
22 minimum that it would take to get it done. And it really
23 is very illuminating to do that. I mean, we did it
24 at -- when I was at the Occupational Health Branch, a very
25 simple -- we called it a simple regulation, in -- Injury

1 and Illness Prevention Plan that really is a the shortest
2 regulation I've ever seen.

3 And then we tried to do one for the branch. And
4 it was illuminating how difficult it was and we didn't have
5 very many injuries or, you know, types of hazards in the
6 workplace. But it was very important for -- for, you know,
7 and I don't think Cal-OSHA probably hasn't done it
8 themselves, but we did it. And it was really interesting
9 to go through it to see what it requires.

10 So I would encourage you for at least one of
11 these in the early stages to sit down and, you know, go
12 through it and that way you get a feel for what it's like
13 to review the literature, to find the information,
14 whatever. I think it would just be helpful.

15 **MR. FONG:** Julia, thank you. Ann?

16 **ANN:** Thank you, Art. And as I've been sitting
17 here, I'm listening to other people's comments, it has sort
18 of stimulated a few ideas. So these are not surprisingly
19 all over the place.

20 One is, I would echo very strongly what Ken most
21 recently said, but several others of you have also said,
22 which is to be really clear on the overall goal and put
23 that in -- you've -- you've got the beginnings of it in the
24 guiding principles -- and talk about what that might be.

25 And I was looking particularly in Principle No.

1 1, the idea of -- to Bill's point of what's in it for me?
2 Potentially, there's a real opportunity here for
3 innovation. And if we can highlight that and say this is a
4 market opportunity for somebody who wants to look at an
5 alternative. That may be incredibly naïve from a non-
6 business person's point of view but I'll leave that for
7 Bill to tell me some other time.

8 A second thing is, this is more practical, this
9 might be a bit of a stretch, because these are examples of
10 guidelines that are in a very different context, but
11 thinking about how to ride this tension between providing
12 minimum best practices, minimum for compliance, best
13 practices in aspirational goals.

14 A really good example of that that I have helped
15 work on is the -- the impacts assessment for V Corporations
16 and that's obviously -- it's a company-level guideline and
17 it's much broader than what we're talking about. But it
18 might be interesting to go in there and see how they
19 provide advice for aspirational goals for individual things
20 that are being evaluated for a company.

21 Along the same lines more, I think, towards what
22 Julia was saying about using "At a Glance" boxes and so
23 forth. I had recently had the fortune or misfortune, I'm
24 not sure which, of going through the lead guidance for
25 existing buildings, operations and maintenance. Highly

1 recommended if you're an insomniac.

2 And the way they've laid that out, it's
3 incredibly detailed, as those of you who are familiar with
4 Lead know.

5 But it's very clearly laid out what a requirement
6 is versus what's an optional. So that might be interesting
7 and I would strongly second what Julia suggested, which is
8 trying to do this yourself, because it's very illuminating.

9 What you suddenly realize, but you haven't
10 articulated what your bare-minimum is of what meets this.

11 And then finally, because I can't go one comment
12 without mentioning functional use. Back to Meg's
13 original -- one of Meg's original statements about the
14 tension between thinking broadly and thinking what's
15 functionally accessible -- acceptable. I need to think
16 through this more and I'm happy to think through with staff
17 what that might mean, but I think functional use might help
18 us bridge that. Think more broadly than we have
19 traditionally thought, but not so broadly that it makes it
20 hard to manage. Thank you.

21 **MR. FONG:** Ann, thank you. Mike?

22 **MR. CARINGELLO:** And -- and I -- most of the
23 comments I had on this have already been covered, so I'll
24 try and be brief, but I will not promise.

25 The -- the part I'd like to see added to

1 this -- I think the preface does -- does an excellent job
2 setting it up. And so, maybe what I'm suggesting is almost
3 an epilogue, because we -- it's ended at the review and
4 evaluation of the AA reports by the responsible entity.
5 How do you make sure that you know what the agency wanted.

6 But -- so maybe what -- what would be helpful to
7 add in this -- it's almost addresses Bill's what's in it
8 for me, because I would like to see it that way as a more
9 positive instead of a here are the consequences of doing it
10 wrong.

11 But what does the agency, in simple form -- what
12 does the agency do with it? You know, we get it in.
13 Here's what's going to happen when -- when it's received
14 and here are the -- you know, it might come back to you and
15 you might to get to do this whole process all over again if
16 you weren't complete enough.

17 Here's, you know -- here are, you know -- here
18 are the -- you know, the regulatory response possibilities.
19 Here's the -- it's -- it's okay. Here's, you know, just in
20 a brief -- brief form, just because it does give folks the
21 here's what can come out of doing this completely and
22 correctly the very first time, even if you don't understand
23 what it is.

24 And -- and maybe some annotation in there of make
25 sure to contact the agency at these steps if you don't

1 understand what we're doing.

2 And I -- I think that's implied, but maybe that
3 needs to -- to be stretched. But I'd just like to see with
4 it ending with here is the feedback loop.

5 **MR. FONG:** Mike, thank you very much. I just
6 want to add one comment on the issue of hidden and indirect
7 costs.

8 In my conversations with members of DTSC, it
9 seems like this particular issue is somewhat foreign or new
10 to DTSC.

11 So I just want to offer a introduction or
12 reference that might help you understand the concept. And
13 actually -- and also, to -- how to incorporate that concept
14 into the development of a sound chemical management
15 framework. And that's specifically a project that Ken
16 Geiser was in charge of with the United Nations
17 environmental program called the Global Chemicals Outlook
18 in which we looked at again, things -- issues such as
19 insurance liability had health costs and how that's related
20 to -- and how that impacts chemical management decisions.

21 So if DTSC is not familiar with this report, I
22 would suggest looking into that.

23 Are there any other comments on the AA synopsis
24 or are we just completely worn out at this point?

25 Well, seeing none, I guess the next step is

1 summarizing the meeting and identifying parking lot and
2 action items.

3 So let me turn the mic over to my coach here
4 and --

5 **MS. MORAN:** So I -- it's my job to try to say
6 something about what happened the last two days. And
7 I -- I think that you all offered just a wealth of advice
8 on how DTSC can improve its work plan.

9 So I'm thinking about that entire planning
10 process. A lot of thoughts on how to go from the very
11 general work plan in the categories that are very general
12 to some specific ways of getting products.

13 And a lot of validation of there's no one simple
14 method. I -- I -- you know, I could try to list specific
15 examples, but I think that would end up taking way more
16 time than we've allotted for the summary.

17 And I -- I think that that's super important. We
18 heard a great briefing on the NAS report. And I know DTSC
19 is going to be thinking about that a lot.

20 And there's some really exciting ideas that can
21 inform DTSC's guidance development process and the whole
22 practice of AA in that report.

23 So again, I'm going to encourage our panel
24 members to be reviewing that and we have plenty of time
25 before our next meeting to do that, but you probably want

1 to do it before you read the DTSC AA guidance, which will
2 be in itself hopefully not too long of a volume, but
3 we'll -- we'll have quite a bit of reading before the next
4 meeting.

5 And to reflect on your own experiences, I -- I
6 think folks brought a lot of their experiences. This is a
7 very fast-moving field. And the experiences and sharing
8 and thoughts that are growing, I mean, some people I think
9 have a -- Bill Carroll has reflected some mature thoughts
10 that have been themes he's been bringing for years to this
11 process to remind us here it is on a practical basis.
12 Here's how it feels to be on this side.

13 Then there's folks who are really growing and
14 maturing their thoughts in these areas. I'm certainly one
15 of them, trying to figure out how to solve problems.

16 A lot of constructive input there. And then
17 today, I -- I think the Department really tried to show us
18 that what we've been doing in terms of our advice, there
19 are many examples of how our advice is modifying their
20 process and helping them strengthen their team and teamwork
21 and ability to put something together that's really going
22 to be practical. So that's just one example.

23 It was really fun to see that and it was also,
24 for me, very exciting to see the Committee's reaction and
25 again, constructive input about how these -- these thoughts

1 and where the Department's going with this are -- is really
2 going to work.

3 So -- and then we finished up today with a lovely
4 discussion of the -- a very small amount of information on
5 AA and you all succeeded in bringing a lot of good thoughts
6 to the Department for their next steps

7 So -- and we're looking forward to that. But
8 there is a lot in front of us and in front of the
9 Department. Between now and our next meeting, I wouldn't
10 be surprised if several of you, maybe many of you here,
11 directly from Department staff and I hope you'll continue
12 to do what you have done in the past, which is to be very
13 generous with your time and open with your information
14 sharing.

15 Several of you mentioned things that you wanted
16 to follow up with with the staff. If you mentioned a
17 specific item that you think the Department staff should
18 look at and so forth, I would very much encourage you to
19 take the initiative of e-mailing it to them. They'll be
20 probably e-mailing you to follow-up, if you forget, but it
21 would be really helpful to them if you can send things out.

22 Is there anything else I should summarize here?

23 So with that, I think I'd turn it over to Art --

24 **MR. FONG:** To Meredith.

25 **MS. MORAN:** To Meredith. All right.

1 **MS. WILLIAMS:** Well, Kelly, you said a lot of
2 what I was going -- going to say, because I do think that
3 we are going to be tapping into certain expertise on
4 a -- on a smaller basis.

5 We know we have some challenges around
6 communicating to people about handling ecological issues,
7 ecological data, predictive -- Predictive Tox when it comes
8 to ecological impacts.

9 I think things like that. I know that Ann, we're
10 going to tap into your expertise around functional use and
11 with some of your partners in crime.

12 And so there are a number of other folks that
13 we're going to be reaching out to on a one-on-one basis.
14 So please expect to hear from us.

15 So I'm going to -- if I -- can I just talk on
16 Miriam's behalf? Would that be all right?

17 **MR. FONG:** Oh, yes. Absolutely.

18 **MS. WILLIAMS:** So Miriam wanted to be here, but
19 because we're running a little bit early, I don't think
20 she's going to get here in time. And I know as we were
21 walking over to dinner last night and we were explaining to
22 her some of the benefit we got out of it, she really perked
23 up.

24 And one of the things she was going to speak to,
25 if she -- she could make it was a little bit about the

1 resource issue and just -- I heard suggestions and
2 encouragement from the panel about things as bread and
3 butter as making sure you have access to the primary
4 literature, society memberships, attendance at conferences.
5 These -- these are basic things, but they take resources.

6 I heard that we need to be thinking ahead to
7 evaluating the AAs. The suggestion of we should implement
8 an AA. Again, those are all resource suggestions. And
9 I -- I just wanted to communicate the commitment on the
10 part of the Department and the agency and the
11 administration to this program and to continuing to look at
12 the resource requirements and making sure that we are set
13 up for success.

14 And so, when you call for things like that, it's
15 actually quite helpful. It may seem a little overly
16 aspirational, but it does help us tell the story as to why
17 we're asking for the things that we're asking for.

18 So I, in particular, appreciate those -- those
19 suggestions that may be longer view, maybe, again,
20 aspirational, but I think will be very beneficial in terms
21 of the building the program in the long-term.

22 So I wanted to thank you for that in particular
23 and I know that Miriam has a very clear vision for how to
24 tackle this conversation about appropriate resources and
25 helping the -- the program grow.

1 And so, I think we're in pretty capable hands in
2 terms of navigating that over the next couple years. Thank
3 goodness.

4 So I did want to pass on her appreciation for
5 your time and effort as well as mine, of course, for your
6 expertise, your knowledge, your time, your commitment and
7 your continued support. So thank you.

8 **MS. OSTRUM:** I'll just echo the Department's
9 thanks and say thank you. I think Ken wants to say
10 something, too.

11 **MR. GEISER:** Ken. Can somebody say something
12 about what the schedule from here will be? Art, do you
13 plan to have further meetings or phone calls or is there
14 anything --

15 **MS. OSTRUM:** Absolutely. So, the one thing we
16 know is that we don't even want to sit down with you guys
17 again until we have the guidance, a draft of the guidance.

18 We really want you to have something real in
19 front of you, for you to have had time to digest it.

20 And so, what we're going to look at is the
21 schedule for the completion of the -- the guidance.

22 Now, you only saw the synopsis today and that is
23 not to say that big, very significant parts of that
24 document aren't written already.

25 They've been written. They've been edited.

1 They're in quite good shape. So we're moving along with
2 that. And as we get it into good shape, we want to figure
3 out where does it make most sense for you to plug in?

4 One of the questions is do we give it to you
5 first? Or do we go ahead and shop it to a few key
6 stakeholders and get a little feedback and figure out where
7 the challenges are, where people are stumbling and then
8 bring you in to help advise us on those challenging areas?

9 So we are weighing all of that right now and
10 we're going to schedule accordingly. So you're -- we
11 can't -- and of course knowing how busy you all are, this
12 is going to create a scheduling challenge.

13 We'd much prefer to be able to schedule a meeting
14 as soon as we have a meeting, but in this case, I think
15 we're -- we're -- we want to be a little conservative and
16 make sure that we have what we need, again, for you to dig
17 in to both the NAS report as well as our guidance.

18 **MR. FONG:** I just want to add my personal thank
19 you to members of the DTSC staff for putting up with my
20 crazy schedule. So thank you very much, Corey. Yes.

21 **MS. WILLIAMS:** And I want to take -- thank DTSC
22 staff for all the preparation of the presentations and I
23 especially want to take the hats off to the support staff.
24 Linda's here. Heather's not in the room.

25 Corey, folks who made everything run smoothly,

1 got us to -- got us fed and, you know, navigated and
2 orchestrated and it's -- it's just a very impressive how
3 smoothly things run. It's -- that it's easy to take for
4 granted and we do not take it for granted. So thanks very
5 much.

6 **(Applause)**

7 **MR. FONG:** The meeting is officially adjourned.

8 **MS. BLAKE:** And of course -- thanks to the coach
9 here for all their hard work and working with DTSC to set
10 this up.

11 **(Applause)**

12 **(Meeting Adjourned)**

13