

MEETING

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DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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GREEN RIBBON SCIENCE PANEL

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APPEARANCES

PANEL MEMBERS PRESENT

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Kelly D. Moran, PhD, Co-Chair

Caroline Baier-Anderson, PhD

Ann Blake, PhD

Michael Caringello, MBA

Kenneth Geiser, PhD

Helen Holder

Timothy F. Malloy, JD

Julie M. Schoenung, PhD

Megan R. Schwarzman, MD, MPH

Rebecca Sutton, PhD

Don Versteeg, PhD

Ken Zarker

STAFF PRESENT

Barbara Lee, Director

Meredith Williams, Deputy Director

Karl Palmer

Nathan Schumacher

Nancy Ostrom

Xiaoying Zhou

Relly Briones

Ann Cooper Doherty

Daphne Molin

APPEARANCES (CONT.)

STAFF PRESENT (CONT.)

Kathleen Calvert

Tony Luan

James Joleson

Hortensia Muniz

Evelia Rodriguez

Lynn Goldman

Diana Phelps

Corey Yep

PUBLIC PRESENT

Tom Jacob, Chemistry Industry Council of California

Dawn Koepke, McHugh, Koepke and Associates, Co-Chair, Green
Chemistry Alliance

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MR. SCHUMACHER: Good morning, everyone. Welcome.

First, some housekeeping notes and opening remarks. Welcome to the Green Ribbon Science Panel meeting.

I'd like to announce that the public is following this meeting via the webinar and also conference call.

Today's meeting is also being recorded by our court reporter, seated to my left. He will put together a transcript that will be available to the Department, and the post it on our website so you can look at it when it is available.

First of all, in case of fire or some other possible catastrophe, the exits are marked. And follow the exit signs to the stairway. If there's a fire, we don't use the elevators, pretty obvious. But, obviously, we'll try to assist you if that were to happen. But, please, pay attention to the exit signs for the stairway in case of emergency.

If you can't use the stairway, there is a protective vestibule available and we'll direct you to that, if necessary.

All right. The restrooms are, for the women to the right, outside the door. And for the men, the left on the hallway there. Since this is a new room for all of you, it's a similar kind of setup to another, before. But if

1 both of those restrooms are filled for some reason, there
2 are also restrooms across the way, on the other side.

3 We're conducting this meeting under the Bagley-
4 Keene Open Meetings Act. And so, please refrain from
5 discussing the topics of the agenda with the members of the
6 Panel privately. Please make any comments you may have,
7 from the public that is, in the public setting.

8 Also, this meeting, please restrict your comments
9 to items on the agenda. Please do not make any comments
10 related to DTSC or any decision that DTSC might or might not
11 make.

12 There are comments cards available at the front
13 desk. Many of you, from the public, have been offered them,
14 I believe. If you want to come and please fill that out,
15 and we will give you the high sign when the appropriate time
16 comes to comment. Those comment cards are available.

17 I will now turn it over to our Director, if she's
18 in the room. I don't see her. Are you with us? Okay, so
19 Meredith, would you like to welcome people?

20 DEPUTY DIRECTOR WILLIAMS: Good morning. Good
21 morning, the director is on her way down to say good morning
22 and to welcome you all here.

23 So, we are extremely excited about this meeting.
24 Someone recently said to me, or said in a panel discussion
25 that making regulations was like an (inaudible) -- and

1 there's all that mass underneath the water. And that's the
2 way the program feels for me right now, which is that there
3 is so much happening. We're excited about a lot of it.
4 We're happy to get as much of it up above the water, if
5 possible, to share it with people so that we can get
6 feedback and input.

7 And I think that based on last night's dinner,
8 we're in for a very interesting, lively discussion over the
9 next day and a half. I walked away from dinner quite
10 excited. I think I e-mailed Karl and said it's going to be
11 good.

12 So, I don't want to spend much more time than that
13 welcoming you and thanking you all for your service. We
14 know how difficult it is for you to come, to make the time
15 for us, to share your experience with us.

16 (Audio difficulties)

17 PANEL CO-CHAIR FONG: I'll really be impressed by
18 what DTSC has done (inaudible) -- So, Kelly, do you want to
19 say anything?

20 PANEL CO-CHAIR MORAN: Yeah, this is Kelly Moran
21 and I just want to say thank you all for your contributions
22 to this discussion, the development of alternatives analysis
23 pathway. Everyone here, and many folks out of the room are
24 working to find the way to take us to where is our journey
25 headed. We know we want safer products, but how do we

1 figure out what is safer, what works, what's practical all
2 of those things. We'll be talking a bit about that today.

3 There are quite a few folks at the table who have
4 independently been donating extra time beyond their service
5 directly on this Panel to the Department, in various ways.
6 So, there's been (inaudible) -- that are developed by other
7 agencies.

8 And I also really want to acknowledge the folks
9 who are everyday taking their businesses. That's the
10 hardest thing of all is having to make a decision without
11 knowing everything, but needing to move things forward.

12 And all of that work that is done is super
13 important.

14 In today's meeting, as we proceed through, I want
15 to focus on things that where we, as a group, through our
16 discussion can advance the Department's understanding. So,
17 there are a number of things, individuals comments or
18 information to share, and I'm going to support Meredith's
19 request that we do that directly because we won't have time
20 today to go through everyone's detailed (inaudible) --

21 But there are a number of topics that are
22 challenging. I think many of us know what those are and
23 we'll have an opportunity, in an hour or so, to be raising
24 those topics. We'll be making a list.

25 And so, I really want to encourage everyone to

1 think about what is it where we, with our different
2 experiences and backgrounds, can together, through
3 discussion, help advance this process.

4 Thank you, and I'll turn it back to Art.

5 PANEL CO-CHAIR FONG: Is that working any better?
6 Okay.

7 DIRECTOR LEE: I'm introducing myself.

8 DEPUTY DIRECTOR WILLIAMS: So, for those of you
9 who don't know, this is our director, Director Barbara Lee.
10 And she only has a few minutes to share with us, but she
11 wanted to welcome you, personally.

12 DIRECTOR LEE: Thank you all for coming and for
13 the time that you devote to this Science Panel. The Green
14 Ribbon Science Panel is a critical part of the success of
15 our Safer Consumer Products Program. It is the program that
16 I think of as the vision and the future of California, in
17 terms of hazardous materials. It is where I think our best
18 hope lies. It's our only chance for changing the ultimate
19 course of how chemicals affect our society. And everything
20 else we do is really cleaning up after the fact. And this
21 is the program that really changes the paradigm we're
22 working within.

23 The independent expertise and vision that you
24 bring to our program is what makes the program stand firm
25 and stand tall. You are the sounding board that gives us

1 the direction, that gives us the independent credibility,
2 that backs up the technical expertise that Dr. Williams,
3 that Karl, and the other staff in the program bring to it on
4 a day-to-day basis.

5 And I know that all of you have very busy lives
6 and this is a competition for your scarce time. And I'm
7 very grateful to you for the time that you give to us. So,
8 thank you and thank you for being here today. We have
9 important work ahead of us in the next few months, in the
10 coming year and we need your input, and we need your
11 guidance.

12 DEPUTY DIRECTOR WILLIAMS: Thank you, Barbara.

13 PANEL CO-CHAIR FONG: Thank you for much.

14 We'll get started today by an introduction of the
15 Panel members for the record, and for the audience sitting
16 and listening in by webcast.

17 Well, we'll start with Tim Malloy.

18 PANEL MEMBER MALLOY: Good morning, I'm Tim
19 Malloy.

20 PANEL MEMBER BAIER-ANDERSON: Caroline Baier-
21 Anderson, USEPA.

22 PANEL MEMBER SUTTON: Rebecca Sutton, San
23 Francisco Estuary Institute.

24 PANEL MEMBER SCHWARZMAN: Meg Schwarzman,
25 University of California, Berkeley.

1 PANEL MEMBER GEISER: Ben Geiser, University of
2 Massachusetts, Knowle.

3 PANEL MEMBER VERSTEEG: Don Versteeg, recently
4 retired from Proctor & Gamble, now with Eco Stewardship,
5 LLC.

6 PANEL MEMBER ZARKER: Good morning, Ken Zarker
7 with the Washington State Department of Ecology.

8 PANEL MEMBER CARINGELLO: Mike Caringello with
9 S.C. Johnson.

10 PANEL MEMBER SCHOENUNG: Julie Schoenung, formerly
11 with UC Davis, now at UC Irvine.

12 PANEL MEMBER BLAKE: Ann Blake, Environmental and
13 Public Health Consulting.

14 PANEL MEMBER HOLDER: Helen Holder, HP.

15 PANEL CO-CHAIR FONG: Thank you, Members. To this
16 topic we will include -- well, we're going to cover two
17 topics today. One will be a program update. The second one
18 will be a presentation on the draft Stage Alternative
19 Analysis Guide.

20 And those will be followed by any questions from
21 the Panel Members.

22 After the Panel question and answer period, we're
23 going to take public comments on the agenda topics for about
24 15 minutes, followed by a short break.

25 After the break, the Panel will have a discussion

1 on prioritizing the discussion topics related to the draft
2 Alternative Analysis Guide.

3 We'll break for lunch at about noon and reconvene
4 at 1:15 to commence the Panel discussion on the prioritized
5 topics.

6 Prior to adjourning today's meeting, we will have
7 a recognition period to recognize Panel members who will be
8 stepping off the Panel.

9 At this time, I will turn the meeting over to Karl
10 Palmer for the Safer Consumer Products Program updates.

11 Or, I'm sorry. Actually, let me make sure -- let
12 me see if I've got Dr. William Carroll on the line. Bill,
13 are you on?

14 (Operator Instructions)

15 PANEL CO-CHAIR FONG: Bill is actually involved in
16 an ACS event right now, so he's going to be joining us
17 whenever he can, remotely. And we will let him introduce
18 himself and announce when he joins us.

19 Karl, back to you.

20 MR. PALMER: Okay, good morning, everyone. Can
21 you hear me? Okay, great. Welcome Science Panel members
22 and members of the public.

23 I'm going to provide a brief overview of an update
24 of what the program has been doing and where we're going,
25 talk a little bit about what's under the tip of the iceberg.

1 And I'll just dive in and then we'll have an opportunity for
2 questions.

3 So, I'm going to cover our efforts, current
4 efforts on rulemaking and product selection, what we're
5 doing with our work plan.

6 I'm going to talk a little bit about the status of
7 our alternatives analysis guidance, where we are in that
8 process. We're going to dive into that in greater detail
9 later this morning.

10 I'm going to give an overview of our CalSAFER
11 information management system, which is the tool we're using
12 to collect information from the public on our rulemaking and
13 our activities, as well as to allow people to search
14 information that we have.

15 I'll talk a little bit about an EPA grant we have
16 that's supporting our efforts to implement our regulations
17 and promote green chemistry.

18 I'm happy to talk about a new Western States
19 Memorandum of Understanding. And I want to talk a little
20 bit about our staffing resources, give you an idea of who we
21 are, and what we're doing, where we're going.

22 So, just a brief reminder, our regulations are
23 really in four parts and we've been spending most of our
24 time on the first, two and three parts of this
25 implementation, identifying the candidate chemicals,

1 choosing potential products to regulate as priority
2 products, and then developing guidance for the alternative
3 analysis procedures.

4 We aren't yet into dealing with regulatory
5 responses, but they will come. But I'm going to focus
6 mostly on the first three parts.

7 I'll give you an update on a few rulemaking issues
8 relative to our candidate chemicals list. Currently, we are
9 in the public notice comment period for a rulemaking which
10 clarifies and corrects a small error in our original
11 regulations.

12 I think it was clear in our regulations, in our
13 support documents what our intent was in pointing to one of
14 the lists in the EU that identified substances of very high
15 concerns, specifically, endocrine disrupters. There's a
16 technical error in the language and we have a rulemaking out
17 to fix that error.

18 In the same rulemaking, we're also choosing to
19 update one of the lists -- one of the sources we're looking
20 to for candidate chemicals, which is the Department of
21 Health and Human Services' National Toxicology Programs
22 Report on Carcinogens. And we're updating that from the
23 12th report to the 13th report.

24 Collectively, the impacts of this on our candidate
25 chemical list is almost nil. There are, I think, three

1 chemicals that come into play. Most of the chemicals that
2 were on these lists are on other lists, as well. But,
3 technically, it's correct now. It also serves as the basis
4 for our informational candidate chemical list, which I'll
5 talk about shortly.

6 The comment period closes on Monday. So, please
7 take a look if you're interested, and we would welcome any
8 comments that you have about this rulemaking.

9 I also want to highlight that we'll shortly be
10 putting out public notice on our brake pad regulations,
11 which are not directly related to the Safer Consumer
12 Products Program, but it's the same concept. We're
13 implementing the law that was passed in 2010 to restrict
14 metals and reduce the amount of copper in brake friction
15 materials. And we're putting out regulations that will help
16 in specifying testing protocols, marking criteria, and
17 certification requirements, which will help the
18 manufacturers be in compliance with our law, as well as
19 harmonize our program with that in Washington State so that
20 we have a regional/national program that essentially sets a
21 great opportunity for improving those products and reducing
22 impacts on the environment.

23 That rulemaking may not be out by the end of the
24 year but, certainly, in the first part of the year.

25 On the second step, I wanted to highlight that

1 we've been discussing, for the last year and a half, three
2 proposed priority products that will soon be coming out in
3 rulemaking. And those are all mouthfuls. The first one are
4 foam-padded sleeping products with the flame retardants
5 TDCPP and TCEP.

6 And the second proposed product will be paint
7 strippers containing methylene chloride.

8 And the last product will be spray polyurethane
9 foam systems with unreacted MDI.

10 The first -- these will be three separate
11 rulemaking packages. The first one to come out will be the
12 children's foam-padded sleeping products. Hopefully, soon
13 after the first of the year. Followed by, shortly
14 thereafter, the other two product rulemakings.

15 We encourage you to, when that notice comes out,
16 look at them closely, provide comment. We've been working
17 hard on expanding the supporting documentation for those
18 rulemakings, working on the economic analysis that's
19 required by the Department of Finance. And we're looking
20 forward to getting those to move forward.

21 A little bit about our priority products work
22 plan. In April of this year we finalized our priority
23 products work plan, which is really the menu for the next
24 three years, of categories of consumer products that we plan
25 to focus on and select from those categories the next set of

1 priority products.

2 We had a lot of great feedback in this process and
3 that continues. I want to highlight one key thing in that
4 work plan is not just the categories, themselves, but we did
5 identify our policy priorities, which will be the lenses by
6 which we look through these categories and how we filter and
7 set our decision making protocols to ultimately choose the
8 next products. So, those are really looking at ensuring
9 that there's clear exposure pathways.

10 We're going to be looking at biomonitoring as a
11 key source of data. We're going to be looking at indoor air
12 monitoring. We're going to have a bias towards products
13 that expose children and workers to harmful chemicals.

14 And we're also going to be looking at impacts on
15 the aquatic environment. The first three products that
16 we're proposing to look at are really concerns related to
17 human exposure and we want to ensure that we also are
18 addressing concerns about impacts on the environment.

19 So, those are things to keep in mind as we
20 implement the work plan, as we continue the dialogue of
21 information gathering and decision making on the priority
22 products work plan.

23 Just to highlight what those categories are,
24 briefly, is beauty, personal care and hygiene products.
25 Household and office furniture and furnishings with a focus

1 on chemicals that provide stain resistance and water
2 repellency. Building products, with a focus on paints,
3 adhesives, sealants and flooring. Cleaning products and
4 clothing. Those are the largest categories.

5 We also have two other categories, one which is
6 called office machinery consumer products, which is really
7 focusing on inks, and dyes, and things like thermal paper
8 for receipts that are treated with chemicals.

9 And lastly, fishing and angling equipment, with a
10 focus on lead and metals in small angling gear that can be a
11 harm to water fowl.

12 So, that's the overview. Obviously, there's a lot
13 of landscape there to cover and lots of opportunities for
14 dialogue about what makes sense for us to focus on from
15 within these categories.

16 Andre Algazi is going to talk tomorrow about our
17 process of how we're tackling this endeavor and I'm looking
18 forward to your input on that.

19 Today, we're going to be talking about
20 alternatives analysis. And as you know, we recently
21 released the draft of our stage one guidance for AA. We
22 extended our comment period to close, again, this Monday.
23 We held two webinars, nationally/internationally, and we
24 were really pleased that we got a lot of participation. We
25 had over 300 participants in our two webinars, collectively.

1 And we've only received a handful of comments
2 formally, but we hope that by Monday we'll get more. And
3 we're hoping to release the revised version of this guidance
4 in the first quarter of next year, as well as the second
5 stage guidance.

6 And I think Nancy will talk about it later this
7 morning, but it's our vision that that guidance will be all
8 rolled into one and you'll have an opportunity to look at it
9 holistically. It won't be just stage one and stage two, but
10 they're very much related. And we're really looking forward
11 to our input today from the Panel, and from the public as
12 well.

13 The thing about alternatives analysis, really, it
14 is the core of our program. It really is where the rubber
15 meets the road. And it's the process by which we collect
16 information, assess alternatives, make decisions. Both the
17 practitioners of the AA and the Department's going to rely
18 on that as well.

19 And so, we're really happy to have the opportunity
20 today to get your input on that process. And we certainly
21 encourage everyone in the public to comment as well.

22 I would add, to back up just a little bit, is that
23 all of these processes, part of that iceberg underneath the
24 water is that although you might not see things coming out,
25 like the rulemaking package, we're working really diligently

1 across the board. We're working with industry and trade
2 associations. We're working with NGOs and advocacy groups.
3 We're working with our colleagues in government, both
4 federal and state, to share information, to collect
5 information. It really is the point of the realm for us.
6 It's what we need is good information about what other
7 people are doing, how people can answer questions, tackle
8 issues, develop methods. That's really the heart of what
9 we're trying to do.

10 A tool to help with that process is really our
11 CalSAFER portal. We spend an awful lot of time working on
12 this. And it may seem really simple, but there's a lot
13 behind this. The fundamental concept is that we're
14 providing an opportunity for people to give us comment, to
15 provide documents, to submit their alternatives analysis, to
16 comment on our rulemaking, and to make that all publicly
17 available, with the exception of CBI trade secret
18 information, which we have a process which you can register
19 and protect that information, as well.

20 We recently updated the functionality of our
21 candidate chemical search list, the informative candidate
22 chemicals list. So, you can go online and you can put in
23 the name of a chemical or a CAS number, you can search to
24 see where the information is that is the basis for our
25 listing. It's a really wonderful tool.

1 We are going to be developing and implementing new
2 parts of CalSAFER, which will include a registration
3 process, a process for notifying us that you are a
4 responsible entity for submitting alternatives analysis.
5 And for, ultimately, providing all of this information out
6 in the public domain.

7 Just a word about a small grant we have from
8 USEPA. We, last year, received a pollution prevention grant
9 from Region 9 USEPA. And we're using that to augment our
10 efforts to expand our alternatives assessment capabilities
11 and understanding. We're looking at trying to identify
12 tools that we can add to the OACD tool selector process to
13 make it easier for people to find tools and use them,
14 appropriately.

15 We're working with UC Santa Barbara to work on a
16 pilot AA that takes of where BizNGO left off on the methane
17 chloride alternatives analysis. And we're looking at
18 implementing, after the first of the year, a variety of
19 trainings and workshops that will be focused on things like
20 hazard screening, exposure assessment, things along those
21 lines that will be there for everyone to learn, and collect
22 and share information.

23 I want to highlight, for me, an exciting
24 development, which is in the last few weeks we, along with
25 the Washington Department of Ecology, under Ken Zarker's

1 initiative and leadership, and our colleagues at the Oregon
2 Department of Environmental Quality assigned a memorandum of
3 understanding that was really modeling after the DTSC's MOU
4 with USEPA. Which is, essentially, a commitment to share
5 information, to collaborate, to coordinate, to make sure
6 that we know what everyone's doing and not reinvent the
7 wheel to do -- look at efforts that can be complementary and
8 efficient. So that if Ken, in Washington, is doing product
9 testing on certain things that we don't necessarily
10 replicate that, but we do something different that
11 complements it.

12 It's also a commitment to ensure that there's a
13 very public and open dialogue among the states, and industry
14 and advocacy groups about the availability of information,
15 and moving the discussions forward.

16 So, while on one level it's just a piece of paper,
17 it's really a shared commitment to move this process forward
18 and to good government.

19 So, we're hoping to use that both as a tool for
20 efficiency and planning, but also to leverage things like
21 getting additional EPA grants. Cal, no pressure. That
22 might move us forward and be efficient use, rather than just
23 on a region-by-region basis, but on a regional and national
24 basis. So, we're excited about that.

25 I wanted to give you a brief snapshot of something

1 else I'm excited about, which is that we are fortunate that
2 in this year's budget cycle we had the support and approval
3 of adding additional staff to our program. We have the
4 authority to add eight new staff. Their mix is really what
5 is up here is engineers, environmental scientist,
6 toxicologist, some folks that can help us on economic
7 analysis, an information officer.

8 Ben, who's in the back of the room, raise your
9 hand, Ben, who's going to help us in all our external
10 communications. You know, if we can't communicate what
11 we're doing and what we need, you know, it's not working for
12 us. So, Ben's going to help us with that.

13 And we also, I'm happy to say, will get some
14 administrative support.

15 So, eight people may not seem like a lot, but it's
16 a lot to us. It's a significant increase. It shows the
17 support that we need and we'll need more in the future, and
18 we're happy to be growing and getting these staff to add to
19 our already excellent staff.

20 I do want to highlight that Meredith and I have
21 been thinking a lot and acting on our concerns about the
22 long-term staffing we need, both in terms of the skill sets
23 we need and who we've got not. We've got great staff, but
24 we also are getting older. Like many state governments, a
25 lot of people are not far from walking out the door.

1 Recently, I want to do a shout out to Bob
2 Boughton, who many of you know who was a really key person
3 in our development over the last several years in developing
4 lifecycle thinking, really sowing the seeds of building this
5 program. And he was the leader of our AA team in many
6 respects. And he just recently retired. So, I want to
7 thank him, publicly.

8 But we need more folks like Bob. And we've got
9 some already and we want to get more. So, I'm glad we got
10 more positions. We are hiring. And so, if you go to our
11 webpage, just like a little advertisement, and you know
12 anyone who's really good, who wants to come do some good
13 work, please look at our webpage. It's a lot easier now to
14 get into state service than it has been in the past.

15 So, I won't do any more sales there. But we're
16 looking for great people because we've got great work. But
17 it is a journey that's a long journey and we need to --
18 we're trying to invest in the people we've got and the
19 people we'll get in the future. So, we appreciate your help
20 on that.

21 On that note, I have a little shot here of a
22 couple of our staff, Ann Cooper Doherty and Daphne Molin.
23 This is a shot from the recent CTAC meeting. And they're a
24 great example of a multitude of great, young and excellent
25 staff we have that are getting out and interacting with all

1 of you, and colleagues nationally and internationally on the
2 issues that really are going to make a difference in the
3 success of this program.

4 So, we want more folks like this, send them our
5 way. We're optimistic.

6 So, just a brief comment on the road ahead. I've
7 highlighted some of the iceberg that's going on in terms of
8 the processes that sometimes seem bureaucratic and slow.
9 But we're being prudent, we're trying to be smart. It's
10 important that we do these things right.

11 But there are a lot of decisions to make in the
12 road ahead. And so when I was looking for slides, I found
13 this one. And, of course, that evoked the great Robert
14 Frost poem on, you know, "The Road Not Taken", as it's
15 called.

16 And when you're looking at the slide, you also
17 find the approach that are imposed on these things. So,
18 people are very aware of the famous quote.

19 It just says, I'll just read it, humor my poetic
20 side. "Two ways diverged in a wood and I took the one less
21 traveled by and that has made all the difference."

22 So, I looked at that quote and I thought, oh,
23 that's kind of interesting. But I think oftentimes people
24 look at that quote and think it's all about someone looking
25 back at their life and, you know, their success and the

1 roads they've taken.

2 But a careful reading of the poem, actually,
3 suggests that's not actually what he's talking about.
4 Because the line right before that says, "I shall be telling
5 this with a sigh somewhere ages and ages hence." And then
6 it goes on to talk about that choice.

7 So, this struck me as similar to where we are in
8 our program. It is we're building a road. There are many
9 choices. It's not one that we've already built. We can't
10 look backwards and say so much on our success. We need to
11 look forward to where we want to go, how we're going to get
12 there, and the choices that we have to make. And I'm really
13 excited about those choices, but there's a lot of
14 uncertainty. Which way do we go?

15 So, one reason I'm really happy to be here today
16 and that you are all here is that you're helping us build
17 that road. You're addressing the issues of uncertainty.
18 You're addressing how we can build the road using good
19 science, using knowledge, using information, using the
20 experience of everyone here, and the public, and our
21 colleagues in industry, academia, advocacy. All with the
22 same mission, really, which is to make products that are
23 safe for people and the environment.

24 So, I thank you today. I'm looking forward to the
25 discussion. That's my presentation.

1 PANEL CO-CHAIR FONG: All right, thank you very
2 much for the excellent and informative update. And then,
3 especially the part about staffing resources.
4 Congratulations. Knowing how limited resources were, you
5 know, before this, I think it's just excellent. I think
6 it's great.

7 So, at this point we're going to go over -- I'm
8 sorry, at this point we're going to see if there are any
9 clarifying questions for Karl.

10 Two reminders, we're going to continue to use the
11 nametag method for queuing for questions. And, also, to
12 limit your questions to this presentation on the update.

13 I know that we all have a lot of discussion
14 questions and points that we want to make on the other
15 aspects of the program, but let's save that for the
16 appropriate time and limit this to Karl's presentation on
17 the program update.

18 Any questions? We'll start with Mike.

19 PANEL MEMBER CARINGELLO: Mike Caringello with
20 STJ. Just a minor point, just because it's in the
21 presentation and so it's a clarifying thing. But when we
22 talk about the three-year plan, and we label that 2015
23 through 2017, yet the initial three products, priority
24 products that we're doing are going to pop up, now, in 2016,
25 does the three -- how does the three-year plan then extend

1 beyond? Because we're not really going to -- it started
2 development in 2015, but the products in that three-year
3 plan, obviously, are going to go well beyond the 2017 time
4 cycle.

5 So, I'm just curious how you saw that time cycle
6 with the new plan mapping out?

7 MR. PALMER: Thanks, Mike, that's a good question.
8 Our regulations require that we have a three-year plan that
9 identifies the categories from which we pick priority
10 products. The first ones are not part of that plan. We
11 were required to pick products within 180 days of the
12 regulations being adopted and those are the ones we picked,
13 and we're moving forward on. So, they're outside the plan.

14 Certainly, within our existing 2015 to 2017
15 categories we may pick some things that are going to expand
16 throughout the time, and we may pick some things that will
17 take longer to adopt.

18 We are required, by the end of the second year of
19 the plan, to put out the draft for the next three-year plan.
20 So, this is really a cyclical process of putting things in
21 the hopper, making choices, following through and putting
22 more things in the hopper.

23 Certainly, we'll be limited by our resources and
24 we'll be also informed by the learning as we go through the
25 process of how to do it and do it more efficiently.

1 But, really, it's about this ongoing dialogue
2 about what we should be looking at. And, hopefully, that
3 answers your question.

4 PANEL CO-CHAIR FONG: Ken?

5 PANEL MEMBER GEISER: Thank you, Karl, and thank
6 you for the nice summary. And, also, congratulations on the
7 new hires and the possibility of new hires. That's
8 wonderful news for, I think, all of us.

9 Just it's partly my own confusion, but let me just
10 go back into one point you made, and it has to do with
11 scheduling on the guidance documents. So, you're saying
12 that what you have before us is a draft and you're going to
13 produce -- but it's only a draft of the first set of
14 chapters and there's another set of chapters coming at some
15 point. And then, there's the revised version. Is that the
16 revised version of all the chapters?

17 And then, can you just be a little more detailed
18 about -- and clear? Just confused a little about what's
19 coming and at what point, and it would really help.

20 MR. PALMER: Good question, Ken. The guide sort
21 of parallels the requirements in the regulations at this
22 stage to a process. We recognize that they're very much
23 interrelated. So, we're going to get comments on this
24 stage, we're going to put out the second stage guidance, and
25 we'll start -- and Nancy can talk more to this when she does

1 her presentation later.

2 But, ultimately, they'll be merged together and
3 we'll have a final document in the first quarter, hopefully,
4 of next year or thereabouts.

5 So, it's difficult. We don't want to have a stage
6 one and stage two and think they're independent, because
7 they're really married in the real world. So, when we get
8 the stage two out, we'll be looking back on stage one as
9 well.

10 And, Nancy, do you want to say anything about that
11 now or -- okay, so Nancy will go into a little more detail
12 on that.

13 But we're trying not to be too bureaucratic. We
14 want to make it practical and integrated.

15 PANEL CO-CHAIR FONG: Okay, anyone else?

16 MR. SCHUMACHER: We have a comment from the
17 audience.

18 PANEL CO-CHAIR FONG: I don't think that's -- this
19 is strictly for the Panel's asking clarifying questions of
20 Karl's presentation. In terms of public comments, I think
21 that's a little bit later.

22 Let me just make sure to see if there are any more
23 questions or comments from the Panel members on Karl's
24 presentation?

25 If not, let's move on to -- next up will be the

1 status of the draft stage one alternative, and now with this
2 guide, from Nancy Ostrom. Nancy is a Senior Scientist on
3 the Alternative Analysis Team and is a Department veteran.

4 And the draft guide was released on September
5 24th, and it's currently open for public comment, as pointed
6 out by Karl. The comment period closes on Monday. There
7 will be an overview of the draft guide.

8 And I would like the Panel members to pay
9 particular attention to when Nancy highlights the sections
10 in the guide where DTSC would like to have input from the
11 Panel members. Nancy.

12 MS. OSTROM: Maybe I'll just hold it. Okay, thank
13 you all for coming. And thank you, Art and Kelly, for your
14 kind introduction.

15 We'll work past my first slide. Okay, so I'm
16 going to be presenting the draft guide. And it's called the
17 draft Stage One Guide because we sort of divided our
18 document into roughly stage one and stage two to follow the
19 regulations.

20 But as Karl pointed out, it's not a bright line
21 between the two stages and there's lots of interaction
22 between the two. So, it's a little bit of an artificial
23 delineation, but we did it that way so that we could get
24 some feedback on the direction we were taking, and the kind
25 of information we were presenting so that we didn't, you

1 know, get to the end and realized we'd completely taken a
2 left turn.

3 So, what I'll be presenting today is the first
4 half of the guide. I'm going to give you a brief overview
5 of what's in the guide and what's in each of the chapters,
6 and a little bit about what's there and why it's there.
7 Probably less about, you know, educating you about AA,
8 because I think you've all read it.

9 I'd like to introduce Relly and Xiaoying, the
10 other members of the AA Team who worked long and hard on the
11 chapters of the guide, and they will be helping me to
12 address your questions.

13 Okay, as Karl said, Karl always steals my thunder,
14 we released the guide, the draft in September. We had our
15 two webinars in October and we're still receiving comments
16 through November. Well, next Monday. So, we are most
17 interested in what you have to say and your feedback about
18 what we've done with the guide, and the ideas we have, and
19 sort of the direction that we took. And, hopefully, we'll
20 get some of that today. And if you have more detailed
21 comments, please, please, please write them down and give
22 them to us.

23 As Karl mentioned, the comments go through
24 CalSAFER. You don't necessarily have to do it that way, if
25 you don't want to. You know, we'll still get them.

1 Okay. By the way, I'm using Relly's slides from
2 the webinar, so all of these beautiful slides are -- we can
3 thank Relly for.

4 So, as Karl mentioned, this is a similar graphic
5 that he used, that shows the four steps in the SCP
6 regulations. And the reason why I am using it, I
7 contemplated cutting it, but I wanted to include it because,
8 to me, for the responsible entities who are doing their
9 alternatives analysis, it's really important that they do
10 understand the entirety of the regulations.

11 A lot of the information that goes into the
12 priority product listing forms the basis for their
13 alternatives analysis, and the regulatory responses may
14 inform their ultimate decisions. So, I just think it's
15 really important that they consider the regulation, in its
16 entirety.

17 So, here's the two-stage process for alternatives
18 analysis that's laid out in the regulations. And, as you
19 know, we have the first stage. After the responsible entity
20 completes the first stage, they complete a preliminary
21 report. And I'll talk more about this, but the important
22 parts of the preliminary report are the findings and the
23 reasoning for the decisions that they made in the screening
24 part of the analysis. And also, their work plan for the
25 second phase, the second stage of their AA, where they lay

1 out specifically what they intend to do and how they intend
2 to gather the information they need to complete the second
3 stage.

4 So, this graphic comes from our guide. It's at
5 the beginning. And we want to be extremely clear about what
6 the guide is and what it isn't. So, we know that the guide
7 is not regulation.

8 The requirements for the alternatives analysis are
9 laid out in the regulation and only in the regulation. The
10 guide follows the reg, but it's not a reg. It doesn't
11 impose any new obligations. It doesn't replace any
12 compliance requirements that are laid out in the regs. It's
13 merely advisory. It's intended to help the responsible
14 entities to fulfill the requirements of the regulations and
15 it provides tools, and methods, and examples, and helps to
16 explain what's meant by the regulations. We explain some of
17 the steps and some of the terms that are in the regulations
18 that may be unfamiliar.

19 So, the other thing the guide is, is dynamic. So,
20 we anticipate updating this guide fairly frequently. So,
21 the schedule for actually releasing this guide is important.
22 But we anticipate that, as new information becomes available
23 that we think is important to include in the guide, we'll do
24 that and we'll update it.

25 And we're also looking at different formats for

1 the guide so that it's not necessarily just a written
2 document, but it's a living document, perhaps in some online
3 fashion.

4 So, the guide is also multipurpose for multiple
5 audiences. And this is kind of the is and is not for this
6 third one. They aren't really opposites. But what we're
7 trying to say here is that we anticipate a wide variety of
8 people who use the guide. We anticipate people who have no
9 idea how to begin looking at the impacts of their products
10 and some of the alternatives. And, we expect there might be
11 people whose job it is to do this, and everybody in between.

12 So, in some instances the guide is maybe too
13 elementary for some people. In other instances, it might be
14 too complex for some people. We've tried to strike a
15 balance and we've tried to explain, as best we can in those
16 areas, where people can go to get additional information, if
17 it's too much.

18 The other thing is that each of the chapters in
19 the guide, we sort of wanted each of them to be sort of a
20 stand-alone chapter. So that if you just wanted to know
21 about maybe lifecycle thinking, you could go to that chapter
22 and read, and get enough information about lifecycle
23 thinking that even if you weren't using it for our
24 alternatives analysis process, it might be useful if you
25 wanted to incorporate lifecycle thinking in a different

1 process.

2 And then the final thing is that the guide is not
3 a checklist. And I know this is disappointing to a lot of
4 people who just want to know tell me what to do and I'll do
5 it, tell me the right way to do it. The guide isn't going
6 to do that.

7 The guide provides a menu of options that will
8 help people in their own situation. There are a wide
9 variety of manufacturers and people who will be responsible
10 entities, and so it's hard to define specifically what's
11 right for any particular situation.

12 And so, what we've tried to provide is a whole lot
13 of different options and alternatives for people, for
14 compliance with the requirements.

15 We used a variety of resources in developing the
16 guide. We looked at a lot of other guidance and other
17 frameworks. In a lot of instances we made reference to
18 these frameworks, particularly aspects of these frameworks
19 that are the same as what we've -- as what's required in our
20 alternatives analysis. We wanted to minimize repetition and
21 minimize repeating explanations of different concepts.

22 So, what we wanted to do was to focus our energy
23 on those aspects of our analysis that are unique to our
24 analysis and that are not, you know, repeated in a lot of
25 other alternatives assessments.

1 So, to that point, so in our regulations, our AA
2 is alternatives analysis. And that's intentional. That's
3 intentionally distinct from alternatives assessment, which
4 is the more common word used in other frameworks. And I
5 think that was intentional to point out that there are
6 aspects of our analysis that are unique.

7 And these are the primary differences between our
8 analysis and some of the others. We have that very long,
9 comprehensive list of relevant factors. The responsible
10 entities are required to consider the complete lifecycle of
11 their product when they're looking at the impacts.

12 We require that responsible entities consider
13 alternatives that are not just chemical substitution, if
14 they can.

15 Our analysis does not require that anyone generate
16 new data when they complete the analysis, that they are
17 allowed to use available data.

18 And we look at economic impacts. A lot of other
19 frameworks do address economic impacts, but ours looks
20 specifically at public California environmental costs, in
21 addition to other economic impacts. We require the
22 responsible entity to monetize those costs and consider
23 costs to government and nonprofit organizations.

24 So, how did we go about organizing the guide? We
25 actually -- we miss Bob. We debated long and hard with Bob

1 about, particularly our team and Bob was included on those
2 debates, about how to organize the guide. Originally, we
3 thought we would just step through the regs. And then we
4 realized, well, if the chapters are to be stand-alone, they
5 sort of needed to be topically based. But a lot of the
6 topics crossed over from one part of the regs to the other.

7 So, we came up with this compromise, it's kind of
8 a hybrid, where it roughly follows the regulations enough
9 that we were able to release the first half as a state one,
10 but it's still topically organized. Well, that means that
11 there is still crossover among the chapters.

12 Another thing I wanted to say is that the chapters
13 describe technical aspects that we thought were important to
14 address each of those topics. A lot of very specific
15 information we put in the appendices for each of the
16 chapters. So, some of the information gets very detailed
17 and very specific. Those have gone into the appendices
18 because, otherwise, our chapters would be very long, and we
19 wanted it to be sort of lean and mean.

20 So, let me go back. I'm mouse-challenged. So,
21 the first stage is pretty much the screening level analysis
22 for all our alternatives analysis requirements.

23 And then, the second phase is the more in-depth
24 analysis where the information from the first phase is taken
25 into the second phase and a more in-depth review is done.

1 This part of the guide is actually, pretty much
2 developed. And we're actually reviewing it and editing it,
3 now. And in our edits, now, we're finding a lot of the
4 crossover between the first phase and the second phase is
5 really becoming evident in the chapters. So, my feeling is
6 that when we release the second phase, we will release an
7 entire version of the entire document. It will be first
8 phase and second phase together, as one. And first phase
9 will address the comments that we've received to this point
10 and we will have reconciled some of the crossover that I'm
11 still seeing in the chapters.

12 So, I don't know if that answers Ken's question.
13 But we anticipate one document in the spring of 2016 and it
14 will be first and second combined.

15 Okay, so this very busy, unreadable slide, is also
16 we've produced from our document. And the reason why I
17 included it is because I like the way it shows how the
18 crossover occurs among the chapters. How some of the
19 chapters are addressed in the first and second phases, and
20 even some of the topics crossover from first to second
21 phase.

22 It's important to remember that the AA, as it's
23 written in the regulation, is not really a linear process.
24 It's a process that sort of spirals down to more detailed
25 information.

1 So, the iteration that you find when you implement
2 the regulation is reflected in our guide, necessarily, since
3 we're sort of modeling it after the structure of the
4 regulation.

5 For example, there may be data gaps in the first
6 phase that you fill in the second phase, when you go into
7 the deeper dive. So, this sort of iteration through the
8 process I think is inevitable.

9 So, I've highlighted this little bit down below
10 and blown that up to show that these are some aspects of the
11 analysis that occur in both stages. We evaluate function
12 and performance in stage one and stage two. We do impact
13 assessment in stage one and stage two. We consider relevant
14 factors in stage one and stage two. In stage one we
15 identify them and in stage two we evaluate them further, and
16 we sort of confirm them.

17 And then, you can't quite see the last gray bars,
18 the information transparency. That's mainly our data
19 quality chapter and that's important throughout the entire
20 process.

21 So, now I'm going to briefly -- I'm going to
22 briefly step through the chapters in the stage one part of
23 the draft document.

24 So, in the first chapter we emphasize the AA
25 requirements as they're laid out in the regulations. We

1 identify the two-stage approach. We describe what the other
2 compliance options are. Now, we do this in a more general
3 way and then there are very specific steps for completing
4 the preliminary report, and those details are in the
5 appendix to this chapter.

6 So, if we were doing -- if this were a much less
7 complicated regulation that we were implementing, we might
8 even do something like what we have in the appendix as a --
9 like a fact sheet or something like that. But this is a
10 much more complex regulation and so we have this large
11 guidance document.

12 The detail that's in this appendix, we wanted to
13 keep it separate. Someone who's working on their report can
14 refer to just that part. They can use that part to confirm
15 that the report that they're working on is complete.

16 In terms of making sure that it's in compliance
17 with the regulations, they should probably still refer back
18 to the regulations.

19 In the second chapter, we entitled it "Product
20 Requirements". And here, we're grouping the first steps in
21 the first stage of the analysis together because they sort
22 of follow each other logically. And these first two steps
23 are identifying the function of performance of the priority
24 product and what's the chemical concern in the priority
25 product. And then, using that information about performance

1 and purpose to identify alternatives, potential
2 alternatives.

3 And the appendix for this chapter includes a lot
4 of the very detailed data sources for identifying the
5 alternatives.

6 So, here I wanted to say, this is one of those
7 areas where the information in the priority product listing
8 is where you start. There's information in the priority
9 product listing about the product, and it's function, and
10 the role of the chemical of concern in the product. So,
11 that's where the responsible entity would begin their
12 analysis and then they might augment that with additional
13 information they have for their specific situation.

14 And this is an example we included in the report,
15 this is the only example I'm including today because I think
16 it shows nicely that the product and the chemical functions
17 are distinct and that the alternatives go beyond just
18 chemical substitution alternatives. They include
19 alternative product designs. So, that's one of the aspects
20 of our analysis that's a little different.

21 So, relevant factors. I'm going to need a drink
22 of water for this one. Relevant factors is the first of our
23 chapter topics that is one of the ones that's really unique
24 to our analysis. And so, the relevant factors have a
25 definition in the regulation, the material contribution and

1 material difference definition.

2 We're finding that definition to be maybe less
3 than straight forward. So, we're looking for ideas for ways
4 to make this definition more understandable.

5 This is one of those challenging crossover topics
6 and it occurs throughout the analysis. And the upshot is
7 that the purpose of this chapter is to narrow down the
8 factors, that the responsible entity uses to evaluate their
9 alternatives, to those that are really just pertinent to the
10 analysis. So, those that are important to the analysis that
11 have an impact or have the potential to cause harm.

12 Part of the issue with the relevant factors are
13 the factors, themselves. The responsible entity must
14 consider all of the potential factors that are listed in the
15 regs. This looks fairly harmless but, as you know, this is
16 just the tip of the iceberg. They have to consider them
17 all, but only some of them will be considered relevant.

18 And our list of potential factors is comprehensive
19 because they're nested. So, adverse environmental impacts
20 just -- just one, the first one of that list is nested.
21 Adverse environmental impacts incorporates air quality, eco,
22 soil quality, water quality which, themselves, each have
23 sub-factors. So, this is what makes this part of the
24 analysis difficult.

25 Again, this detailed listing of the nested factors

1 we put into the appendix. We feel it sort of clutters up
2 the discussion of relevant factors in the chapter. So,
3 that's what we did.

4 Identifying the relevant factors. So, these are
5 the concepts that are key to identifying the relevant
6 factors. Again, they use available information. This is
7 another place where the priority product listing provides
8 the basis for the information they'll use. The priority
9 product listing will include those relevant factors that we
10 used to list that product and chemical combination. So,
11 that forms the basis and then they augment that with their
12 specific information.

13 So, one aspect of this that can be challenging is
14 that you determine whether or not a priority product -- or,
15 you determine whether or not a factor is relevant by looking
16 at lifecycle segments and the exposure pathways. Of course,
17 they haven't done that part of the analysis, yet. And
18 those, actually, we've deferred to stage two. That was
19 where that part of the analysis really comes into play.

20 So, here's another area where there's crossover
21 between stage one and stage two. They will need some
22 information about the lifecycle segments and exposure
23 pathways in order to determine whether or not factors are
24 relevant.

25 This, again, is an iterative process. And we use

1 the example of the conceptual model. We've presenting that
2 to one of the meetings of the Green Ribbon Science Panel and
3 we use that as an example in the guide. One of the comments
4 we received is that there should be additional examples and
5 that's very well taken.

6 So, again, as I mentioned before, relevant factors
7 apply in the first and second phase. We identify them in
8 the first phase and we verify them in the second phase.

9 Chapter four is focused on impact assessment.
10 There's been a lot written about impact assessment. This is
11 probably the one area of alternatives analysis that there's
12 a lot of information about. However, there's still a lot of
13 data missing. So, we gather the data that's available.

14 We don't really address the data gaps in this
15 chapter. We're saving that to the data quality chapter to
16 talk about data because the data gaps cross all the efforts
17 to gather data. So, we have just a data chapter that's in
18 the second half, that addresses data gaps and data quality.

19 We've described some of the comparative tools that
20 a responsible entity may want to use when they're looking at
21 the impact assessments. They identify the adverse impacts
22 and they quantify them, if they can.

23 This is another area where information from this
24 chapter crosses both phases or stages of the analysis
25 because you use the data from the impact assessment in

1 screening the first phase -- or the first stage. They'll
2 also use that in comparing the alternatives with their
3 priority product. The ultimate comparison may be more
4 detailed, maybe more quantified information in the second
5 half for the ultimate comparison.

6 Okay, and then the last chapter that we included
7 in the first half is the screening, the chapter for
8 screening the alternatives.

9 So, this is slightly misleading. The regulations
10 require the responsible entity to evaluate the alternatives.
11 They are allowed to screen alternatives. They don't
12 actually have to screen the alternatives. We think it's a
13 really good idea, if you have a lot of alternatives, because
14 the intent is to narrow the number of alternatives that you
15 take into the second half of your analysis, so that you
16 don't have to gather a lot of data for a whole array.
17 Basically, it makes your analysis a little bit more
18 manageable. So, we compare the impacts to evaluate or to
19 screen the alternatives.

20 Here, you can identify the tradeoffs. We don't --
21 I think we believe that responsible entities will want to
22 reconcile tradeoffs later in the decision process. In this
23 early screening level process, I think it's important just
24 to be aware of what the potential tradeoffs are.

25 The other thing we want people to do is to hang on

1 to the alternatives that didn't make it through the
2 screening in case some of the alternatives that did sort of
3 turn out not to be as positive as they thought. And they
4 can draw back some of the more marginal alternatives.

5 And then, finally, they document their rationale.
6 And this is done in the preliminary report. This is where
7 they show their work. They identify the sources that they
8 used and the methods that they used. They justify their
9 findings. And they lay out their work plan for the second
10 stage of the analysis, what they intend to look at, what the
11 alternatives are, and how they intend to gather the data and
12 evaluate them.

13 So, here we are most interested in any comments
14 that you have about how we've organized things, and how
15 we've addressed things, and why we've addressed things. If
16 you have suggestions for resources that we haven't
17 considered, examples that you think would be particularly
18 illustrative that, maybe, that are -- we're sort of starved
19 for examples at this point. We're starting to make them up.

20 And then, as Karl mentioned, we've only received a
21 handful of comments from the webinars. And two of the ones
22 that are important or intriguing to us, one comment had to
23 do with consumer acceptance. When you're defining the
24 performance of your product and your alternatives, how do we
25 quantify what are the factors or what are the conditions we

1 use to define whether or not it's acceptable to a consumer.
2 That's kind of an interesting question we hadn't thought of.

3 And then, as I mentioned, the definition of
4 relevant factors. It's a clumsy, challenging definition
5 that, if you have suggested how we could address that, that
6 would be helpful.

7 And I'm sorry, I don't have any lovely poetry to
8 describe or to close with. Karl is much more better at
9 that, than I am. Thank you.

10 PANEL CO-CHAIR FONG: Nancy, thank you very much
11 for that excellent update. It's really obvious, from your
12 presentation, how much hard work and smart thinking went
13 into the development of this Stage One AA Guide. Just
14 excellent work, thank you very much.

15 MS. OSTROM: Thank you.

16 PANEL CO-CHAIR FONG: So, at this point we're
17 going to open up for clarifying questions from the Panel
18 members, again on what Nancy presented in terms of summary
19 and update on the Stage One AA Guide.

20 We'll start with Don.

21 PANEL MEMBER VERSTEEG: Okay, Don Versteeg.

22 Nancy, thank you very much, well done as usual.

23 Just a quick question on public comment, on the
24 stage two. You presented it almost as you're going to take
25 public comment on stage one, revise it, but then release

1 stage one and stage two as a final document. Is that what
2 you meant?

3 MS. OSTROM: For the guide?

4 PANEL MEMBER VERSTEEG: Right, yeah, the guide.

5 MS. OSTROM: Yeah, so we've taken -- we've gotten
6 public comment, we've gotten some. We expect to get more.
7 We actually expect a flood of comment on Monday. I don't
8 know if that will actually happen, but we're hoping for a
9 flood of comment on Monday.

10 We will address those comments in the stage one
11 part of the document, but we will incorporate that stage one
12 document with the stage two document. And so, our second
13 release will be one unified document.

14 PANEL MEMBER VERSTEEG: Will that then go through
15 public comment?

16 MS. OSTROM: Yeah. Yeah, so you get a second
17 crack at stage one.

18 PANEL CO-CHAIR FONG: Meredith?

19 DEPUTY DIRECTOR WILLIAMS: So, I'm going to exert
20 Deputy Director privilege here. Which is just to say that
21 if we do get a flood of comment and it looks like it would
22 significantly delay our ability to get that second stage
23 out, we may take a step back from that and just regroup.
24 So, we reserve the right to be fickle.

25 MS. OSTROM: Good point.

1 PANEL CO-CHAIR FONG: I guess that's one of the
2 privileges of being Deputy Director, you can make stuff up
3 as you go along.

4 (Laughter)

5 MS. OSTROM: No, she's the decider.

6 PANEL CO-CHAIR FONG: Mike?

7 PANEL MEMBER CARINGELLO: Mike Caringello here.

8 And maybe you said this, when do you expect the revised
9 stage two, combined with the -- or, revised stage one
10 combined with the stage two to come out?

11 MS. OSTROM: We're looking at spring of next year,
12 a nice broad time frame. Always springtime in Sacramento.

13 (Laughter)

14 PANEL CO-CHAIR FONG: Are there any more
15 clarifying questions from the members?

16 MS. OSTROM: I actually have one, too, when you're
17 done.

18 PANEL CO-CHAIR MORAN: Just briefly, this is a
19 question for Meredith. Are you thinking we might have a
20 Science Panel meeting around the second half, as well? I
21 think that was a yes. Thanks.

22 MS. OSTROM: Oh, one thing I forgot to say, that I
23 meant to say, was the questions that I highlighted are just
24 the ones that we found most intriguing.

25 In the afternoon, all of the questions and

1 comments that we received, or most of the substantive ones,
2 are going to be available for you guys to discuss.

3 PANEL CO-CHAIR FONG: Are there any more questions
4 from the Panel members? I'm not seeing any.

5 So, at this point, the DTSC update is concluded.
6 Before we go into the Panel discussion, we're going to take
7 public comments.

8 Remember, again, please note that the Panel is
9 not able to respond to comments or answer questions, as this
10 is a working meeting for the Green Ribbon Science Panel.

11 If there are webinar participants, who wish to
12 make comments at today's meeting, please type your comments
13 and they will be read to the Panel after we take comments
14 from commenters who are physically present here, today.

15 Again, the public is reminded that today's
16 comments are directed at the Green Ribbon Science Panel on
17 the agenda topics that were presented. That is materials
18 that were presented by Karl and Nancy. Public comments
19 directed at DTSC are not appropriate at this meeting.

20 If you've not signed up for comments, you may do
21 so at this time. Nathan, how many cards? And he's walking
22 around.

23 So, before we actually go into the comments, let
24 me check one more time to see if Bill Carroll has joined us
25 by phone. Bill, are you there?

1 Good. Well, let's set aside 15 to 30 minutes for
2 public comments. And the first one is from Tom Jacob, of
3 the Chemical Industry Council. Tom.

4 MR. JACOB: Tom Jacob, on behalf of the Chemical
5 Industry Council of California. I just wanted to compliment
6 the staff for the measured approach to taking on this task.
7 We recognize that it's pioneering work on many dimensions,
8 and we think it's very appropriate to take the time to get
9 it as right as we feel we can.

10 I will say, just personally, in trying to frame
11 some comments on this to feed into the green chemistry
12 input, that I found it very difficult to really develop
13 meaningful comments without having those latter chapters.
14 Because it's in those latter chapters and, frankly, I
15 appreciate very much Nancy's explanation of the relationship
16 of the whole, because I was confused by that.

17 But I think it is -- it will be necessary, really,
18 to get -- to deliver meaningful comments, to have benefit of
19 both screening elements, as well as the more in-depth. I
20 found my comments inevitably going into exactly where I
21 would expect those latter chapters to provide. So, I'm not
22 personally sure how definitive the input at this stage is
23 going to be. But our association, we do recognize that this
24 is a major challenge -- a measured pace and the depth of
25 effort that's gone into it.

1 MS. KOEPKE: Thank you and good morning, Dawn
2 Koepke with McHugh, Koepke and Associates, and one of the
3 Co-Chairs of the Green Chemistry Alliance. I recognize many
4 faces. It's great to see you, it's been a while.

5 So, again, we would echo Tom's comments regarding
6 staff's work on this, definitely a huge undertaking.

7 Would also echo Tom's comments on the challenge of
8 drafting comments with our Coalition members with, you know,
9 having seen the state two pieces of this. A lot of the
10 comments we did receive, we kind of pulled back on a bit
11 because they're probably more relevant for the stage two
12 pieces of it.

13 But in that regard, we have developed some
14 comments. We're going through the final stages over the
15 next couple of days. So, we will have those to you
16 definitely by Monday, and apologize we weren't able to pull
17 all of those together up until this point for your review,
18 in preparation for this meeting. With a coalition of over
19 250 federal, state, international trades and companies,
20 herding the cats can be challenging.

21 So, nonetheless, they should be -- they're
22 thoughtful and should, hopefully, be helpful to staff and to
23 the Panel as you continue to grapple with these issues.

24 Just a couple of quick things. We definitely
25 appreciate the guidance document, and the start of that, the

1 thinking of it. But just noting that, you know, we are
2 greatly appreciative for the flexibility. There still
3 remains a good deal of tension between that flexibility and
4 understanding, you know, what DTSC feels is compliance for
5 the various steps in the process.

6 So, I mean, I think that's just going to be an
7 ongoing tension that we'll grapple with as we go through the
8 processes, but just something to note.

9 And similarly, the iterative process. We've had a
10 great deal of conversation with staff about the tension, the
11 nervousness with an iterative process. You know, certainly,
12 again the flexibility that provides in making decisions and
13 evaluating the various factors and alternatives is positive.
14 And again, at the same time, the nervousness about
15 understanding what compliance means to DTSC, those various
16 decision points at which DTSC will make a determination
17 about what the next steps are. So, just again noting that
18 tension.

19 But also, importantly, as it relates to the
20 guidance, just be mindful about characterizing all of the
21 steps as iterative in that many of them are regulatory
22 requirements. So, you know, there's kind of a fine line to
23 be watched, perhaps, in that.

24 Also appreciate, greatly, right out the outset the
25 guidance document noting that this is non-regulatory and

1 non-binding, that it is, indeed, guidance. That's very
2 important for the folks that we work with. And yet, at the
3 same time, at a couple of points in the guidance document it
4 becomes -- it seems to become perhaps a little bit unclear
5 about what requirements are in the regulations and the
6 statute versus what is a part of the guidance and that's
7 non-binding.

8 And so maybe -- and so, some of our comments will
9 just reflect a few areas just to clarify binding versus
10 suggestions.

11 Also, with regard to some of the other pathways,
12 ahead of even deciding whether a manufacturer, a responsible
13 entity should undergo an AA or would be required to, there
14 are a few pathways at the outset for responsible entities to
15 consider, such as the AA threshold notification, and some of
16 those other pieces. Perhaps there would be value in
17 considering information and inside developing of some of
18 those pieces as part of the outset of stage one, as well,
19 just to provide some clarity for responsible entities about
20 what their options are to kind of evaluate which direction
21 they want to go may be helpful.

22 So, I'll leave it at that. Like I said, we do
23 have comments coming. And definitely look forward to
24 continuing to dialogue with the Panel in these forums and,
25 certainly, with DTSC and the team. Thank you.

1 PANEL CO-CHAIR FONG: Thank you, Dawn and thank
2 you, Tom.

3 Nathan, do we have any more comments? If not,
4 let's move on and check with the people participating on the
5 webinar. Do we have any comments? Okay. Given the fact
6 that we don't have any comments on the webinar, I think at
7 this point we're going to go for a 15-minute break. And
8 after which my Co-Chair, Kelly Moran, will take over on the
9 prioritizing topics.

10 PANEL CO-CHAIR MORAN: Thank you. So, we'll
11 reconvene, let's say 10:50, and we'll get started then.
12 Thank you. Please be on time.

13 (Off the record at 10:30 a.m.)

14 (On the record at 10:55 a.m.)

15 PANEL CO-CHAIR MORAN: All right, we are
16 reconvened. So, this is Kelly Moran. And we'll be -- I'm
17 going to be leading this discussion in the next segment.

18 A couple of things, just procedurally. The first
19 is that these mics not only are not on the directional,
20 they're like only sensitive in the very middle of the mic,
21 so you basically have to eat the mic at all times. And you
22 can't turn your head from side to side because you go in and
23 out of being heard. So, when you turn your head, turn the
24 mic. And I'll just be telling you to eat the mic, if you
25 stop doing that.

1 And then, also, Myra Young, I want to thank her.
2 And it looks like Corey Yep is now going to take over the
3 process of walking the talking stick around from member to
4 member. And we do appreciate if you use the mic, not only
5 because so everyone can hear but, also, the staff are
6 appreciating that we have a court reporter here. So, they
7 aren't having to sit here and write down all of the thoughts
8 that you're sharing. They'll be able to go back and have
9 the transcript. And that transcript won't be complete, if
10 you don't have the mic. So, thank you for that.

11 So, our goal right now is to provide an
12 opportunity for each of the Panelists to provide a little
13 bit of verbal feedback. I'm going to ask you to limit your
14 comments to two to three minutes, at most.

15 And include in that any topics that you think
16 would be useful for the Panel to discuss this afternoon.
17 So, that would be something where more than your individual
18 input would be helpful to DTSC, that the various experiences
19 of the Panel members, together, will be able to give the
20 Department stronger advice than just your individual input,
21 alone.

22 And I do want to remind you that the Department
23 would really, really appreciate if you can provide written
24 comments. They like the CalSAFER system. But you'll notice
25 that Meredith did offer those of us, who are CalSAFER

1 challenged, the ability to e-mail in our comments, as well.
2 And this is super important. And I know everyone here has
3 read it. I've seen notes all over these various documents.
4 So, I know you have something to share. And we're not,
5 today, going to be able to -- we're not walking through the
6 document page by page. We're not getting everything out
7 just verbally. So, we are going to need to do that.

8 So, first we'll start with this round robin. The
9 staff will be -- whenever you comment on something that you
10 think merits discussion, please call that out and Myra's
11 going to be typing that up, and putting it on the screen
12 overhead.

13 And then, we're going to come back and take a look
14 at that with the staff, over lunch, and pick our priorities.
15 So, if you want something, let me know. And I'm hoping, if
16 we are efficient enough with this round robin, to have a
17 couple of minutes with the Panel before lunch to see which
18 things float to the top with the Panel, as a group, through
19 a little vote process.

20 So, let's see, who would like to start? I'm
21 thinking Tim Malloy might like to start. But if you don't
22 want to, I could also pick on Meg or someone else.

23 Okay, so we're going to work around the table. So
24 that you know when you're coming, we're going to work around
25 the table and then come back to Art and me at the end.

1 PANEL MEMBER MALLOY: So, can I -- what you want
2 are like two to three minutes, at most, of kind of our
3 reaction and then identification of priorities?

4 PANEL CO-CHAIR MORAN: Yeah, so first any reaction
5 or anything you just want to say to get out there.

6 PANEL MEMBER MALLOY: Yeah.

7 PANEL CO-CHAIR MORAN: And then priorities for
8 discussion of the group.

9 PANEL MEMBER MALLOY: Yes. Okay, thank you. And
10 thanks to everybody for the presentations this morning. I
11 really liked the draft. I mean, obviously, there's more
12 work to be done on it. But I thought it was a really
13 excellent job trying to pull everything together. And I
14 think we should have a recognition that you can't do
15 everything in advance of actually doing AAs and looking at
16 them.

17 So, I think getting those first set of AAs in and
18 then using that, and going back and looking at the guidance
19 document will be a much efficient way of improving it than
20 trying to anticipate everything and turn this into a
21 document before we have actual experience. So, I was very
22 impressed with the clarity and the substance of the
23 document.

24 A couple of things that came out, one thing that
25 I'd like to get on the list that is kind of a potential

1 priority, is talking about the screening, the notion of
2 screening alternatives in stage one.

3 What do I do? I just fill in a little bit of what
4 I mean by that? Yeah, okay.

5 So, I was a little concerned because the way the
6 guidance was written, I think it clouds the distinction
7 between stage one and stage two. I don't think the
8 regulations actually envision a tradeoff analysis as part of
9 stage one and I think it creates some issues in terms of how
10 that program would work. So, I'd like to get that on there,
11 this notion of tradeoff analysis as part of screening and
12 what does screening really mean.

13 One other issue. Of course, you know, it wouldn't
14 be complete if I didn't say something about MCDA. So, I
15 just wanted to say one thing. There are some
16 characterizations in here about decision making and
17 characterizations of MCDAs being time consuming, complex, so
18 on and so forth.

19 And I think there's a narrowness in definition of
20 what MCDA really means. And we ought to recognize the fact
21 that MCDA is a suite of different approaches to making
22 decisions. Some are simple and easy to use. Some are
23 complex. And I think the discussions in here, and this
24 probably relates more to stage two although, you know, it
25 depends on where we come out on some of these other things,

1 would be improved by thinking more in terms of categories of
2 decision approaches and tools, rather than naming one thing
3 MCDA and then making some generalizations about it.

4 I had some other comments, but I don't want to
5 exceed the time so --

6 PANEL MEMBER BAIER-ANDERSON: Thanks. This is Cal
7 Baier-Anderson. And again, I would like to offer praise for
8 the draft. I think it's an excellent starting point.

9 A couple of the points that I would like to see
10 discussed include, oh, this concept of consumer acceptance
11 that Ken raised in his comments. I think that also leads
12 into the concept of is it necessary. And that's, you know,
13 an important framing issue. And how far can a regulatory
14 body go down that path?

15 I think we've touched on that in previous
16 discussions but, you know, it's going to come to a head
17 again, as we approach the implementation. So, that's one
18 aspect.

19 In terms -- oh, I do want to say, echo some of the
20 comments that the public had -- members of the public had
21 raised. That it's really hard to focus comments on the
22 first stage without ultimately bleeding into the second
23 stage. And so, if some of my comments need to be deferred,
24 I understand that.

25 But I think the data gaps versus data needs issue

1 is one that relates to how we scope the problem. And so,
2 it's a stage one and a stage two issue. And that's
3 something that we can go deeper in.

4 And finally --

5 PANEL CO-CHAIR MORAN: Cal, just to catch up, so
6 you are saying that data gaps should potentially be on the
7 list for discussion?

8 PANEL MEMBER BAIER-ANDERSON: Yes. Yes, I think
9 so.

10 PANEL CO-CHAIR MORAN: I'll ask Myra, when she
11 can, to get to the data gaps.

12 PANEL MEMBER BAIER-ANDERSON: Okay. And then, the
13 second one is impact falls within the impact assessment.
14 And how do you determine the difference between what might
15 be a significant difference, a meaningful difference versus
16 what's just like, you know, kind of really not impactful.

17 So, you know, what is the definition of impact in
18 the impact assessment? So, thank you.

19 PANEL CO-CHAIR MORAN: Thank you, Cal.
20 Becky.

21 PANEL MEMBER SUTTON: It's Becky Sutton. So, more
22 compliments. I thought the document was really clear. The
23 language was very concise and easy to read. So, I think
24 this is great considering the multiple audiences you're
25 trying to reach.

1 I liked the emphasis on the iterative approach
2 because that's important here. I liked the discussion on
3 product function and performance, especially as I'm not a
4 product formulator, so that was very helpful for me.

5 And I also liked the detailed exposure pathways
6 discussion and how you used the flame retardants' example to
7 point out how we can make some assumptions that aren't
8 always accurate.

9 The one suggestion I had for improvement, which
10 could be a topic for discussion later, would be more
11 explicit description of what to do when we're not talking
12 about a drop-in replacement, but more of a broader product
13 reformulation.

14 And I noticed on page 72, the third bullet, you do
15 have a description of what's required in the regulation.
16 But I think it would be good to talk through more explicitly
17 what that means and have an example.

18 And I would note that the example that you have on
19 flooring products could possibly serve that purpose because
20 it talked about a few other ingredients besides -- well, it
21 talked about a broader kind of ingredient formulation. But
22 the folks here may have some better examples, too, that
23 could be used.

24 Oh, and also this, again, with the broader
25 reformulation that could lead to more confidential business

1 information concerns.

2 All right, that's it.

3 PANEL CO-CHAIR MORAN: Thank you, Becky.

4 Meg.

5 PANEL MEMBER SCHWARZMAN: This is Meg Schwarzman.

6 I'll just echo the kudos to the staff for putting together a
7 really tricky document. And it's, I think, the start of
8 some excellent guidance.

9 I have a couple just small suggestions that may
10 not merit Panel-level discussion. One is I wanted to raise
11 the point of when public comment is timed in the AA process
12 because currently, the way it's built, an AA doesn't go out
13 to public comment until after the final AA. And yet, the
14 scoping portion of an AA occurs in the first stage. And to
15 me, the scoping is one of the most essential pieces of the
16 AA because it's where the boundaries are drawn about what
17 they will consider in that AA, including what types of
18 alternatives they'll consider.

19 And so, it seems like if there is not a way to put
20 that out to public comment that I have some ideas for things
21 that the Department could do instead of public comment.

22 But I would also like to propose that there be a
23 way to put that scope to public comment earlier in the
24 process. Otherwise, the Department might need to solicit
25 ideas a priori, so that they would be able to -- you know,

1 from the public, so that they would be able to evaluate what
2 comes to them as the scopes and the preliminary AAs. In any
3 case, that's one idea.

4 I also had another note that may not rise to the
5 level of Panel discussion, although maybe it should. But in
6 the second stage AA, there's the issue of economic impact.
7 So, maybe this would be for a later session on the second
8 stage AA.

9 And I appreciate that the Department lists sort of
10 all three different types of economic impacts, including
11 internal impacts to the company, public health impacts and
12 government impacts, but only one of those is readily
13 quantifiable. And so, I really worry about the two others
14 getting lost. And I think we need to think very carefully
15 about how to make those a reality.

16 The one topic that I wanted to suggest actually
17 touches on what Becky Sutton just said. And that's, I've
18 been pondering how this process might be structured to
19 encourage the consideration of functional substitution, is
20 what the Department called what I was trying to get at, as
21 opposed to being that the process tends toward dropping
22 chemical replacements, and tends to select only drop-in
23 chemical replacements.

24 And we've been teaching this, now, for four years
25 in a class on campus, and I have some ideas about that. But

1 I think that the Department could think carefully about how
2 the process could be structured to really keep it -- and I
3 think, partly this gets back to scoping, but to keep that
4 focus broad and encourage functional substitution and at
5 least thinking in those lines.

6 PANEL CO-CHAIR MORAN: Thank you, Meg.

7 Before we go on to Ken, I just want to check and
8 see if Bill Carroll is on the line. All right, I'm not
9 hearing him at this point.

10 Ken.

11 PANEL MEMBER SCHWARZMAN: Sorry, this is Meg,
12 again. I meant to just commend the use of conceptual models
13 because that was something that came up in the last Panel
14 meeting. And I think the Department did it well,
15 incorporated it well in here.

16 PANEL MEMBER GEISER: Okay, so this is Ken. I did
17 send in some comments, but I also want to just begin with
18 where everybody else is beginning. This is a great
19 improvement and I really liked it, it's readable. It was
20 great to see as many illustrations and examples in it. It
21 made it concrete in nice ways.

22 I thought someone, I tried to think of myself as a
23 little naive to it all and I thought you could handle the
24 text very well. So, all of that seemed very good.

25 There were some things that still I thought we

1 could spend some more time on. Indeed, I was confounded by
2 what others have mentioned which is, is this something
3 that's going to show up in a later chapter. But the data
4 gaps thing for me, in particular, is one of those. And so,
5 I think we really need to, at some point, and I would urge
6 us to do it, it seems to be data gaps are relevant to the
7 first stage and it should be an area we talk about.

8 I felt the section that had to do with exposure
9 pathways could be further developed, I think. I suggested a
10 couple of concerns I had in that area, so another area that
11 might a priority to talk about later might be in that area.

12 There are two -- Meg and I just had a little talk
13 with Lynn about this. There are two areas that are kind of,
14 I know it gets discussed as off ramps. One is the abridged
15 AA and the other is product reformulation or redesign that
16 removes the chemical of concern. In both of those cases,
17 those things are handled in a couple of paragraphs.

18 They are potential areas where firms otherwise
19 would just move away from the alternatives assessment. The
20 regs offer that as the opportunity because it's based on the
21 way the statute's written.

22 But I think that given sometimes those are moves,
23 you know, at least in the second case moves to chemicals
24 that may be not on the list, that may increase exposure or
25 increase the use of hazardous chemicals. That at least it

1 ought to be thought about what is, how does a firm really
2 report on that and what do they tell us when they do decide
3 to remove a chemical of concern, without doing an
4 alternatives assessment?

5 And the last thing, and I guess this comes up from
6 the work that the BizNGO did, and others, on trying out, Tim
7 suggested somebody try out these. And we learn what happens
8 when a firm or someone actually tries to do an alternatives
9 assessment using the guidance.

10 And that is, I think it revealed to me a little
11 bit the difference, depending on who it is that's doing the
12 alternatives assessment, whether it's a very large, well-
13 resourced firm that can do a great deal, or whether it's a
14 small firm that has little capacity, and/or whether it is a
15 firm that only makes a product that uses a chemical, as in
16 the methylene chloride thing. Or, whether it's a firm that
17 makes -- has many options for substituting, themselves.

18 And I think that while, obviously, the regs and
19 the guidance needs to be clear that everybody has to do the
20 same kind of work, I think it ought to be sort of at least
21 thought about as what is complexities that are created, and
22 different kinds of firms have to do, follow the procedures.

23 So, those are some of the thoughts that I thought
24 would be useful to talk about. But, generally, I'm very,
25 very pleased and happy with the work.

1 PANEL CO-CHAIR MORAN: Thank you, Ken.

2 And we're going to pass the mic over to Don, next.

3 And I want to commend the Panelists for keeping their
4 comments succinct and useful.

5 PANEL MEMBER VERSTEEG: Don Versteeg, and I'll
6 join everyone else in saying how much I appreciated the
7 document. I thought it very well reflected the regulations
8 and so I think you've done a great job.

9 I do have some comments, as everyone else has.
10 And I realize some of my comments may be getting at the
11 second stage, so I apologize if that's true. And I realize
12 that you're kind of in a difficult situation in that
13 exposure isn't always a given for the alternative or for the
14 priority chemical that we're considering, and it's not
15 necessarily quantified.

16 So, when you talk about an impact assessment, I
17 think you need to put some more words around that and help
18 the regulated entity understand what you want from an impact
19 assessment.

20 Stage one, what Nancy presented as a screening
21 assessment, in the document it talks about it being --
22 establishing of boundaries. I think it does more than that.
23 In fact, they're making decisions in there.

24 So, I'm not sure defining it as a screening or a
25 boundary really gets at exactly what it is. I don't know

1 what you want to call it, but I would go further than that.

2 But as long as you're talking about boundaries,
3 LCAs establish boundaries. And in the document, when I
4 started to read about the lifecycle of products and what you
5 need to consider, or of chemicals and what you need to
6 consider it didn't seem -- it seemed to be that the boundary
7 was not clearly drawn around a chemical and the raw
8 materials that would go into that chemical, and the
9 contaminants that would come in. And how far back do you
10 have to go?

11 So, I think a little more text around how to draw
12 the boundary around a chemical would help. Throughout its
13 lifecycle, but recognize you can go. You know, the farmer's
14 field also has petrochemicals being used on the farmer's
15 field, as well as nitrogen, and phosphate, and other things.
16 And then mines come in and the mines were using other
17 materials, and so you've got to draw boundaries. Sorry, I
18 was on the soapbox there for a second.

19 The decision criteria that DTSC is going to use in
20 the final regulatory response, anything you can give the
21 regulating entity is going to help them produce what you
22 want.

23 Product function. I was a little -- I didn't
24 think that went far enough. Is low cost an acceptable
25 product function? So, we want to provide a low-cost product

1 which does this and that necessitates the use of a low-cost
2 chemical. Is that enough? I know that I'm getting down
3 into the weeds.

4 On the consumer acceptance piece, I didn't see a
5 part about how financially you're going to account for the
6 fact that we expect sales to be reduced by one, three, five,
7 ten percent if we have to go to this alternative versus that
8 alternative, versus our original.

9 And I think there are tractable ways to get at the
10 point that Ken raised on consumer acceptance.

11 And then on the last point of the relevant
12 factors. You know, some of the factors -- there was two
13 types of factors. There's quantitative and qualitative.
14 Some of the ones that are quantitative, though, there are no
15 standard tests for them and so I don't know how to run the
16 test to provide the data that's needed to factor that in.
17 Even though some of them are in human health, even though it
18 looks like -- and environmental. It looks like we ought to
19 be able to just answer the question and be done with it.
20 So, a little bit more work is going to be needed on the
21 relevant factors.

22 And relevance comes into -- is related to
23 exposure. And I didn't see anything in there. And that
24 gets back to my first point on the impact assessment. How
25 do we do that unless we can do an exposure analysis?

1 Thank you.

2 PANEL CO-CHAIR MORAN: Thank you, Don.

3 Ken.

4 PANEL MEMBER ZARKER: Ken Zarker. Again,
5 compliments to the staff. Having lived through the
6 development of a similar guidance to through the Interstate
7 Chemicals Clearinghouse, and then we published our own in
8 Washington State.

9 And that's the point I wanted to make on the list
10 is the audience. I think Ken brought this up in terms of
11 the vast variety of audiences that you do have for the
12 guide. And, particularly, if you think about small- to
13 medium-size companies, how we're going to tackle that and
14 what's the best way to engage with that community, and it's
15 just broad. So, that's something that we've been thinking
16 about. So, that's probably my main comment on that.

17 PANEL CO-CHAIR MORAN: Thanks, Ken.

18 Mike.

19 PANEL MEMBER CARINGELLO: This is Mike Caringello
20 speaking. And I think a lot of what I would comment on has
21 already been said. The guide is wonderfully written. When
22 you first open it to get ready for the meeting and it's 106
23 pages, and you think, oh, my goodness. Luckily, I'm a
24 regulatory geek and I like reading, you know, long documents
25 like this.

1 But then I got into it and I thought it was -- I
2 encourage you to maintain the style that you've used because
3 you hit multiple learning styles and ways for people to
4 understand. So, that the small business, medium businesses,
5 large businesses, there are ways for people to understand
6 everything you put in there.

7 You've got -- you have pullouts in different
8 colors. You've got tables. It all makes it much easier to
9 read. And it was reflected in the public comments, too,
10 about how you did that, how you've made it a lot more
11 readable. So, I would encourage you to stick with that.

12 You know, one of the things that I looked at and I
13 questioned was the whole consumer acceptance. You know,
14 it's obviously key to industry to be able to have products
15 out there that people want to buy.

16 And as we look on page 26, there was discussion
17 about that and about how we could do consumer acceptance
18 testing, and then DTSC would review that. And I think it's
19 absolutely fabulous that DTSC is actually being staffed up.
20 But I didn't see market research specialists, or anything,
21 in that staffing list.

22 So, the question would be how do we partner, then,
23 with DTSC to make them understand what that consumer
24 acceptance testing is and how do we keep the CBI parts of
25 that confidential. So, that would be a part I'd like to

1 discuss, if possible.

2 The other one I thought, and I don't know how I'm
3 doing on my three minutes here, is I thought you did a
4 really good job pulling some pieces that there's been a lot
5 of discussion, perhaps heated sometimes. And an example I
6 can think is you have a box out about contaminants. And
7 contaminants, we've gone around and around in circles, how
8 do you treat that?

9 And I thought what you did was rather pure genius
10 because you took what's been a contentious issue and you put
11 it in common sense context. And I think that is one of the
12 differences with what you're doing here, that you don't see
13 in a lot of other regulations, is you allow some common
14 sense to enter it so that people understand what you're
15 trying to get to. So, congratulations on that.

16 PANEL CO-CHAIR MORAN: Thank you, Mike.

17 Julie.

18 PANEL MEMBER SCHOENUNG: Julie Schoenung. Well,
19 I'm getting near the end of the line here, so most of it's
20 been said. So, I'm just going to echo a few things.

21 I will also say it's just an excellent piece of
22 work. And I agree, do keep the readability, please. I've
23 shared this with my students in class and, you know, if you
24 want there to be a real beta tester on it, I'm happy to make
25 that a little more formal process. But I think it's a

1 really good opportunity, and you've done a great job of
2 really writing it in a way that people can read.

3 I just wanted to make one comment and it really
4 comes from Nancy's presentation this morning. You had a
5 slide on how the SCP differs from traditional AA. And I
6 don't think I see that in the guidance document. And
7 there's a lot of reference in the guidance document to other
8 documents, and other guidance, and other ways that people
9 have described how to do AA, all the tools.

10 And so, I think it would be really helpful if
11 somewhere in here you capture those same bullet points of,
12 you know, yes, we are sending you to these existing
13 resources but, no, that's not only what we want you to do.
14 And being able to help that clarification, I think, would be
15 a valuable addition to the guide.

16 PANEL CO-CHAIR MORAN: Thank you, Julie.

17 Ann.

18 PANEL MEMBER BLAKE: Thank you. And, yes, since
19 I'm even following you in this, I will follow the same model
20 and echo some of the things that I wanted to make sure were
21 captured as priorities.

22 I can't say enough, having struggled through
23 documents like this, at DTSC, and trying to create guidance,
24 I very much appreciate the effort you put into this.
25 Echoing many of the things that other folks around the table

1 have said, the readability, the approachability, the
2 different styles of putting in information.

3 I'm also a regulatory geek and love this. But
4 when I saw an example, it just make things a whole lot more
5 clear. So, thanks for the variety of things that you put in
6 and for listening so closely to the input that we've given
7 you in the past. Because that was clearly reflected in the
8 documents that you've created.

9 I agree with Tim that I think that some experience
10 with actual alternative assessments, when they come in, will
11 be immensely helpful and will feed into your own iterative
12 process in creating the guidance.

13 I do have some small language comments, and
14 clarification and corrects that I will send along in your
15 avalanche of comments that will arrive on Monday.

16 And then, I also agree with Cal, and I wanted to
17 make sure that this didn't get lost, that a little more
18 guidance on significant and what that meant. And there's
19 some language clarification around there, too. There was
20 some -- I think it was written as apparent difference, and I
21 said, hum, things that caught my ear or eye as I was reading
22 it. I'll send some suggestions on how to do that.

23 Thank you, Mike, for bringing up functional
24 substation. We did a little webinar for our staff on
25 Monday, on functional substation and our thinking about it.

1 And I would strongly agree and be happy to be part of a
2 continuing conversation on how to build the guidance, within
3 the constraints of the regulations, to make sure we have the
4 broadest view of functional substitution.

5 As so beautifully modeled, I used your example of
6 spray polyurethane foam from the Greener Solutions Class as
7 a great model for that. So, if we can expand that in the
8 California regs, that would be great.

9 And then, we've been talking about -- I agree with
10 some of the comments that were made earlier by the public
11 about it's been hard to do, to pull together meaningful
12 comments without the substantive chapters. I kept looking
13 for chapter six, which is what I've been thinking about for
14 the past few months, exposure assessments.

15 But I would encourage all of us, my fellow Panel
16 members, to think about how we're seeding -- the last
17 chapter of this piece kind of sets up those big discussions
18 about data gaps, exposure in the context of alternatives
19 assessment and decision making approaches. And let's use
20 this time to consider how we might seed the discussion and
21 guide staff. And I'm seeing staff nod, so I guess I'm
22 heading the right way. Provide guidance on how these next,
23 more substantive pieces can be written.

24 And with that, I'll hand it off to Helen.

25 PANEL CO-CHAIR MORAN: Thanks, Ann.

1 Helen.

2 PANEL MEMBER HOLDER: I'm also happy with a lot of
3 the text and documents so far.

4 I also wanted to just call out Appendix 3.32, the
5 checklist for identification development factors. I think
6 that one of the things that I like about it is it's going in
7 the direction of giving a sense of what's required to
8 substantiate, including or excluding relevant factors.

9 And so I would say that maybe we need some
10 examples of acceptable answers. So it says, you know, if
11 no, then what is the reason why this lifecycle segment
12 wasn't relevant or whatever. You know, some examples of
13 acceptable answers might be blah, blah, blah, blah, blah.
14 Just because, you know, we struggled with that in our
15 internal, as well as the prototype one that we ran, which is
16 how much documentation do you have to provide to show that
17 something's not relevant?

18 Because you may end up doing quite a lot of work
19 if you don't have like a qualitative way to answer that.
20 So, I just wanted to call it out. I think it's going in the
21 right direction and we just need to kind of fill that out
22 maybe a bit more.

23 PANEL CO-CHAIR MORAN: Thank you, Helen.
24 Art.

25 PANEL CO-CHAIR FONG: Thank you. Again, it's just

1 an excellent document. It's one of these where I say to
2 myself, gosh, even I understand what's going on. So, that's
3 not easy to do.

4 I just wanted to expand on the part about relevant
5 factors. So, as I was reading through Chapter 3, the first
6 one that struck me was that the definition of what a
7 relevant factor is, is in fact missing. So, I think that's
8 important to have a clear definition of what exactly you
9 consider to be a relevant factor.

10 Because, again, the relevant factors form the
11 basis of the subsequent AA process. So, I think that's
12 really important.

13 And so even, you know, after reading through on
14 page 33, where it talks about, you know, potential factors
15 that become relevant and fulfill certain criteria, I still
16 didn't get a sense of how I can use that information to
17 narrow what would be considered a relevant factor.

18 So, I think some clarification and examples on
19 that would be really important.

20 PANEL CO-CHAIR MORAN: Thank you, Art.

21 I want to thank everyone for giving concise
22 comments and really insightful comments.

23 I'm going to make a few of my own. And while I'm
24 doing that, I don't think we got good clarity on what people
25 want to discuss. So, if you can think about that, in

1 addition to wanting to listen or not to what I have to say,
2 then I want to come back and make a list, and see if we can
3 set some priorities for this afternoon, at least from the
4 input from the Panel. And we'll be talking to staff about
5 that, too.

6 So first, in my personal comments I also want to
7 echo the compliments of the Panel to the staff for such a
8 great job for clarity, well-written.

9 I particularly was excited by the use of graphics,
10 and the little boxes, and so forth, integrated with the
11 text. This is probably the best example I've ever seen of
12 that in a government document. Because it really enhanced
13 the learning and illustrated things. The examples were
14 super important, but there were boxes in other areas that I
15 just thought really called things out in a clear way that
16 was compelling. So, I hope you'll be able to stick with
17 that.

18 The level here is so high, I'm not sure if you can
19 keep that standard for the rest of it. But that was really,
20 really good.

21 And then a few thoughts, I also struggled with
22 what is an acceptable alternative. Becky raised this point.
23 But I don't think there's a very clear definition. And, in
24 fact, it seems to waiver back in forth, in places, whether
25 it's a chemical, whether it's broader than a chemical.

1 I don't know if that's something we need to
2 discuss today, or not, given the competing things that are
3 out there. But I think that's something that needs some
4 further thinking.

5 Another thing that I think is important for the
6 staff to think about is defining how a product is used.
7 That part, manufacturers sometimes, often don't know how
8 their customers are using their product. But if DTSC is
9 going to be able to answer the question, is it necessary, it
10 needs to understand how that product is used so it can parse
11 out where something may or may not be necessary. Maybe it's
12 not necessary anywhere. Maybe there are some specialized
13 applications where something really is necessary.

14 So, it's not just it's paint stripper, it's paint
15 stripper that can be used for antique furniture, for
16 detailed molding in the ceiling, for a specialized military
17 aircraft part, for window framing, and walls and, you know,
18 a lot of other more gross uses in tanks, and there's all
19 different settings.

20 And I think getting into that is going to be super
21 important to support the Department's decision making. And
22 also, the examination of alternatives where there may be
23 different things available in different context.

24 Some products don't have a broad variety of uses.
25 you know, the NAT Mats are a great example, where there's a

1 flame retardant or there's not. It's not very complicated.
2 But we have to think that through and have the Department be
3 able to think that through clearly.

4 I think data gaps is a really important issue and
5 it merits discussion this afternoon, in my view.

6 I was a little worried that decision making is
7 hidden and wrapped in through this section. And I know that
8 it's coming in later. But I was a little worried about how
9 it appears in places here. And so, thinking about that and
10 how the pieces fit together is hard, now, but will be
11 important.

12 I felt that the appendices, with the resources 3-3
13 and 4, Joel Tickner told me they were a bit of a mish mash
14 and I'd say that's a good way of putting it. That it was a
15 mixture of all kind of different things and that those need
16 some sorting out, so that people can figure out how to use
17 which kinds of resources are available when.

18 And there probably needs to be an appendix with
19 conceptual models, example resources. There's a whole lot
20 of those out there that we should throw in.

21 And finally, I thought that the role of exposure
22 was unclear here. And it's something the AA community, as a
23 whole, is really struggling with. So, I want to comment, in
24 case other folks want to react to it, but I see three roles
25 for exposure.

1 The first one is to identify the relevant factors.
2 Dawn mentioned that as being really important. This is
3 where the conceptual models are so important. We can
4 understand where the chemicals and the product go and,
5 therefore, we can figure out what the relevant factors are
6 to start with, while we're doing our screening.

7 A second one is comparative impacts. That's what
8 the NAS report really highlighted that because there can be
9 different exposures, depending on what the substitute
10 options might be, we might have different comparative
11 impacts and have to think about the relevant -- relevant
12 factors can differ depending on the substitutions.

13 And the third place is at the decision making. If
14 we understand what the exposures are, then that helps us
15 establish what our priorities are in decision making. Most
16 decisions are going to be tradeoffs. There's not going to
17 be perfect alternatives.

18 And we're weighing the various pros and cons in
19 the decision making and I've seen come pretty compelling
20 examples of that. Virginia Zaunbrecher presented a really
21 great set of examples there. We will weigh things
22 differently depending on what the exposures are. So, that's
23 something I would hope could be clarified.

24 I also think it's super important to separate
25 exposure from effects. And page 43 and 45, mix those two.

1 So, I found that actually troubling. I think we have to
2 focus first on exposure and then on the hazards. Really,
3 exposure as a separate item. And that will help clarify our
4 approach and our decision making.

5 But all in all, I think this is tremendous start
6 and I think that's what we're hearing from the group.

7 So, maybe before we go through what -- I think
8 we're hitting save here, but I don't know how that happened.
9 But Myra, once you hit save, maybe we can page through these
10 for a minute and let me, so everyone can see what the things
11 are that are up here.

12 And I will tell you, as Myra pages through them
13 I'll tell you the ones I caught, that people mentioned for
14 discussion. And this is where you should be telling me I
15 missed something.

16 I heard data gaps. I heard exposure. I heard
17 relevant factors. I heard defining alternatives. I heard
18 consumer acceptance. And I heard ideas for next chapters.

19 What did I miss? Impact assessment and how does
20 that -- okay, impact assessment.

21 Is that different -- that's different than
22 relevant factors. Okay.

23 All right, anything else that I missed? Ann? I'm
24 just trying to make the list and then we're going to come
25 back and --

1 PANEL MEMBER BLAKE: I'm not quite sure how to
2 articulate it, but around decision. So, articulating where
3 decision making appears early on, where it appears in the
4 process.

5 PANEL CO-CHAIR MORAN: Okay, decision making.
6 Right. All right, so I've got -- anything else?

7 So, I've got data gaps.

8 DEPUTY DIRECTOR WILLIAMS: Well, just a clarifying
9 question on your statement about decision making, and how
10 it's embedded and kind of intertwined. Could you say more
11 about that? I didn't quite understand the dilemma.

12 PANEL CO-CHAIR MORAN: My dilemma was about,
13 particularly in both the selection of alternatives and the
14 screening of the alternatives for the first phase report.
15 There it basically says, well, go through those and make
16 some decisions. And it doesn't really talk about how one
17 might approach that or -- there's a page number, page 61 in
18 particular. That whole page is basically about decision
19 making and that was where I was struggling.

20 Is that enough clarification? Okay.

21 All right, so let's go back to -- so, I've got
22 data -- so I want to make sure I've got the list of things
23 we might want to talk about and Tim's up.

24 PANEL MEMBER MALLOY: I'm going to pass. I want
25 to hear what you have to say.

1 PANEL CO-CHAIR MORAN: Okay.

2 PANEL MEMBER MALLOY: I thought we were just going
3 to start talking about them and I had a suggestion, so I'll
4 wait.

5 PANEL CO-CHAIR MORAN: Oh, okay. I'm still trying
6 to figure out what the list is here. So, just to make sure
7 we've got data gaps, exposure, decision making, relevant
8 factors, defining alternatives, consumer acceptance, ideas
9 for next chapters and impact assessment.

10 Is that everything that everyone's brought up?
11 Okay, so now I'm going to ask for a show of hands as to your
12 interest in each of those. And then, we are going to confer
13 with staff.

14 But first, Tim has a question.

15 PANEL MEMBER MALLOY: I was just going to make a
16 suggestion. It struck me you could categorize those in two
17 broad categories. One is talking about things that are in
18 the draft, about which we have specific points.

19 And the other is talking about things that aren't
20 in the draft, but that people thought should have been
21 talked about. So, data gaps is a good example. These
22 chapters say data gaps is going to be discussed in a later
23 section and there's not much said about it.

24 So, one way to prioritize this would be to say,
25 well, what's our goal? If our goal is to give feedback on

1 this draft, it might make sense to start with the ones where
2 there's concrete stuff in here that could be worked around,
3 as opposed to like thinking about data gaps, it doesn't
4 really say anything about them.

5 So, we'd be having a general conversation about
6 how to deal with data gaps which, you know, might be less
7 helpful in terms of moving the document forward, than
8 talking about things like, you know, there's specific stuff
9 in here about relevant factors. There's specific stuff in
10 here about how to screen your tradeoff, so on and so forth.

11 So, that was just a suggestion about how to
12 organize our voting.

13 PANEL CO-CHAIR MORAN: What I think I want to do,
14 there's been -- we're going to head over to Ann next. But
15 as the mic moves over to Ann, I just want to comment that
16 what I'm looking for at this point is to get a sense of the
17 Panel, what we want to talk about.

18 So, for example, there's been a desire for a
19 conversation of data gaps, I think at the last several
20 meetings. So, I kind of want to allow us to be able to have
21 that.

22 But our goal right now is simply to come up with a
23 list and then I'm going to ask all of us to say which ones
24 we most want to talk about.

25 And then we're going to break for lunch. And Art

1 and I will be conferring with staff as to what they think is
2 most important and valuable to hear from us based on not
3 only what's in the paper here, but what they're working on
4 right now.

5 And we'll come back, after lunch, with an ordered
6 list and we'll see how far we get through that list this
7 afternoon. So, that's why your priority is important
8 because we may not get through everything in our discussion.

9 Ann?

10 PANEL MEMBER BLAKE: Oh, a point of clarification,
11 because I think you added ideas for other chapters, possibly
12 as a result of my comment. I didn't mean that as a separate
13 thing.

14 I think all the topics we're talking about are
15 going to inherently feed into other -- into those chapters.
16 So, all the big issues of decision making, relevant factors
17 and all that.

18 Although, I think I'd support Tim's idea of
19 splitting it between what's already written and what isn't.

20 PANEL CO-CHAIR MORAN: Okay. So, you're basically
21 voting against ideas for other chapters.

22 PANEL MEMBER BLAKE: It's going to get in -- it's
23 embedded. It should be incorporated.

24 PANEL CO-CHAIR MORAN: Thank you. Okay. All
25 right, so does anyone object if I take that off the list,

1 ideas for other chapters? Okay, so that's off the list.

2 Okay, so now I'm going to walk through our list,
3 again. So, starting with data gaps, how many people -- put
4 your hand up, if you're a Panel member and you want to talk
5 about data gaps. Eight, plus me, nine.

6 Okay, exposure? Six. You can vote as many times
7 as you want.

8 Okay, decision making? Seven. Okay, you know,
9 this is what's your priorities, that's what you're voting
10 on.

11 Okay, relevant factors? Seven. I'm going to be
12 eight on that one. Boy, we're getting really close.

13 Defining alternatives? Three. Okay, that one's
14 falling down.

15 All right, consumer acceptance? Five.

16 And impact assessments? Two.

17 Okay, so the votes I've got here are data gaps,
18 nine. Exposure six. Decision making seven. Relevant
19 factors eight. Consumer acceptance five. Impact
20 assessments two.

21 Am I missing anything?

22 All right, so I think we're going to break for
23 lunch a few minutes early. Are we able to do that.

24 All right, so I'm going to suggest we break for
25 lunch now and come back at 1:00. So, we'll move things up

1 by 15 minutes, give us more time in the afternoon rather
2 than try to tackle -- starting on one of these topics.

3 And Art and I will be conferring with staff, based
4 on your input. And we'll have a list for you to tackle this
5 afternoon. Thank you.

6 DEPUTY DIRECTOR WILLIAMS: Just as a reminder, in
7 order to comply with Bagley-Keene Open Meeting Act, we ask
8 that the Panel members refrain from discussing the agenda
9 topics during the lunch break. Thank you. And lunch will
10 be on the 12th floor, and we will escort you up.

11 PANEL MEMBER BLAKE: I just wanted to say, I know
12 we've all been heaping praise on the staff, but I just
13 wanted to have a minute to have it sink in. If we could
14 just applaud the staff for all the hard work that they've
15 done.

16 (Applause)

17 (Off the record at 11:41 a.m.)

18 (On the record at 1:06 p.m.)

19 PANEL CO-CHAIR MORAN: All right, ten seconds.
20 All right, I'd like to call this meeting of the Green Ribbon
21 Science Panel back to order. And thank you all for your
22 attention.

23 And we're going to start with something that we
24 should have done this morning, which is to introduce all of
25 these staff members, who have done all this work that we

1 thanked them for right before lunch.

2 So, why don't we go around.

3 MS. CALVERT: I'm Kathleen Calvert and I work for
4 the communications team. I was involved in designing,
5 redesigning the website and so I update the web pages and do
6 the e-mail communications, and things like that.

7 MR. LUAN: Hi, my name's Tony Luan. I work with
8 the AA team. I worked with Bob Boughton until he retired,
9 Nancy, and Xiaoying, and Relly.

10 MR. JOLESON: Hello, my name's James Joleson and I
11 manage operations for the group.

12 MS. MUNIZ: Hello, I'm Hortensia Muniz. I'm kind
13 of an old face. I worked on the regs, Articles 5, 6, 7 and
14 8. And since the regs have been adopted, I've taken on
15 different roles in creating the CalSAFER, the functional
16 requirements for that system to collect comments, and
17 documents that come in to meet the requirements of the regs.
18 And then, just providing oversight or kind of guidance
19 review on preparation of other documents.

20 MS. RODRIGUEZ: Hello, I'm Evelia Rodriguez and I
21 am also on the CalSAFER team. I'm currently working on the
22 brake pad regulations and I'm also on the CalSAFER team.

23 MS. GOLDMAN: Hi, I'm Lynn Goldman and I'm from
24 the Office of Legal Counsel, so I'm the attorney for the
25 reg.

1 MS. COOPER DOHERTY: I am Ann Cooper Doherty and
2 I'm in a number of different things, CalSAFER, product
3 evaluation, regs, all kinds of things. And my most recent
4 claim to fame, I guess, is getting to attend SETAC.

5 MS. MOLIN: My name's Daphne Molin and I manage
6 the chemicals database and I'm also on the chemical product
7 evaluation team for prioritizing priority products.

8 MR. SCHUMACHER: Nathan Schumacher, public
9 participation, on loan for this little project.

10 MS. PHELPS: Hi, Diana Phelps. Nothing to do
11 with Michael Phelps. I work with a couple things, too. For
12 doc prioritization and also the AA team.

13 MS. YEP: Hi, I'm Corey Yep and I'll manage you
14 guys, and keep you on track, collect money, that kind of
15 thing.

16 MR. BRIONES: And I'm Relly Briones, part of the
17 AA team.

18 MS. ZHOU: Xiaoying Zhou, also AA team.

19 MS. OSTROM: And Nancy Ostrom, AA team.

20 PANEL CO-CHAIR MORAN: Thank you very much. And
21 again, thanks to all the staff for your contributions to
22 this exciting program.

23 So, what we're going to do this afternoon, if we
24 move on to the next slide, Art and I met with the staff and
25 they'll be teeing up a couple of items.

1 But on the next slide it shows the -- yeah, so go
2 back a little bit. Up arrow, up arrow. So, there are four
3 topics that will be prioritized this afternoon for
4 discussion.

5 So, the first one's relevant factors. The next
6 one is decision making. The third one is consumer
7 acceptance. And the fourth one is data gaps. And I gave
8 them to you in the wrong order, but you'll see the order in
9 a minute.

10 And if we have time, we will be taking a mid-
11 afternoon break. And if we have time this afternoon, I
12 don't know if we will, there's a couple of things that the
13 staff asked that we do some quick round robins on. So, I'm
14 going to put these in your mind now. So that if we get to
15 them, we'll want to do just a quick once-around-the-room on
16 each of these three topics. And if you write them down and
17 we don't have time for them, the staff would be most
18 appreciative if you can share any thoughts on these three
19 topics in your written comments.

20 So, the first one is quantification of the
21 economic factors that are really around external costs. So,
22 those public health, government costs, environmental costs,
23 that kind of thing.

24 The second one is the principles for alternatives
25 assessment, which is all at your chair. This was submitted

1 by one of the commenting groups. And they've suggested that
2 that might be included in the guide, either in addition to
3 or in place of the comments principles that are in the
4 guide. So, we're looking for reactions to that.

5 And the third one is if you have ideas for other
6 ways of delivering the content that's in the guide, so the
7 guide and other things that are related to that.

8 So, those three things. Again, economic factors,
9 other than the company costs, so those external costs. Your
10 reactions to those principles of AA. And other ways to
11 deliver the content of the guide, other than as a printed
12 manual.

13 So with that, I'm going to ask Meredith if she
14 could please tee us up on relevant factors. And then I'll
15 pick up and suggest two specific elements of that, that
16 would help us focus our conversation.

17 DEPUTY DIRECTOR WILLIAMS: So, in order to start
18 tackling relevant factors, probably the best place to start
19 is -- that is not me. Is there another mic?

20 One reason that there isn't a lot of discussion of
21 the definition of relevant factors in the actual guide is
22 that it's defined in regulation. And we made a pretty
23 conscious choice, as Nancy reminded me, that we weren't
24 going to repeat things that were defined in regulation, in
25 the document.

1 Now that said, this is the definition that's in
2 the regulations. And what I think I'm hearing, and you can
3 confirm this, is that this definition isn't quite adequate
4 to help people identify the relevant factors. And,
5 therefore, the first part of the conversation would be how
6 can we strengthen or support this regulatory definition in a
7 way that people understand what it is that they're supposed
8 to be deciding?

9 And then the second part of it, I think, is what
10 guidance could we be giving them to making those decisions?

11 PANEL CO-CHAIR FONG: So, I think Karl is going to
12 go over the definition for us and we'll use that as the
13 jumping off point for our discussion. Okay?

14 MR. PALMER: I'll start.

15 PANEL CO-CHAIR MORAN: It's a hot potato.

16 MR. PALMER: Okay, so the regulations do --
17 essentially, it's not in the definition of the regulation.
18 It's actually in Article 5, which says what a relevant
19 factor is. And there's two main factors.

20 One is that it defines a material contribution as
21 being something that actually has an impact on either public
22 health, environmental health, end of life, and those are the
23 things we would want to consider.

24 So, you have to understand that, yes, there's
25 actually an impact from that factor.

1 The other aspect is whether that factor is a
2 material difference in the overall impact when you're
3 comparing it to an alternative.

4 So, if you think about it from the stand point of
5 not just being purely is there a material difference,
6 because there may be differences between something that
7 really aren't that relevant because they're small, or
8 they're insignificant, or they don't line up with the
9 exposure path, whatever, it's relative to the overall impact
10 when you're looking at another alternative.

11 It's difficult, sometimes, to fully grasp that
12 until you start looking at examples. When we did our
13 webinars we did an example where we showed there was on part
14 that had a VOC impact, in terms of emissions. And when you
15 looked at its use phase it was, comparatively, when you're
16 looking at two alternatives, it looked like a significant
17 impact.

18 But then, when you looked across the lifecycle of
19 that product from its, you know, manufacturer use to end of
20 life, that the total VOC impact, it was extremely small.
21 So, in that case you might determine that that's really not
22 a relevant factor.

23 And, of course, the devil's always in the details.
24 But the important thing, I think, is really two things. One
25 is can you make a determination that there's a difference?

1 And, two, how relevant is that to the overall assessment
2 throughout the product's lifecycle and across the different
3 factors.

4 That's my best way of explaining it. And, of
5 course, it's always better to have an example. But it is
6 somewhat circular and it sort of begs questions about, well,
7 when you don't have data or when you have uncertainty. So,
8 that's the teeing it up for you all.

9 PANEL CO-CHAIR MORAN: So, at this time there's
10 two -- unless, Nancy, did you want to add anything? Okay.

11 There's two things we can talk about here. One
12 is, is there anything that could be in the guide that would
13 improve the clarity of the definition, other than what Karl
14 just said? Which, I saw a lot of nodding heads that it
15 might help to say it more in English that way.

16 And so, I don't know if we need a big discussion
17 on that or not? Is there anything in the guide and what
18 would the guide say? I'm not seeing a lot of nodding heads
19 there.

20 I see a scrunched face. Oh, Helen. So, let's --
21 yeah, this is our chance. This is one piece of it and then
22 what I want to move into after this little piece is the
23 bigger concept of how, on a practical basis, do we narrow
24 from that long list of relevant factors or potential hazard
25 traits that are in the regulations to the practical group

1 that would actually be used for decision making. And what
2 guidance can DTSC offer in that area?

3 But first, I saw the scrunched face over there.
4 So, Helen, if you want to say something on definition, I'd
5 really like to offer you the floor.

6 PANEL MEMBER HOLDER: I'll just kind of give you
7 the sort of two things that we've observed, again, in just
8 doing them. Sometimes we start with the second criterion,
9 rather than the first, to just ask are there differences.
10 It's similar to the lifecycle, sort of, how different is
11 this?

12 And this, in particular it actually, the CO2 is a
13 really good one for that because a lot of times there's no
14 substantial difference between some of the chemicals, for
15 example. And so, you can really knock out some of the
16 factors in that way.

17 The other thing I would just say is if you're
18 translating this into common English, one thing to just be
19 careful of is to not have an absolute, you know, 10 percent
20 difference sort of a thing. Because you really have to
21 think about the uncertainty of the underlying information.
22 And again, back to the CO2, the uncertainty on those models
23 is extremely high. And so, we actually require orders of
24 magnitude difference to say that there's an actual
25 difference. So, those are just the two comments.

1 And we definitely had to work through this. In
2 fact, for what it's worth, we actually broke this up into
3 like four different things because there's actually some
4 language sort of embedded in that.

5 So, there were four things. There has to be an
6 exposure pathway, and a lifecycle segment, and A and B. So,
7 you actually had to meet all four criteria in order to get
8 into a relevant factor.

9 We didn't necessarily take it quite that
10 dogmatically, but it's actually not just two. It's actually
11 four because you have to have all of those things to be
12 relevant. Just observation.

13 PANEL CO-CHAIR MORAN: Thanks, Helen. I think
14 Tim's trying to -- are you following up on definition?
15 Okay, why don't you go ahead.

16 PANEL MEMBER HOLDER: One thing that struck me,
17 actually, I thought the guidance did a pretty good job of
18 describing what Karl just said and there were a couple of
19 examples that did that.

20 The thing that struck me about this is, if I'm
21 right, there's no discussion about what material means. And
22 like we just heard Helen talk about certain orders of
23 magnitude differences, and how that would come into effect,
24 but that goes to questions of like uncertainty. How much
25 uncertainty are you willing to live with?

1 And I kind of think of the material thing, that's
2 more of a value judgment. It's a measure of important, at
3 both the level of contribution and difference.

4 So, I think it might be improved by generating
5 some guidance on what material means. And I can give you a
6 couple of examples. In securities law, you know, there's
7 securities fraud if there was a misstatement about a
8 material issue. And the courts have a wide range of
9 definitions of those. But one of the definitions is a
10 material issue is one that a reasonable investor -- there's
11 a substantial likelihood that a reasonable investor would
12 think it matters. Right.

13 So, that wouldn't work exactly here, right,
14 because you've got to figure out who's the person you care
15 about. Is it the consumer? Is it the business? Is it the
16 agent? I don't know. I'm not saying you should use that as
17 a definition, but there's that concept of you use a
18 reasonableness measure and pick who your perspective is and
19 say.

20 And I think we all understand that intuitively
21 that material means it really matters. And then, the
22 context will vary by relevant factors. So, I don't think
23 you can use like a 10 percent difference or whatever, that's
24 going to -- the other place where you might find definitions
25 like this is in contracting.

1 So, there's often provisions in contracts where,
2 if there's a material change in financial position or if
3 there's material -- contracts will often define that. And
4 it's a fairly, you know, well-developed law in contracts
5 law, and in various statutes that talk about what material
6 means.

7 So, I would say that try and define material, that
8 might help people a lot. And there's lots of things that
9 you could look to help you, also, in some environmental
10 regulations that talk about the notion of substantial or
11 material, and you can draw upon those.

12 PANEL CO-CHAIR MORAN: So, I think Nancy is going
13 to point us to a page in the guide.

14 MS. OSTROM: Well, I thought I was going to. But
15 when I compare my version with Xiaoying's, it looks like our
16 box defining material contribution and material difference
17 disappeared somewhere along the way.

18 So, we did attempt a definition, where we said it
19 was meaningful and consequential to an observed impact. But
20 your points are well taken. And I think looking at contract
21 law or something like that might help us to define that.
22 And we'll put the box back in. It's on page 33.

23 PANEL CO-CHAIR MORAN: Yeah, it is missing in the
24 version that we got.

25 So, Cal, do you have a brief comment on this?

1 PANEL MEMBER BAIER-ANDERSON: My sense is that the
2 concept of conceptual model could be brought in maybe a
3 little sooner, since it's so integral to identifying what a
4 relevant factor is. It's described after the definition of
5 relevant factors.

6 PANEL CO-CHAIR MORAN: Thank you.

7 Karl, you want to help us out here? And then
8 maybe we'll move on.

9 MR. PALMER: Yeah, I just wanted to make a couple
10 of quick points. One, in this sort of narrative standard
11 that it was intentional, in some sense, that we didn't
12 define it in the regulations, and the regulations are the
13 guide. So, there is latitude here and this points to the
14 necessity of the practitioner to explain their perspective
15 of why they believe something is or is not relevant.

16 The other broad comment I would make is that it's
17 important to understand, we're hoping that people don't do
18 these in a vacuum. Is that, you know, the regs are designed
19 so that the first stage is a screening, and there's a work
20 plan, and it's sort of like are we on the right track.

21 But even before that's done, we anticipate that
22 we'll be talking to the practitioners to say, you know, what
23 do you think about this, and pointing people, and working
24 with people, as we do in all of our programs.

25 So, hopefully, people won't just take the guidance

1 and throw something together, and throw it on our desk. So,
2 Just thought I'd make that broad comment.

3 PANEL CO-CHAIR MORAN: All right. So, why don't
4 we move on to the bigger question, which is the one about
5 selecting the relevant factors.

6 So, everyone probably remembers the OEHHA
7 regulation and there's stuff in the back, listing every
8 relevant factor that's in the DTSC regs. And we've already
9 heard the comment that there aren't standard tests for a
10 bunch of those.

11 But those who are doing AAs are actually going
12 through a process to screen those things down. And the
13 question keeps coming up, well, you know, how do we get from
14 that long list to the list that's the right list for the AA?

15 And I heard a sense from folks that the guidance
16 didn't provide enough help in thinking through that process.
17 And so, I'd like to ask folks to say, well, what can DTSC
18 say that can help? What examples are out there that you can
19 point to, that would show a good way of doing that?

20 How do we take it from being the complete mystery
21 many people are seeing this as, to something practical that
22 DTSC can put on paper in this guide?

23 And I'm hoping someone will put their flag up and
24 want to talk about this. Don, why don't you tee us off?

25 PANEL MEMBER VERSTEEG: This is Don Versteeg. But

1 I think it's related and you can stop me, if it's not.

2 The problem I had was really with the sub-factors
3 and how we went from factors to sub-factors, or how you went
4 from -- DTSC went from factors to sub-factors.

5 And then, because the sub-factors look like I've
6 got to address all of these. Okay, so I'm writing the AA
7 and I've got to address how a chemical increases biological
8 oxygen demand. Very easy to do. But then also biodegrades,
9 which is also easy to do. But the two -- if it increases
10 biological oxygen demand and it biodegrades, are both of
11 those good or is one good and one bad?

12 Okay, so I got to think also about a chemical that
13 causes soil sealing. I agree that might be somehow an
14 ecologic effect. But why did we pick that one? How many
15 chemicals do we have that are examples of causing soil
16 sealing out in the environment, that I want to make that one
17 of the factors that I have to address?

18 You know, I can be creative and come up with
19 something. But why these? What was the threshold that said
20 it's in versus it's out? And, you know, I think that -- in
21 my mind, that's the real question.

22 PANEL CO-CHAIR MORAN: Don, what page are you on?
23 You're pointing at something?

24 PANEL MEMBER VERSTEEG: I'm on 77.

25 PANEL CO-CHAIR MORAN: Seventy-seven.

1 PANEL MEMBER VERSTEEG: Yeah, 77, 78.

2 PANEL CO-CHAIR MORAN: Okay, and can one of the
3 staff answer this? I think these are from the regs and I
4 don't know if anyone can say more than that, yeah.

5 MS. OSTROM: All of the factors and sub-factors
6 come directly from the regulations. We don't -- we just put
7 in what was in the regulations. It's beyond our control at
8 this point.

9 PANEL CO-CHAIR MORAN: And am I correct in looking
10 at -- I remember when the regs were being developed that
11 many of these came from other regulatory responsibilities,
12 like the soil sealing and others. I thought they were kind
13 of odd, but they're things that are drawn from other pieces
14 of DTSC's authorities and responsibilities.

15 MS. OSTROM: I can't speak to that. Maybe
16 Hortensia can.

17 MS. MUNIZ: I couldn't tell you exactly from which
18 one. But, yes, they do parallel what other requirements or
19 other definitions regarding, for example, since adverse
20 environmental impacts includes "others" in that definition,
21 then we looked to those other definitions to make sure that
22 they were rolled out. I couldn't tell you.

23 PANEL CO-CHAIR MORAN: So, I think, Don, one of
24 the take homes that I take from your comment is that just
25 because it's in the list doesn't necessarily mean it's

1 important a lot of the time.

2 And so, the question I think that I've been
3 hearing and asking for some input on here, for the staff, to
4 give guidance on, is how can DTSC help people get from
5 here's a big, long list of things that are -- many of which
6 are non-standard? How are people going to think through and
7 approach this, and practically sort them out to come up with
8 the relevant factors that they're going to propose to use in
9 their more detailed alternatives analysis?

10 Now, I know all of you have stuff to say about
11 this.

12 PANEL CO-CHAIR FONG: So, you know, I think DTSC
13 has made a point of saying that, you know, this should not
14 be a checklist. But in fact, that's what it looks like to
15 me.

16 And the way we approached it -- I'm sorry, we --
17 the way I approached it, when I was working at IBM, was to
18 actually create a flow chart. And then I would go through
19 the flow chart to see which ones would be in fact directly
20 relevant to the question that I'm asking, when I'm making
21 material selection decisions. So, that's one way of doing
22 it.

23 But the unfortunate part about that is, you know,
24 some people expect, it's something that Don was saying, is
25 that are there kind of very concrete or even quantitative,

1 yes and no, or guidelines that you can use to make that
2 decision?

3 And, unfortunately, you know, what I've done in
4 the past is many times just professional judgment. So,
5 that's going to make it harder for DTSC to provide specific
6 guidance for the practitioner to go down the list.

7 And again, fully recognize that, you know, DTSC is
8 saying that it's not a checklist, you don't have to go --
9 but, in fact, that's what we did is we created a flow chart.
10 And then we asked, you know, at each decision point if a
11 particular factor's relevant. And we asked the question
12 specifically to the product or, you know, component that we
13 were in fact making a material selection decision on.

14 PANEL CO-CHAIR MORAN: Ann and then Ken.

15 PANEL MEMBER BLAKE: Sort of building off of what
16 Don and Art said, I wonder if it would be helpful -- we keep
17 talking about examples, but maybe if we get more specific
18 about the examples, and I'm trying to think this through as
19 I'm talking. But if we could provide a thought process for
20 different classes of products, for example, say formulated
21 chemistry versus a material product, and just go through the
22 thought process of what might be a relevant factor.

23 I'm getting muddled a little bit, and I think we
24 may all be, because we're also thinking about lifecycle and
25 conceptual models, and these all sort of blend together in a

1 way.

2 But relevant factors, if you could provide some
3 examples of a conceptual model, plus the way that's used to
4 sort through the lifecycles with potential impact, as Helen
5 articulated, the way to use B here. And just sort of have
6 default -- I'm thinking like default exposure scenarios.
7 You know, you have a default conceptual model for certain
8 classes of product.

9 Is that something -- is that making sense, DTSC
10 staff? Is that something you could try to create?

11 PANEL CO-CHAIR MORAN: As we pass this on to ken,
12 I'm going to comment that this is basically an idea I've
13 been trying to put forth with the use of the conceptual
14 model. The idea that we use exposures through the full
15 lifecycle thinking to think about exposures as a way to
16 figure out where are the end points that then -- among all
17 of the hazard traits, which ones are actually, realistically
18 related to this product as a first cut.

19 But let me go on to Ken because I think he's going
20 to enlighten us.

21 PANEL MEMBER GEISER: I'm sorry you introduced it
22 that way because I was going to make it -- in my mind, I'm
23 speaking in the middle, thinking about this, so I'm not
24 going to be completely articulate.

25 But let me try where I was going with this and

1 that is it goes back to something I raised this morning, and
2 that is who's doing the -- who's doing the AA and what's
3 their strategy in doing it?

4 And when it's Art doing the AA, he's working for a
5 company, he's looking for a material or chemical that is
6 going to meet certain standards. And he's trying to figure
7 out the best thing for his company to do, and in selecting
8 it. So, the factors he might consider are ones that if he
9 can -- if he has a small handful of factors and he can
10 quickly see, without a lot of effort, that one or two
11 alternatives really are much better, he's maybe going to be
12 satisfied with that. He's not going to dig real, real deep
13 because it's enough to know that it's not a carcinogen or
14 whatever it is.

15 Now, if let's say somebody else, John. John has
16 been identified as manufacturing a product that is now
17 fingered by the DTSC, and John has a couple of choices. One
18 choice is John can say, I'm going to remove the chemical of
19 concern. I'm just going to get out of it. I don't want to
20 go through this whole process. There's an exit route for
21 me, which is I'll redesign the product and get rid of the
22 chemical of concern.

23 His other choice is, no, I'm going to defend the
24 chemical of concern. And so, I'm going to come up with
25 alternatives. I'm going to work these alternatives in a way

1 that allows me the best argument for keeping my chemical.
2 And in that case, I might want to pick a whole lot of
3 relevant alternatives to sort of screen and sort of figure
4 out which ones are going to be the most telling about
5 showing that all these alternatives don't make it.

6 So, you know, I think because this is a subject
7 question -- oh, and I was just going to add one more. Which
8 is then there's Joan, who's at the DTSC, who's going to
9 receive this alternatives assessment and she's going to be
10 looking at it to see whether there was "an adequate range of
11 alternatives" or "factors", I'm sorry. And she's in a
12 position to say, no, you didn't consider this and that.

13 And so, the dance becomes between John and Joan
14 about how many are -- because it's caught in this compliance
15 mentality, which Art wasn't caught in when he was doing it,
16 it seems to me that the incentive is to get a whole lot of
17 factors. And so, am I wrong? That's the question. That's
18 really what I was pondering when Kelly got to saying I was
19 going to clarify things.

20 But at least the path I was on was leading me into
21 how can DTSC indicate what is adequate for compliance, but
22 is creating the best basis for really searching for a good
23 answer?

24 PANEL CO-CHAIR MORAN: Helen, you want to pick up
25 on this?

1 PANEL MEMBER HOLDER: Just to generally say the
2 more factors you have, the less differentiation you'll have.
3 And that's the biggest hazard in the long list is that in
4 the effort to try to be comprehensive, you've actually
5 opened the door. This will happen. And because of the way
6 the regs are sort of written, where it's this case-by-case
7 decision and that the companies can defend anything that
8 they choose, theoretically, I think it may -- you may find
9 yourself in a position where it's going to be hard for you
10 to push back.

11 And so, for example, there are different --
12 ultimately, these are value judgments. And if someone comes
13 in and says I value carcinogenicity over aquatic toxicity
14 and, therefore, I'm going to make this choice, you're going
15 to have a really hard time actually pushing back on that. I
16 mean, and I don't mean that to discourage you in any way,
17 but I'm just being realistic that that's probably going to
18 be how this is going to work, that if someone really wants
19 to continue to use something, they will be able to do it
20 because it will be very tough to show that any alternative
21 is going to be perfectly safe. We all know that that's
22 impossible, right.

23 So, that being said, though, I mean as we've said
24 many times, you can't assume that people are operating on
25 bad faith. We have to actually write the regs as though

1 people are genuinely trying to comply, and then deal with
2 these cases as they happen.

3 But just exactly to your point, the more factors,
4 the less differentiation. And it's not unique to this, it's
5 to everything. Admission to universities. They'll be the
6 first to tell you, the more factors you consider, the less
7 you can tell the difference between the studies. So, it's
8 just built in, so I don't think there's anything we can do
9 about it.

10 PANEL CO-CHAIR MORAN: So, before we go over to
11 Tim, I just want to remark on a couple things. One is that
12 this is guidance, so we're laying this on top of the regs.
13 One of the really important pieces of this guidance is it's
14 going to move this practice forward. It's a lot more than
15 just the regulatory decision making to comply with DTSC's
16 requirements because we're tackling, through the
17 requirements of California law, some topics that aren't
18 ordinarily tackled in other kinds of AA.

19 So, when I'm thinking about this guidance, I'm
20 also thinking about how can we help people on that journey
21 towards the safer products so that they won't ever be
22 regulated in the future, and so that their products will be
23 better for society. That's one of the goals here. And so,
24 think both ways and remember this is guidance.

25 But I also want to circle back around to how that

1 decision making occurs. So, for example, how many people
2 here have done an AA? So, more than half the people on the
3 table.

4 And how many of those have used the Green Screen
5 factors as the primary factors? Yeah. So, already there
6 you're making a decision about which factors you think are
7 the important relevant factors.

8 So, I really want to ask folks to dig again and
9 ask -- and say how can DTSC guide folks? You know, should
10 they just point at the Green Screen? That's what several of
11 the other guidances have done. And there are things we've
12 identified that are incomplete, from the DTSC point of view
13 of the Green Screen. How can we figure out how to get
14 there?

15 And I think Tim was next. Are you still up? Oh,
16 you're not.

17 Okay, Mike. Oh, I'm sorry, Meg. I'm sorry,
18 that's the problem with being in the corner. Thank you.
19 Thank you, Nathan.

20 PANEL MEMBER SCHWARZMAN: Thank you, Mike, for
21 seeing my flag.

22 I think you're catching a lot of us in midstream
23 thought on this, and so it's a less-formed conversation than
24 we might have if we were further down the path to solving
25 it.

1 But to further complicate matters, two things that
2 are kind of -- I'm struggling with are, one is I think
3 there's so much overlap between this topic and the topic of
4 data gaps because it's hard to know what to do with a
5 relevant factor when you don't have any data. Or, if you
6 have data about one and not about an alternative. You know,
7 about the existing chemical and not about the alternative.

8 And in the back of my mind I'm kind of worried
9 about how this selection of relevant factors is going to be
10 basically a reflection of the presence or absence of data.
11 And how we can tease these two ideas apart and make any
12 sense of them in a way that helps people navigate data gaps,
13 and do the best job possible to selecting the most relevant
14 factors.

15 And I'm not sure what the way out of that is, but
16 I just wanted to kind of surface that idea because I'm
17 having trouble teasing it apart in my head, if I think of an
18 example.

19 The other is I just wanted to respond a little bit
20 to your -- Kelly, your sort of proposal about using exposure
21 as the first guiding technique, sort of as you form a
22 conceptual model and that conceptual model can then shape
23 the selection of relevant factors.

24 And while I follow that logic and support it, I
25 have a big red flag going off inside because I think maybe

1 it's, perhaps, my role on this Panel to be the cautionary
2 voice about using over-reliance on exposure because of how
3 little -- how frequently we're humbled by what we didn't
4 expect to happen, when we think we can predict exposure.
5 And how often it turns out that exposure happens in some
6 totally other way than we would have predicted. And the
7 examples are litany.

8 So, and also I understand where that's coming
9 from, particularly because your expertise is in eco-toxicity
10 that it's like, okay, where does it go in the environment?
11 Now, we can talk. You know, and that I totally support and
12 I follow the logic. And so, how do we incorporate that kind
13 of thinking and develop conceptual models that are helpful,
14 while staying humble about what we don't understand and
15 can't predict about exposure?

16 PANEL CO-CHAIR MORAN: That's a very important
17 point. And actually, part of why I'm proposing the
18 conceptual models is to help people learn mistakes that
19 they're making and make that very transparent.

20 And I want to see -- Mike, are you pulling up off
21 of what Meg's or -- okay, go ahead. I just want to try to
22 stay with some of the topics that we're hitting on, but I
23 don't want to cut you off. So, you're next, then Cal, then
24 Helen. Either way.

25 PANEL MEMBER CARINGELLO: So, and I was kind of

1 more -- the discussion on when there are many relevant
2 factors, yeah, we were kind of focused on people can play a
3 game with that and, you know, make whatever you want to
4 work, work.

5 The other issue with that goes back even earlier,
6 is when I would do an alternatives assessment, I would have
7 my environmental safety people look at it. And to them,
8 it's all going to be about the aquatic tox, or whatever.
9 And I'm going to have my human safety people look at it and
10 they're can going say, oh, no, it's all about the
11 carcinogen.

12 You know, so it's an internal company discussion,
13 also, because then they're going to get around to that, and
14 then the regulatory folks are going to do it, and we're
15 going to do our GHS SDS and, suddenly, other factors are
16 going to pop out that we didn't even consider because it's
17 not a big one for the company.

18 So, to me, in thinking about that, and so I'm
19 bouncing this over to Karl and Meredith because I just don't
20 remember, because it's been a while ago. When we published
21 the priority products, could we or do we put in here are the
22 relevant factors that we have particularly considered for
23 this priority product combination?

24 Because that could, in a way, address many of the
25 things and be talked about in the guideline if there was,

1 when you considered a priority product that these are the
2 relevant factors we're particularly interested in. Here's
3 where we think the hazard or risk truly is.

4 And it might have been in the three that were
5 published and I'm just not recalling.

6 MR. PALMER: Yes, when we make a determination
7 that we're going to move forward on naming a priority
8 product, we have to demonstrate that there's exposure to
9 that chemical and that exposure has the potential to cause
10 significant or widespread harm.

11 And we will identify, in each of the rulemakings,
12 the profiles and the technical documents that support that
13 finding. That said, that doesn't address every specific
14 relevant factor. What we've done is identified key ones
15 that we think that standard on us, to say that it's
16 significant to be concerned that we think we should be
17 pursuing this one.

18 And as Nancy said earlier, that's a great place to
19 start, but it doesn't deal with all of the potential
20 relevant factors. And part of that's by design.

21 PANEL MEMBER HOLDER: So, I wanted to go back to
22 this question of the implicit values of Green Screen and
23 then the facts that are there.

24 So, in our own procedures we did a couple of
25 things. One is that we looked at the values that they built

1 in. We agreed that that aligned with our organization's
2 values and so we accept that. And so, that was part of what
3 we did.

4 And then the other part was when we went back and
5 looked at -- so, if you go back in time to the process to
6 pick those factors to include them in the Green Screen, we
7 felt that we were not in a position to override that from a
8 technical perspective. And so, even though our team is
9 knowledgeable, we deferred to the experts that made those
10 decisions.

11 And so, obviously things do change, and it changes
12 and we know that, and that's part of why we made that
13 choice. But again, sort of like, well, that seems to me
14 like a pretty valid choice is to say I don't have the
15 equivalent of that whole EPA team, and all of these people
16 who are expert in choosing the indicators that went into
17 that tool. And so, we are going to actually use their
18 judgment on accepting the tool. Because, otherwise, we're
19 reinventing the tool and we're not in that position. So,
20 that was part of it.

21 But kind of to this point of there are gaps, in
22 order to meet the requirements that's true. And one
23 suggestion might be to say, if you use Green Screen as your
24 comparative hazard tool, here are the two other things you
25 need to do, or something like that to be specific to say.

1 Because, you know, we are pointing people off into that as
2 being one of the standard tools or more common tools and
3 say, okay, well, if you're using Green Screen, you also have
4 to do blah, blah, blah, and a lot of other tools, or other
5 methods, or whatever you consider to me the minimum. That
6 should be something we should do.

7 PANEL CO-CHAIR MORAN: So, good. Cal, and Ann,
8 and then Tim. And, Cal, I'm sure you have something really
9 important to say and so I'm going to add something. Which
10 is, Meg said something that I think that DFE dealt with,
11 which is data availability often driving the selection of
12 relevant factors. And I think you might have had some
13 experience in that, so if you don't mind commenting on that
14 at the end, that would be great.

15 PANEL MEMBER BAIER-ANDERSON: Yes, okay. So, to
16 start with, it's helpful to me to think about this problem
17 of relevant factors as coming from two sides. So, you know,
18 what is it that's important about my chemical product
19 combination and what relevant factors kind of where does
20 that -- what relevant factors does that lead me to.

21 And then, how does that compare with the DTSC
22 relevant factors and is there a point of intersection. Are
23 there things that I haven't thought about. And, you know,
24 can that help us identify the pool of relevant factors for
25 this particular substitution case.

1 And there actually may be factors that we add to
2 the list, that aren't even on the DTSC list, based on our
3 knowledge.

4 So, then do the alternatives introduce new or
5 different factors? Where do we expect those differences to
6 be and then, maybe we can focus on that subset. And I think
7 we gave some -- you gave some illustrations in the guidance
8 of that.

9 But then, when it gets to the data gaps, I think
10 first, before we even talk about data gaps, we have to know
11 about what data we need to inform our analysis. So, what
12 are the data needs. Because we don't need to know
13 everything but the relevant factors need to guide us to
14 those data needs. And we have to be thinking about how we
15 would use that information in decision making and that's
16 where the gaps come in.

17 You know, if we identify that we need inhalation
18 toxicity data, and that's not available, that's a
19 significant data gap and that's something that we'll have to
20 grapple with.

21 But I think, ultimately, before we go to the data
22 gaps -- like, because you can fill some data gaps but before
23 you do that, you have to define the needs.

24 Now, I'll just -- sure.

25 PANEL MEMBER SCHWARZMAN: Thank you. I'm a little

1 bit stuck in a circular reasoning about that, that maybe you
2 can pull me out of.

3 If we don't have a piece of information, how do we
4 know we need it, other than just saying, well, we need all
5 of these because they're all on the list?

6 PANEL MEMBER BAIER-ANDERSON: You know, there's
7 always going to -- in my view, we're never going to have
8 perfect information. We're never going to know everything.
9 We can't avoid every unintended consequence. We do the best
10 we can with our conceptual model, what we know in readily
11 available information.

12 And that kind of gets into the decision making.
13 You have to make some decisions but, really, those early
14 decisions are your hypothesis that you may modify when you
15 start collecting information.

16 So, I mean it's -- you can't let the perfect be
17 the enemy of the good and all those other platitudes, right,
18 you have to make some decisions and move on. But if you
19 have a structured and transparent way of doing that, and you
20 check yourself at key points in the process, you're going to
21 minimize those problems.

22 With DFE there are two ways -- Safer Choice,
23 sorry. There are two different programs. And I think the
24 Safer Choice Program, which is the product evaluation, that
25 is the program that in the initial development of criteria

1 was based on groups of chemicals, surfactants, solvents, et
2 cetera.

3 Yes, we narrowed down the list of relevant hazard
4 factors based on a subset of examples that, you know, we
5 brought together 10, 20 solvents and we looked at the
6 properties. And we tried to make some prioritization
7 decisions about what's most important about these types of
8 solvents. They weren't chlorinated solvents. It was, you
9 know, solvents. So, that was the process.

10 We're kind of moving away from that, looking at
11 the broader array of hazard properties. Because when you
12 start introducing new and different chemistries, you might
13 have a new and different set of hazard traits that are
14 important.

15 So, does that answer the DFE question?

16 PANEL CO-CHAIR MORAN: Yeah. Cal, before you pass
17 off the mic, you gave an example that maybe you could just
18 illuminate a little bit more.

19 You said, so if we identify inhalation as an
20 important end point and we have a -- or as an important data
21 gap. So, how do you decide that you want to know that
22 inhalation toxicity? What is it that causes your mental
23 process to get there?

24 PANEL MEMBER BAIER-ANDERSON: For me it would be
25 people are exposed via inhalation. It's a spray product or

1 it's, you know, volatile, or something about the chemistries
2 and the use patterns that in your scoping or conceptual
3 model kind of illustrates that this is an important pathway.

4 PANEL CO-CHAIR MORAN: Yeah, and so the difference
5 between a lot of AAs, people say these are important hazard
6 traits. What you just did is say why. And that's what DTSC
7 is going to need, both to help people say here's how you
8 approach this to say why, and then to make sure that those
9 whys, all of those things are there.

10 PANEL MEMBER BAIER-ANDERSON: Right. Right, it's
11 what information do you need to understand that chemical in
12 that product, how it's used.

13 PANEL CO-CHAIR MORAN: And you said, specifically,
14 how it's used and those exposure pathways.

15 PANEL MEMBER BAIER-ANDERSON: Right. And physical
16 chemical properties influence that as well, so it's --

17 PANEL CO-CHAIR MORAN: It's a conceptual model --

18 PANEL MEMBER BAIER-ANDERSON: Yes.

19 PANEL CO-CHAIR MORAN: -- informed by some basic
20 information about the chemical.

21 PANEL MEMBER BAIER-ANDERSON: Yep.

22 PANEL CO-CHAIR MORAN: Okay. And I want to thank
23 Ann for her patience and Tim, for his.

24 PANEL MEMBER BLAKE: I'm going to see if I can be
25 a little more articulate this time around. I think we are

1 stuck in this issue of being halfway through our thinking
2 and trying to formulate advice. So, I'm going to combine a
3 couple of things.

4 I think it's fascinating to watch how we're
5 thinking about relevant factors, data needs, and data gaps,
6 and decision making, and all of these things are sort of
7 this iterative circle. And as we think deeper into it,
8 we're starting to see the interrelationship of those.

9 And so, you identify initial data needs and then
10 you go back and see if you have a data gap for a relevant
11 factor, and then you go back and go around again.

12 And so, I think in answer to Meg's question it's
13 going to have to be an iterative process of how you identify
14 what those are.

15 PANEL CO-CHAIR MORAN: So, I have a suggestion
16 for -- I'm going to take us up a level and go to the why.
17 So, why are we doing this at all? Why are we building this
18 structure?

19 Because we've been trying -- we want to avoid
20 regrettable substitutions. And why, because we have a long
21 history of them. I have a slide that's the Rhode's Gallery
22 of regrettable substitutions.

23 And I was challenged the UCLA Decision Workshop
24 that we had last year. A decision analysis person, who
25 doesn't work in this field said, when you've made mistakes

1 in the past, all of us collectively, what kind of mistakes
2 have they been. And so, I think that's going to help us
3 around the relevant factors. And Kelly was part of that
4 conversation. And it really kind of set off something in my
5 mind.

6 So, in my Rhode's Gallery I talk about we know
7 well, we can recite the litany of what kinds of mistakes.
8 We shift from one health end point to another. We shift
9 from one environmental medium to another. We shift from
10 environmental medium to workers. Or, shift at a different
11 lifecycle impact. So, we know what those mistakes are. So,
12 I think we can say, for the different products, for the
13 mistakes we've made in the past, we can capture those
14 lessons and say these are the relevant factors with this
15 type of product.

16 And so I'm kind of stuck now, on this thing that I
17 just created in my head, is the default relevant factor
18 scenario for different types of product. When we've had
19 this type of product, we've had this kind of regrettable
20 substitution and this type of shift. So, what's the
21 relevant factor that would have prevented us from making
22 that mistake.

23 I don't know if that's helpful or not.

24 PANEL CO-CHAIR MORAN: Very helpful, Ann, thank
25 you.

1 Tim, you're up.

2 PANEL MEMBER MALLOY: Wow, and I may want to come
3 look at that list. This is really -- it's got my head
4 going, thinking about what people said.

5 I break it into -- it sounds to me like there's a
6 few questions. So, real quickly, one of them is -- one
7 issue seems to be there's a lot of factors to think about.
8 All right, meaning overall there's 90,000 traits or
9 whatever, there's like soil sealing, there's all this other
10 stuff.

11 And that, I think, that ship's sailed. You wrote
12 a set of regulations that list all these things as factors,
13 and you've got regulations that say you have to select which
14 ones to evaluate.

15 So, my reading of the regs is how many do you have
16 to think about? You've got to think about all of them.
17 Now, what does it mean to think about something? That, I
18 think, is where you've got some discretion. So, you have to
19 consider available quantitative and available qualitative
20 data.

21 And to me, qualitative would kind of lead into
22 expert judgment. So, you've got a toxicologist, a soil
23 scientist, all the people that are necessary to make these
24 judgments, you have to ask them should -- do you think this
25 particular factor is material?

1 And this gets me back to this question about
2 material. It's not as if, in any AA, somebody should be
3 looking at all 90 hazard traits and all the other factors.
4 You're only looking at the material ones. So, yes, you have
5 to think about whether any of those are material, and that's
6 why I think it's important to define material. But the way
7 you get there is, you know, if there is quantitative
8 information, you're going to use that. If there's not,
9 you're going to talk to your expert you're going to
10 identify.

11 Now, that expert judgment, I think, is not a
12 guess. It's got to be based on their judgment based on the
13 information that's available. So, what do they know about
14 the soil, about the structure of the chemical, all this kind
15 of stuff that then they would have to make a call about
16 whether it looks like this is something that might even
17 matter.

18 And then once they do, and my guess is a lot of
19 things are just going to drop out when you talk to people.
20 They're going to say, no, that's not going to matter. But
21 if it looks like it could possibly matter, then they're
22 going to have to answer the question of is it material.

23 Right, so not -- just because a factor might be
24 potentially relevant, relevant is defined very specifically
25 to mean something very big. Not something that could be

1 affected, but something that's affected in a big way that
2 makes a difference. And I think that's how the regs are
3 written and you need to go ahead and do that.

4 How you get there, I think, has got to be
5 iterative, especially for the first three. So, the
6 company's experts make some judgments. They look if there's
7 quantitative, they look at qualitative. They say, these are
8 the ones that could matter, these are the ones that really
9 matter. They talk to DTSC and they get feedback, and
10 there's a conversation. And then over time, I think certain
11 things will kind of institutionalize. But in the beginning
12 there's going to be a lot of this back and forth.

13 And I think that's the way the regs are written,
14 you've got to dance with the one you brought to the party,
15 and this is the party that we have.

16 So, and honestly, I think Green Screen's not good
17 enough. It's got some hazard traits. Some of them it
18 doesn't do so well and some of it does well, but it doesn't
19 cover all of the ones that the regs require you to consider.

20 So, I think at some point, yeah, maybe Green
21 Screen's good for those for making a call. But then for the
22 others, somebody's got to answer the question of could it
23 matter? And if the answer's yes, how much does it matter?
24 Is it material?

25 Lastly, on the data gap thing, I would just say on

1 the data gap that this is another one where we're left with
2 the regs that we have. We may not like it. And the statute
3 we have, the statute says available information. So, you
4 know, if there's a data gap for here, what you do with it is
5 nothing. You can't require somebody to generate data. You
6 can make some judgments about what you think the impact of
7 that factor would be and that would be back to expert
8 judgment, and so on, and so forth.

9 But I don't see at the screening level where
10 there's much opportunity to do more than using quantitative
11 measures, qualitative, maybe somebody does some modeling, so
12 on and so forth. But, you know, I think that's kind of like
13 where we're left.

14 And I'll just throw in one last thing, which is --
15 this is an irrelevant point, but Helen had mentioned she
16 thought like if there's a lot of factors, and the company
17 says they view the factors in one way and that, you know,
18 carcinogenicity is less important than eco tox, and you
19 disagree with it, as an agency you're in a bad place.

20 I don't know if that's really true. It really
21 depends on what a court says the burden of proof is. My
22 guess is the statute says the Department makes a
23 determination on regulatory response based on how best to
24 limit exposure, reduce harm. I forget exactly what the
25 words are. But the call is for the Department to make their

1 judgment about how best to do that.

2 And then, if there's disagreement about it, my
3 guess is the court's going to give the Department deference
4 in making those judgments.

5 So, what I would encourage the Department to do is
6 like if you disagree with what a company's saying, you know,
7 work with them, try and work it out. But if you can't reach
8 an agreement, then I think the agency ought to go with what
9 they think is the best result and, you know, take advantage
10 of the deference that the courts are likely to afford them.

11 PANEL CO-CHAIR MORAN: So, Tim just did a really
12 nice job summing up, I think, where we were. So, he was
13 basically saying that the regs require thinking about all
14 the relevant factors that are listed, but not necessarily
15 using all of those.

16 And I think Helen did a really great job of giving
17 a couple of points illustrating that all the relevant
18 factors, Ken mentioned this, too, trying to use more is not
19 necessarily better. So, the right ones are really
20 important.

21 And then Ken says -- so then Tim said, well, we
22 need to think about all of them. So, what does "think
23 about" mean. And he used the words "expert judgment".
24 Yeah, I see Helen, so she does the same thing I do when I
25 hear "expert judgement", which is kind of wait a little --

1 you know, my eyes kind of move a little bit.

2 But expert judgment is based on specific, usually
3 it's heuristics. It's things that we just make assumptions
4 on.

5 What is a challenge here is we're asking people to
6 not just say expert judgment says X, but to actually show
7 the work that led to that judgment. And that's where
8 several folks have mentioned the use of tools to do that.
9 The important tools we've talked about are conceptual models
10 so that we understand -- because exposures are so important
11 for that.

12 And I'd also throw in that sometimes numeric
13 models. So, for example, the Waste Water Treatment Plant
14 Discharge Model is super helpful in figuring out where
15 something partitions and it's just easy to throw that in
16 there, and get it out the other side. But in any case, to
17 explain that expert judgment.

18 And then, again, models are important for deciding
19 what's material. So, it's not just is this a factor that we
20 think matters, it's coming back and saying is there a
21 material difference among those things.

22 And that to do that material difference, that
23 really must be informed by the use and the lifecycle. So,
24 knowledge of how that is used and what the lifecycle is
25 because, again, that helps us pick out among all of those

1 which ones are relevant.

2 And when we get to relevant, the other important
3 thing that Tim mentioned is relevant to the decision. So,
4 that's super key. Because a factor may or may not be
5 materially different, but what are the most important parts
6 in the decision making.

7 And now, I'm going to toss it to Ken.

8 PANEL MEMBER ZARKER: Yeah, excellent summary.
9 The only thing I would add is just the thought that DTSC
10 staff will have gained a lot of knowledge and experience,
11 such that they'll be, hopefully, in a position to be able to
12 provide technical assistance to the practitioner community
13 because it's just a central point where things will be
14 coming in. So, that was a thought.

15 And how does this collaborative model work? I
16 hear a lot about compliance. But, typically, my experience
17 is that the staff will want to, you know, support producing
18 a good product through assistance.

19 PANEL CO-CHAIR MORAN: So, basically, you're
20 thinking that on a product-specific basis that the
21 Department would be able to offer some insights and
22 technical support for the folks who are approaching those
23 AAs.

24 Does anyone else want to weigh in on -- I tried to
25 wrap up the discussion there. Ken and Nancy. Nancy, you

1 first.

2 MS. OSTROM: I just wanted to clarify that for
3 relevance it's material impact and material difference.
4 Both of them have to be present in order for it to be
5 relevant.

6 So, even though something maybe has a huge impact,
7 if all of the alternatives have the huge impact, it's not
8 going to be a relevant factor.

9 PANEL CO-CHAIR MORAN: Thank you. Ken.

10 PANEL MEMBER GEISER: Yeah, I'd just like to back
11 to the exchange between Mike and Karl, though, because I
12 think there was something that to the extent that when DTSC
13 does it's analysis, and lays out what the product
14 chemical -- the priority product chemical -- chemical
15 product is, that DTSC does state what they believe are the
16 relevant factors and give the justification.

17 And then, deviants from that becomes a way of
18 looking at firms' say as something more than what DTSC saw.
19 But I'm just trying to think how you actually chronicalize
20 that idea such that there is a standard against what you're
21 working, and the guidance you give, that DTSC gives that
22 becomes for the baseline. And then something, what else --
23 why are you adding more factors is what you're trying to
24 present.

25 PANEL CO-CHAIR MORAN: Ken, when you say that are

1 you thinking beyond what's in the product profile, which
2 usually focuses on the specific cause of the listing, but
3 not necessarily all of the things that would be relevant.
4 Is that what you're thinking?

5 PANEL MEMBER GEISER: Well, I know it's the first,
6 right, it is the reasons for the selection. But I'm sort of
7 thinking that it would be helpful if in that presentation
8 DTSC were saying these are the factors that we think are
9 relevant. Tell us why there are more. So, there's not a
10 debate about a bunch of them. Or, there could be, but at
11 least there's a standard.

12 I'm just concerned that it's so wide open that
13 everybody's got a chance to list any relevant factors and
14 you get tied up in snarls of relevant factors going back and
15 forth. And at the end of the stage one, where it's a
16 review, what's in, what's out, and it's going back and
17 forth, and it's months of debate over something that should
18 be that -- that shouldn't be left that open and flexible.

19 And I'm not against flexibility, believe me. But
20 it seems to me there should be something from the agency
21 that gives a basis for shaping those.

22 PANEL CO-CHAIR MORAN: All right, Meg and Tim, and
23 then I'll be looking to, hopefully, wrap this up.

24 PANEL MEMBER SCHWARZMAN: This is a very short
25 point, just picking up on this idea because I'm intrigued by

1 what Mike initially mentioned that the Department would --
2 and we talked about it last meeting, about the Department
3 providing a conceptual model with its materials about the
4 priority product. And this is sort of going a step farther
5 and saying based on this conceptual model, this is what we
6 think the relevant factors are.

7 The thing that it doesn't do for me, the place
8 where I'm hanging up is what if there's a factor that's very
9 relevant for some alternative? And it becomes relevant
10 because of the second factor that Nancy mentioned, that it's
11 different from the existing technology?

12 So, that's -- it doesn't mean it can't move
13 forward, but we just have to be very aware of what it's
14 accomplishing and what it's not accomplishing.

15 PANEL CO-CHAIR MORAN: Exactly. Tim, are you
16 still in? Exactly that, right.

17 Does anybody have any burning thought they want to
18 add to this conference? Seeing none, I want to say thank
19 you.

20 And we're going to move on to talking about
21 decision making and I think -- so, we talked with the staff
22 about this at lunchtime and they asked us to ask you all,
23 seeing as you haven't seen the decision making draft
24 chapter, yet, but this is a topic we've been wanting to talk
25 about for a while. And we're taking this ahead of the data

1 gaps because a couple of the panelists are going to need to
2 leave, probably, before we finish the discussion of the
3 third item.

4 I'm expecting a break in maybe half an hour, maybe
5 a little longer, so I don't know if we'll complete this
6 topic before the break or not.

7 But the question the staff really want to know is
8 what further guidance can be included to facilitate decision
9 making and improve the guide's clarity?

10 And there was a little bit of discussion of
11 decision making on page 61, that's really the main place.
12 It was kind of wrapped into a few other places.

13 And I'm hoping that you all can help the staff
14 think about how it's approaching decision making in the
15 guidance. So, we've talked a little bit about various
16 things, and everyone's arguing about this is too hard and
17 that's too hard.

18 One of Tim's colleagues, Virginia Zaunbrecher,
19 gave an awesome presentation on the use of an MCDA tool at
20 SETAC. And I'm hoping that Tim might be able, if he's able
21 to say a few words about that. Because, although you all
22 weren't there, what was really amazing about it was that it
23 was an online tool. She was able to show the folks at the
24 CTAC conference a specific example having to do with marine
25 anti-fouling paint and how the tool didn't force the

1 decision, but it allowed the examination of which relevant
2 factors were most contributing to the decision, which data
3 gaps and uncertainties were really driving the relative
4 selection of the products. And I was surprised at how easy
5 the tool was to use.

6 So, Tim, I don't know if you want to kick off by
7 mentioning that or something else. But I know you and Julie
8 are both interested in this topic, so I want to let you two
9 start us off.

10 PANEL MEMBER MALLOY: I'm not sure what to say
11 about it because I guess it ties into a point I wanted to
12 make about this, which was maybe I've gotten like a little
13 bit of a reputation of wanting to do this complicated MCDA
14 stuff, based on prior meetings.

15 And I think the point we're trying to make is that
16 MCDA, multi-criteria decision analysis, is actually a whole
17 set of different tools that you can use for making decisions
18 where you've got more than one attribute that you're looking
19 at. And some of them are really simple and some of them are
20 hugely complicated.

21 So, and I'll give you an example. The P2 Tool,
22 the Ture P2 Tool that's used as an example in here for doing
23 some hazards, that is a multi-criteria decision analysis
24 tool. In fact, it fits exactly in the definition of MCDA
25 that's in the regs right now, where it scores, applies the

1 weight, multiplies, adds them together. It is an MCDA tool.

2 And yet, if somebody were to ask folks who drafted
3 this, about it, I bet they would say it's not a complex,
4 time-consuming thing, right. It's actually very helpful.
5 So, I think that's the point that we're trying to make is
6 that -- and this goes more, I think, to those later
7 chapters.

8 But the tool that Virginia talked about at SETAC
9 was a probabilistic-based tool that allows you -- when you
10 have a data gap, it allows you to use a distribution for
11 scoring. And what it does is, it doesn't come out with --
12 it doesn't use the distribution and then come out with
13 here's the best alternative.

14 Instead what it does is it gives you what's called
15 an -- this isn't sounding simple, is it. It gives you an
16 acceptability index. Actually, what it says is, hey, if you
17 have a range of performance from this point to that point,
18 you know, and you can do that for different attributes, it
19 says 70 percent of the time this alternative would come out
20 on top and 30 percent of the time it might come in second.
21 And it looks at all of them and it basically says, it kind
22 of gives you a sense of just how -- over the range of
23 possibilities, how often this one would come out and this
24 one wouldn't. So, what it allows you to do is kind of --
25 it's a tool for conversation, right, that's what it was

1 about.

2 The other thing that we learned by doing this
3 study was you've got to be really careful with it because,
4 you know, depending on the distribution you use or what your
5 original attribute shows, you could skew your decision one
6 point or another just because of the way the tool is.

7 So, I'm not sure if I'm helping what you wanted.
8 But what it allowed you to do is play around with data gaps,
9 but do it in a way that was iterative and conducive to
10 having a conversation about what the outcome might be or
11 should be, as opposed to trying to direct people.

12 So, I don't know, is that what you were looking
13 for? I wasn't really prepared to talk about --

14 PANEL CO-CHAIR MORAN: Yeah, I think that what I
15 was hoping you to say, that you did, I think, in there, was
16 that decision making has to do not with just the final
17 decision, and not even just with the phase one decision,
18 where we're selecting the alternatives to move forward with,
19 but it also embodies right in it the ideas of data gaps, and
20 uncertainties, and priorities.

21 PANEL MEMBER MALLOY: Yeah.

22 PANEL CO-CHAIR MORAN: And that's something that I
23 think isn't, I think, enough appreciated in the dialogue
24 we've had to date and clear enough here. And so, I think
25 you articulated that pretty well.

1 PANEL MEMBER MALLOY: So, okay. So, I have
2 comments other than that, but I don't want to like --

3 PANEL CO-CHAIR MORAN: Please, go ahead. This is
4 the time. I really wanted to offer you and Julie -- no, no,
5 Cal, you can go next.

6 PANEL MEMBER MALLOY: All right.

7 PANEL CO-CHAIR MORAN: But I want to offer you and
8 Julie a chance to have a little chat about this and then
9 we'll go to Cal afterwards.

10 PANEL MEMBER MALLOY: Okay, and then I'll put my
11 flag up for my other point.

12 PANEL CO-CHAIR MORAN: Okay. Julie, you want
13 to --

14 PANEL MEMBER SCHOENUNG: Well, I'm kind of stuck
15 in the formulating my thoughts stage, so I may come back a
16 second time.

17 But I teach this a lot in my classes and we often
18 talk about the different tools. Because I'm teaching
19 engineering students who know zero about tox, hazard, risk,
20 so first we do that.

21 But then I'm trying to teach them how to use
22 things, like Green Screen, or lifecycle assessment, and
23 USEtox, and other tools that exist to try to facilitate
24 decision making.

25 And one of the main things that we get stuck on is

1 that at least the engineering world really likes numbers.
2 And so, they're going to be always moving towards the tools
3 that give them numerical scores.

4 And we talked a little bit earlier about, you
5 know, well, how do you distinguish what's a significant
6 difference and that's a big problem with when you get these
7 numerical scores. So, if you're using an LCA tool that
8 normalized everything between zero and one, and one is
9 worse, how far toward zero do you need to be? You know, is
10 two a -- out of a hundred, is two a good score or is 98 a
11 good score. And so, you know, we get caught in that. But
12 the engineers will just automatically pick the ones that
13 land at the bottom because that's -- they don't have enough
14 background.

15 So, then we talk about things like Green Screen,
16 where you can at least see, it's very transparent, and you
17 can systematically evaluate, well, what if instead of we
18 assume that it landed in this category, the data instead put
19 us in this category, does that change our priority of the
20 substances? Not the priority of the factors, but our
21 alternatives.

22 And so, we discuss those tradeoffs. And so, you
23 know, the places where, in Green Screen, the benchmark ones
24 highlight the CMRs. And so, if you've got a carcinogen in
25 there, you know, that pulls it up into a certain category.

1 But if you do USEtox, or Eco-indicator, or any of the LCA
2 tools it gets diluted because you've done the more factors,
3 you've done the weighting factors. So, we talk about that.

4 And so, I think, you know, there's not one right
5 answer is where I always land. Is that the value is going
6 through the exercise of looking at different tools, looking
7 at different methods. What did we learn? Well, we learned
8 that this alternative has a carcinogen in it. But then we
9 learned that this one has, you know, really bad aquatic tox,
10 or we learned that these three actually have really high
11 scores in the lifecycle assessment.

12 And then, you need to go back and figure out why
13 they're different. And say, well, okay, what actually led
14 this one to come out as the worst on this tool, and what led
15 this one to come out worst on that tool. And so, there's
16 some value in having multiple tools, I guess is where I
17 always land is that one tool is never the right solution.

18 Transparency is important and systematic
19 evaluation of those uncertainties and assumptions that
20 you're making, as well as the lessons you learned in the
21 data that support it, without asking these people to become
22 experts in toxicology, and exposure assessment, and public
23 health assessment. So, that's a very difficult balance.

24 But somewhere in here, we're not asking people to
25 actually go back into all the tox evidence that supports why

1 GHS puts it in this category or that category, but how to
2 use GHS data, how to use DFE data, how to use, you know,
3 SDS, you know, all these different traits. And then try, as
4 Helen said, you know, if there's people out there who have
5 come up with judgment protocols, like Green Screen, so
6 that's -- you know, I often tell my students, stop, don't do
7 the benchmarks. Let's just do the hazards and then you tell
8 me what you think you would pick.

9 And they go through it and they kind of try to do
10 it. And the I go, now, do the benchmark. Do you get the
11 same thing? Do you agree? Do you now agree? How
12 comfortable are you with using it? Not using it?

13 And so, sometimes it works and sometimes they
14 really just don't have the background and they're very eager
15 to grab that tool that the experts have created.

16 So, I think my bottom line and I saw Nancy taking
17 some notes is, you know, multiple tools. Robustness we're
18 looking for. We're trying to get the same answer regardless
19 of which tool.

20 And so, to Tim's comment about the statistical
21 analysis and the Monte Carlo simulation approaches are
22 wonderful ways of saying, you know, we almost always show
23 that these three are the worst ones, and these three are the
24 best ones, regardless of what assumptions we make. And
25 that's a lot. That's powerful, I think, to do that.

1 PANEL CO-CHAIR MORAN: Wow, thank you, Julie, that
2 was really useful.

3 Don and then I've got -- do you want to come back
4 around, Cal, after that or do you want to go before? Don
5 looked ready to talk so --

6 PANEL MEMBER VERSTEEG: So, I mentioned, you know,
7 the decision analysis in my comments, so I wanted to make a
8 quick plea here for exposure analysis. You know, as you go
9 through the red, yellow, green chart, you know, you may get
10 an end point that lights up as red or very red. And you may
11 come back for one alternative, you may come back to select
12 that alternative as your preferred option in the end simply
13 because there's no exposure for that particular end point.

14 If you look at aquatic toxicity, which I'm most
15 familiar with, you frequently use one milligram per liter as
16 our cutoff between not very toxic and pretty toxic. One
17 milligram per liter is not a very good benchmark to use. So
18 some, you know, have used .1 milligram per liter.

19 Well, if you look at the 80,000 chemicals in
20 commerce, or whatever you think is the right number in
21 commerce, a heck of a lot of them fall below .1 milligrams
22 per liter on an acute basis. So, even that's not such a
23 good one.

24 So, this whole red, yellow, green idea is
25 meaningless unless you can factor in exposure in some

1 meaningful way.

2 So, in the decision analysis you're allowed to
3 establish a hierarchy of factors that you then are duty-
4 bound to come back and assess. And my -- what I'm worried
5 about is that multiple companies will have a different
6 hierarchy and will make different decisions on the same
7 group of alternatives and come out in different places.

8 If that's okay, then I guess we're fine. But it
9 just doesn't seem to make sense, especially when you go and
10 try to sell that, then, to the public, and tell the public
11 why this company gets to pick the original chemical, this
12 company went to alternative A and this one went to
13 alternative B.

14 So, any additional guidance you can provide to
15 companies on how you're going to make decisions, the role of
16 exposure or the role of other factors in making these
17 decisions would be helpful. Thank you.

18 PANEL CO-CHAIR MORAN: Before we move on, I just
19 want to ask the staff to comment on that last point about
20 values and decision making.

21 I recall that there's a set of the regulations
22 that actually establish some values for the State in terms
23 of its regulatory response. Do those apply at all to the
24 evaluation of AAs or is this a question that can't be
25 answered right now?

1 MS. MUNIZ: In terms of decision making, the way
2 the regs are written is that it does allow responsible
3 entities to decide which option or which alternative they're
4 selecting. So, yes, they may collect different data or go
5 out and do -- collect the varying data gaps or they may not.

6 And when we get to regulatory responses is where
7 the Department makes the determination whether those -- that
8 data is necessary to make a final determination, and we may
9 impose the regulatory response of collecting the data, or we
10 may impose more regulatory responses to address those data
11 gaps.

12 PANEL CO-CHAIR MORAN: Karl, you want to add?

13 MR. PALMER: Yeah, as Hortensia said, the checks
14 and balances, if you will, are in the regulatory response,
15 in Section 69506(b), which speaks to what we call inherent
16 protection preference.

17 And in that section we say that when we issue a
18 regulatory response that we shall give preference to
19 regulatory responses providing the greatest level of
20 inherent protection. And that for these purposes, inherent
21 protection refers to avoidance or reduction of adverse
22 impact exposures, adverse end of life, et cetera.

23 And so there is a, if you will, check and balance
24 there. That people might have a different recommendation
25 and they might have a different situation so -- because

1 let's not discount the fact that the same product might have
2 different impacts in different -- if it was manufactured in
3 a different place, for example, impact on water.

4 So, there are checks and balances in there, but
5 they don't come on our part until we get to the part for the
6 regulatory response.

7 PANEL CO-CHAIR MORAN: That's for that diversion.

8 I've got Cal, Tim and Helen. And I want to thank
9 Nathan for so kindly passing the mic around.

10 PANEL MEMBER BAIER-ANDERSON: Thank you. So, just
11 a couple comments. We've talked about how we're making --
12 the need to make decisions throughout this process. So it's
13 not these decisions aren't final, they're almost like
14 hypotheses that we're setting up and testing, like as we
15 collect more information and iterate.

16 But it might be useful for DTSC to highlight the
17 different types of decisions that can be made at the
18 different stages of working through the process.

19 And then, I'd just like to reinforce what Julie
20 said, and others have said, that the tools, you know, they
21 don't make decisions for you. They provide information that
22 can help you systematize your thinking. And if the tools
23 are really good, they can help you transparently present
24 different options. I think we get into trouble when we
25 think that the tools give us an answer.

1 And I do want to point out that, in my experience,
2 there have been some organizations that really -- that press
3 for that flag versus white, pass versus fail. And that is
4 really unhelpful because it forces you into a corner. And
5 we find this in the purchasing community, as well.

6 You know, so for products have to be judged by
7 pass/fail criteria and nothing's pass/fail, nothing's black
8 and white. And it really, it pushes you into a corner where
9 you have these kind of false choices, and it makes you kind
10 of overstate, perhaps, the positive or negative features.
11 And we need to avoid that.

12 PANEL CO-CHAIR MORAN: Thanks, Cal.

13 You want to go, Helen?

14 PANEL MEMBER HOLDER: Yeah.

15 PANEL CO-CHAIR MORAN: Helen, are you ready?
16 Don't forget to really eat that mic.

17 PANEL MEMBER HOLDER: So, I actually kind of had a
18 request, kind of related to this decision making. Which is
19 that, back to Julie's comment that there's no right answer.
20 That's generally been kind of what everybody finds is that
21 you can -- is that, eventually, the rubber has to hit the
22 road and you have to make a call.

23 And because nothing is going to be perfectly safe,
24 there's usually going to be some increase and some factor
25 that you then say that you find acceptable under these

1 conditions.

2 So, in the guide it would be really helpful take
3 that on head on, and put some language around it, or
4 guidance, or something to say, eventually you'll have to
5 pick something. And it probably isn't going to be perfect
6 or better across the board. And here's what you do, here's
7 how you justify it, or here's the burden of proof, or
8 whatever it is you're looking for to say.

9 So, the case in point that comes up, we as the
10 example, is flame retardants. So, we got out of brominated
11 flame retardants and brought in certain phosphorous flame
12 retardants and they do have a certain level of aquatic
13 toxicity. Then we did a lot of work on the ones that we
14 accept to make sure that in the cases that we use them, in
15 the ways that we use them that that's an acceptable
16 tradeoff. And, you know, we have a lot to back that up.

17 But that, I think, is something that would be very
18 helpful because they can't dodge forever. You know, when
19 they submit it there's going to be a we chose to do this.

20 And from an industry perspective, I'll tell you
21 one of the things that we don't want to do is we don't want
22 to sign up for some amount of liability. So, I'll tell you,
23 there's going to be a tremendous reluctance to say, to
24 acknowledge any sort of downside to an alternative, even if
25 that means maybe not looking as closely as you might want

1 to. Because if you acknowledge it, then you're taking on
2 some sort of liability and there's going to be -- no one is
3 going to do that. You know, they're going to find ways of
4 not having that be in there.

5 And it's not even necessarily trying to be bad,
6 they just don't -- especially if they have decided that it's
7 not important or that it's acceptable, no one's going to put
8 that into a report to say, yeah, we're going to take
9 responsibility for all of this aquatic toxicity that's now
10 going to happen.

11 Right, so we have to find some way of letting the
12 folks who are doing the analysis and making the decisions
13 make the decisions, and then have mitigating factors, or
14 mitigation, or something, or monitoring, or ways that don't
15 necessarily put that company in jeopardy for trying to do
16 the right thing. And that's basically what you want to make
17 sure you don't set out the case where people start trying to
18 dodge, as opposed to do the right thing.

19 PANEL CO-CHAIR MORAN: So, can you be any more
20 specific as to how DTSC might do that? I mean, they can't
21 give anybody a legal pass. So, I think what you're saying
22 is really important, but if I were DTSC, listening to that,
23 I would be saying, well, how would I do that.

24 PANEL MEMBER HOLDER: Maybe it's around the
25 language of how do you decide that something is an

1 acceptable tradeoff. You know, back to what's important.
2 So, in the case of the aquatic toxicity, and that's just an
3 example, you can show that at the end of life, you know, we
4 have data that show that it doesn't enter the ecosystem in
5 most end-of-life scenarios. And that become sufficient to
6 shield us from having to then take on any -- or have to say,
7 oh, everything that you might find, phosphorous in the
8 waterways, now becomes our fault. No, it's not, right.
9 Because, of course, that's not the source of phosphorous in
10 the water.

11 Anyway, so it's like maybe it's giving examples
12 like that to say this is how you show a tradeoff. This is
13 an example of one that might be considered acceptable and
14 here's the level of proof. And maybe it's just an example
15 to show how to do that.

16 But otherwise, I am a little concerned that even
17 well-meaning people won't be able to share all of the
18 information that they thought because they're going to be
19 concerned about the repercussions of sharing it.

20 PANEL CO-CHAIR MORAN: Thank you, Helen, very
21 much.

22 So, we're at Tim and then Ken.

23 PANEL MEMBER MALLOY: Thank you, just a couple of
24 things. I wanted to echo this notion that Cal brought up,
25 and a couple of other people, there's a difference between

1 analysis and deliberation. So, these tools that we're all
2 talking about go on the end of analysis. But the
3 deliberative aspect, that is what do you do with the output
4 from the tools and what do you present in your final report,
5 that's got to be a person or people doing it, and explaining
6 how they came to the decision they did based on the analysis
7 that they've done.

8 The other thing I just wanted to say is I liked
9 Julie's point about multiple tools are good. The caveat I
10 would say is it seems to me that what the guidance ought to
11 do is give people the freedom to select a tool. They
12 shouldn't be bound to use, necessarily, one tool or another.
13 But they should explain why that -- and I think this is what
14 the regs say, explain why that tool's good and then explain
15 how that tool, whatever they ended up with, and the tool
16 could be something as simple as a set of heuristics. You
17 know, simple decision rules. It could be an online decision
18 tool, whatever. But it should justify or explain the
19 deliberation and the ultimate thing they came up with.

20 The main point I wanted to raise and I don't know
21 if this falls -- and so, you'll tell me stop, if you want me
22 to. But I just, when I read the screening provision, I
23 agree with you that there's decisions all through this. And
24 so that last chapter would be very helpful if it talks about
25 the different types of decisions that have to be made and

1 what might be a useful way to do kind of like -- you know,
2 like picking relevant factors is decision making. But
3 that's going to be a different way of making decisions than
4 screening and that should be different than your final
5 tradeoff, if you end up doing one.

6 The screening, the way it's written now, though,
7 to me seems to merge stage one with stage two. Because when
8 I look at the regs in stage one -- now, you know, we might
9 disagree with the way the regs are written, should there be
10 a stage one or a stage two. You know, I'm not, myself,
11 necessarily a huge fan of stage one and stage two, but it's
12 there.

13 And the way I read stage one was it was more about
14 de-selecting. It was more about saying -- like if you look
15 at it, you'd look at all these relevant factors and then it
16 says, and then you eliminate the -- you eliminate something
17 if it's going to have potential to pose adverse impacts
18 equal to or greater than, right. So, that's not tradeoff.
19 That's kind of you've got a threshold, it's a bad actor,
20 however we define it, and it gets knocked out because of
21 that, right.

22 Maybe there's some tradeoff going on because
23 there's lots of adverse impacts, so it could be better on
24 one and less on another. But I think that's kind of in the
25 weeds, right. But to me, that read like a de-selection.

1 And then you go down and it says, now, look at the
2 other -- you can look at the other factors that are in
3 695056, which are the rest of the relevant factors, economic
4 impact -- or not economic -- but economics and performance,
5 blah, blah, blah, right. And that says you can eliminate an
6 alternative from further consideration based on the
7 additional factors, right.

8 So, to me, that's not reading like, okay, now we
9 do the tradeoff between, you know, the human health and
10 environmental factors traded off against those other
11 additional factors. This is set up as kind of a series of
12 thresholds that if an alternative doesn't hit that
13 threshold, it gets knocked out.

14 And then the tradeoff seems to come in the second
15 stage where the ones that -- you know, the ones that get
16 past those gates, now you're going to get more information
17 about and you're going to compare them across everything.

18 So, I think that's the way this is structured, but
19 the way the guidance is written, it's written as if you
20 could do the whole thing there. So I wonder, like what's
21 the point of stage one, if stage one is doing all the
22 tradeoff.

23 So, and there's a difference between de-selection
24 and tradeoffs that I think should -- if that's what -- if
25 people agree that's what the regs are trying to do, then

1 this section would look very different, I think.

2 PANEL CO-CHAIR MORAN: Thanks. Do, the staff want
3 to say anything here? Ken?

4 PANEL MEMBER GEISER: Yeah, I think this is a very
5 good discussion, but I'm having a problem with it, you know,
6 in the way that I was stumbling earlier. And that is, sort
7 of there's a way I want to think about this that has to do
8 with me as a GRSP member coming and sitting here, kind of
9 thinking about how the right way to do this is that sort of
10 cuts all this.

11 And every time I do that, I start thinking about
12 this isn't for me. This is for somebody who's in a firm,
13 trying to make a set of choices about how to handle that
14 responsibility of creating this alternative assessment.
15 And, also, this person in DTSC who's going to receive this
16 document and is going to try to make a decision about that.

17 But behind that is, then, a piece that I've just
18 completely forgotten because it's been a long since I've
19 read the regs on this. And what is it that DTSC actually
20 does once they get all of these alternative assessments?

21 Because in the end, it's not so -- at one level it
22 may be really valuable to the firm, in the sense that they
23 really learn a lot about the chemical that they -- that has
24 been identified, and the alternatives to it, which may in
25 fact get them to change some behavior, which is good.

1 But what it really adds up to is waiting for the
2 response, the government response to it. And it's setting
3 up the situation such that DTSC can make an appropriate
4 response to all of this.

5 The decision that's really the most -- if that's
6 the case, then the decision that's most important is what
7 does DTSC do in that decision, and what data comes in from
8 these alternative assessments that sets DTSC up to do the
9 right government response. That that is really important.

10 Now, I can't remember, and maybe somebody needs to
11 remind me, does DTSC do one government response to all of
12 these things or does it -- and I think that's wrong. I
13 think it does it to each firm and it can be different for
14 each firm. But DTSC is certainly not doing that without
15 looking at what other firms chose.

16 So, they are doing some assessment across the
17 firms to learn various things. So, if one firm says one
18 thing and another firm says another thing, they just -- they
19 are trying to deal with all of that.

20 So, that's -- what I'm trying to say is, as a GRSP
21 member, I'm trying to remember that this reg is not written
22 for me, as an idealized person, who's just having a good
23 time thinking about what the right way to do this is. It's
24 about -- it's being written for people who have a strategy
25 and are trying -- and different people, who have different

1 strategies, to get them to perform the best that they can
2 under the regs.

3 So, using these various tools, like Tim, and
4 others, and Julie, and all have developed, I think is really
5 valuable. And the fact that all of that enriches the amount
6 of information that's available, and I agree with Cal that,
7 you know, reducing this down to very simplistic, no and yes
8 things, is not very interesting.

9 What's really interesting is to see the way all
10 that data falls out, either on the Green Screen, or on a
11 matrix, or whatever it is, and that that all becomes
12 information that is presented to DTSC, such that DTSC can
13 actually make a reasonable government response.

14 Am I right there, that that's -- that is where
15 we're aiming for?

16 Because, again, I want to point out, those firms
17 that decided, took a look at those chemicals, the chemical
18 of concern and said, we've got an alternative that works
19 much better, they're out of the game already. So, the only
20 ones that are left are the ones that are going to end up
21 with having to deal with the government response.

22 PANEL CO-CHAIR MORAN: Staff want to say something
23 here?

24 DEPUTY DIRECTOR WILLIAMS: That was all very
25 nicely stated and it reflects -- it reflects the process.

1 MR. PALMER: I'll just add that keep in mind that
2 in real time knowledge progresses. And so, just as we've
3 spent the last year and a half, almost, talking about the
4 three products that we're proposing to list, we've had an
5 ongoing dialogue with all three of those industries, with
6 NGOs, and knowledgeable people. We've learned a lot. The
7 industries are learning a lot.

8 And so, part of this process is really designed to
9 put, in the public realm, information that everyone can use.
10 And we'll use it, the practitioners of the AAs will use it.
11 And it's my hope that, as we go through these processes,
12 everyone will be learning, and the data will be shared, and
13 we'll get a distillation, if you will, of the key issues.

14 And yes, ultimately, we have to decide based on
15 individual AAs. But I'm hopeful that the transparency
16 involved, the sharing of information will make that process
17 easier, rather than someone in a vacuum just trying to get
18 through the AA criteria and saying, is this in compliance.

19 PANEL CO-CHAIR MORAN: So, I don't see any flags
20 up right now. I'll make what's probably not going to be a
21 great attempt at summarizing here because there was -- I
22 think the most important part of this conversation, not
23 having a draft text in the section in front of us, was to
24 provide some various ideas to help organize DTSC's thinking
25 as it's reviewing its internal draft to get ready for us.

1 But I heard some important things. One is the
2 value of using multiple tools to support decision making.
3 So, even though it's allowable to just use one approach, the
4 idea that many tools allows one to see things from different
5 ways is really important.

6 The importance of transparency in the decision
7 tools that are used, I've actually heard many folks mention
8 that the rollup Green Screen is not as useful as the broken
9 out Green Screen.

10 And, in fact, at SETAC, Lauren Hyde proposed some
11 additional matrix' breakouts to help better structure
12 decision making, and support decision making, and to capture
13 some additional end points that were left out of the
14 original Green Screen, for exactly that point.

15 And then to use that information to systematically
16 evaluate assumptions and data drivers to help inform perhaps
17 getting additional data, or coming back and examining some
18 questions about alternatives more closely, and maybe even
19 rethinking the alternatives that are on the table right now.

20 To highlight, there was a request that DTSC
21 highlight the different decisions that need to be made at
22 various stages through this process a little more clearly.
23 And for everyone to describe the values inherent in the
24 decisions.

25 I mean, DTSC's values are specified in

1 regulations, but the values and the bases of the decision
2 making of the companies. Helen, value probably isn't the
3 right word to describe the tradeoffs that Helen gave a
4 really great example.

5 And one of the things I also heard in this
6 discussion is that examples are helpful. Several of the
7 Panel members mentioned examples. And, in fact, you might
8 want to share some of those examples with the staff offline,
9 because they are looking for examples for these kinds of
10 things.

11 And then, I think Helen's real major point, the
12 idea that we -- you have to make a decision and it's not
13 going to be perfect and so, decision-making sections
14 acknowledging that and perhaps even providing some input to
15 stimulate innovation down the road. You know, we all
16 recognize this is a journey. That perfect isn't the next
17 step, but we're on that journey, so helping people stimulate
18 innovation to get there.

19 Is there anything else that we should mention and
20 sum up on this? Ann's squiggling her nose, so I think she's
21 got something to say.

22 PANEL MEMBER BLAKE: I'm not sure if this is just
23 a rewording of something you said, but I'm going to try it
24 anyway. I think we've been saying highlight where decisions
25 are made. But I think the whole point of this is to raise

1 up the embedded values in every decision that's made.

2 So, for example, the way you choose to handle data
3 gaps reflects an embedded value judgment. And what we're
4 trying to do in this process, in encouraging transparency,
5 is to bring out -- force to articulate those values.

6 And I think you said that earlier, Kelly, with
7 expert judgment. What exactly is the value behind the
8 expert judgment. So, I think I just wanted to clarify that.
9 That not just these are the decisions that are made at
10 different levels, but the kinds of embedded values that are
11 inherent in those decision-making processes at each step.

12 Am I going to hand this off to Julie?

13 PANEL CO-CHAIR MORAN: Go ahead. So, I'd love to
14 hand this to Julie and Tim. And then, if anyone wants to
15 say anything else in wrapping this up, we can do that.

16 PANEL MEMBER SCHOENUNG: I'm just going to
17 highlight what Tim and Cal both emphasized, and I think
18 that's important, the distinction between analysis and
19 deliberation really needs to be pulled out in the report.
20 That you can gather as much data as you want, but somehow
21 you need to explain why you chose the one you chose.

22 And Helen's absolutely right, you need to
23 ultimately make a decision. And so, gathering a bunch of
24 data and doing a lot of analysis is only -- that's just the
25 mechanics of it. Somewhere, the hard part is figuring out

1 what to do with all that data, and justifying where you
2 land. And so, I like that terminology very much and we need
3 to capture that.

4 PANEL CO-CHAIR MORAN: Thank you.

5 Tim.

6 PANEL MEMBER MALLOY: Thanks. I just wanted to --
7 we didn't talk about this, but it was in the comments that
8 were submitted, and that is this issue about whether a
9 company's judgment about how important a factor is
10 constitutes a trade secret, which I think -- so, I just
11 wanted to get that out there because I would suggest that
12 the Department think hard about the legal definition of
13 trade secret and not just kind of accept, at face value, the
14 notion that those kinds of calls shouldn't be available to
15 the public when, you know, looking at the final AA.

16 I mean, it may be that, you know, obviously, you
17 want to do -- protect trade secrets in accordance with
18 existing law. But not everything's a trade secret just
19 because a business uses it. There's a legal definition and
20 I think we should be careful about it.

21 So, I know that was just an add-on and I'm not
22 suggesting we talk about it. But I don't think we should
23 lose that, either.

24 PANEL CO-CHAIR MORAN: All right. And, Helen, you
25 want to have one last word? You stand between us and the

1 break, but I really want to hear what you have to say.

2 PANEL MEMBER HOLDER: I was just remembering
3 something in the BizNGO, where we actually developed some
4 language around the tradeoff point. Requiring that the
5 alternative has to be improving on the original factors and
6 then there's some other language. So, if you go back to the
7 BizNGO work, there's actually something that sets up that
8 deciding whether the tradeoffs are acceptable. I just can't
9 remember it off the top of my head. But I know where it is,
10 it's in the --

11 PANEL CO-CHAIR MORAN: Thank you. With that,
12 seeing no other cards, let's take a 15-minute break and come
13 back at 3:00. And I want to thank you all for taking
14 thoughts, information, and actually articulating incredibly
15 well.

16 And we'll be coming back and talking about data
17 gaps and consumer acceptance before we wrap up with a few
18 thank you's at the end of the afternoon.

19 Remember your Bagley-Keene responsibilities not to
20 be talking about what's on the agenda during the break.

21 (Off the record at 2:45 p.m.)

22 (On the record at 3:04 p.m.)

23 PANEL CO-CHAIR MORAN: All right, I'm going to
24 call this meeting of the Green Ribbon Science Panel back to
25 order.

1 For the rest of the afternoon, we've got two more
2 discussion topics. If we have time, your feedback on those
3 three questions on economic factors, the principles of AA
4 that were on your chair, and other ways to deliver content.

5 But right now we're going to tackle -- oh, and
6 then after that, we're going to say a few words about some
7 of our departing members. And we're going to lose a couple
8 people early this afternoon, so I'm going to make sure that
9 we get their feedback before they have to go back to teach.

10 So, right now, we're going to start off with data
11 gaps. And this is another one of the topics that are in the
12 upcoming section in the AA. And staff are again hoping that
13 the kind of discussion we have here might help them with
14 that review, revision, crafting of this part.

15 And this has come up, I think, at every Green
16 Ribbon Science Panel meeting since the regs were adopted.
17 So, we've been kind of waiting to have that discussion.

18 And there's specific questions that we can cycle
19 around to address. So, they're up here on the screen, how
20 have Panel members made decisions in the face of data gaps,
21 what's worked? What hasn't? How would you recommend that
22 responsible entities cope with uncertainty?

23 How might folks minimize uncertainty or discover
24 the importance of various unknowns or uncertainties in their
25 data gaps.

1 And to kick this off, in these discussions, we had
2 a very interesting discussion of this at SETAC, in a session
3 that Ann Cooper, Ann Doherty, and Tim Malloy and I
4 organized. And, Virginia, I'm going to butcher her name,
5 Zaunbrecher -- yeah, actually came on, on behalf of Tim to
6 the session, and facilitated just a lovely discussion that
7 was stimulated by the presentation that Virginia and Tim put
8 together about data gaps.

9 And what was interesting about that discussion is
10 the folks from the AA community were back and forth, and
11 around on this topic.

12 And my quick summary of the conclusions of that
13 were that a product with no data was no good. Every data
14 point doesn't need to be filled. There are tools out there
15 that can help one estimate, with a little more uncertainty
16 than real testing, the value for a data gap. So, predictive
17 tools were a part of our session. And many people use them
18 and read across, and other methods, and they are very
19 useful. But not a silver bullet.

20 And the decision-making tools can help one
21 understand the relative importance of filling in data gap.

22 We also heard multiple examples of suppliers
23 filling the data gap once someone, who was thinking to use
24 or promote a chemical, identified that this data gap was
25 crucial to their decision making, and their chemical would

1 not proceed without it.

2 So, it was a very interesting conversation. So,
3 I'm mentioning that to tee off the discussion of this here,
4 because maybe some of those things from that discussion will
5 help you.

6 I asked Cal if she might start off by saying a few
7 words on the Safer Choice Program's experiences in dealing
8 with data gaps, because they have quite a lot of experience
9 in this area.

10 PANEL CO-CHAIR MORAN: Oh, yes, I'm sorry, Dr.
11 Doherty.

12 MS. COOPER: This is Ann Cooper, again. Just one
13 more thing to add that came up in this session that I think
14 Lauren Hyde brought up, was about knowing what you don't
15 know. And that kind of was the breaking out of the Green
16 Screen matrix and making sure that we're not thinking that
17 we understand all parts of the problem and we're hiding the
18 data gaps. So, that was one thing that Lauren brought up.

19 PANEL CO-CHAIR MORAN: Thank you.

20 PANEL MEMBER BAIER-ANDERSON: Okay. Well, some
21 data gaps are easier to fill than others, and some chemicals
22 are easier to model than others. And it's a really complex
23 area and I am a novice.

24 So, there are a number of tools that have been
25 developed by the EPA, and by many others. A lot of these

1 tools were developed not for -- designed for the
2 environment, but for the new chemicals program, and they're
3 tools that we use routinely to -- and most of them address
4 physical chemistry and ecotox. Finding reliable human
5 health modeling tools is a little bit trickier.

6 The Sustainable Futures training I think is one
7 that's been in implementation for many, many years. It was
8 developed to help companies get a sense of potential hazards
9 and concerns associated with the new chemicals. To
10 anticipate, I guess, EPA response.

11 But that's available to -- the training materials
12 are available on the EPA website, so they're available to
13 anyone. That doesn't mean that anyone can use them equally
14 well.

15 Me using the tools, like again, I'm a novice and I
16 will turn to other experts in my office for assistance with
17 running and interpreting.

18 So, you know, again, it's a search for kind of
19 fool-proof tools and they're not there. They're not there,
20 yet.

21 But you can make some headway and if you -- if
22 you're a smart and thoughtful person, and you have some
23 friends who are chemists, maybe you could get a little
24 further than if you're sitting alone, in an office by
25 yourself, trying to do this.

1 So, the Sustainable Futures training, the PBT
2 Profiler is pretty easy to use. It gives you a limited
3 amount of information. Oncologic will give you information
4 about those kind of traditional carcinogens out there, but
5 it won't give you information about chemicals that cause
6 cancer through kind of the other pathways. So, that's kind
7 of tricky.

8 EPA ORT, Office of Research and Development, has
9 some tools as well. The TEST, T-E-S-T, it's a toxicological
10 estimation tool, that also does some human health, a limited
11 amount of human health end points.

12 And, of course, there's the OECD Toolbox, where
13 anybody can sign up and take that training in Europe
14 somewhere. I've had abbreviated training. The workflow is
15 not intuitive, but it's a really useful set of models that
16 could be used to help understand the chemicals that you're
17 dealing with.

18 Then, there's also the analog approach. And EPA
19 has a -- our office has a rather simple tool, the Analog
20 Identification Model, AIM, which I use. Even I can use it
21 to identify candidate analogs. And that can be really
22 helpful just in pointing you in the direction of finding
23 chemicals that are structurally similar and have abundant
24 data. But it won't -- it won't keep you, prevent you from
25 making mistakes. So, you still have to sort through the

1 answer. It's that expert judgment, where that's really
2 difficult.

3 Then, to make matters a little more complex, EPA
4 ORT has their own suite of tools, such as DSSTOX, where you
5 can sort through and look for analogs. And they use a
6 different algorithm than the AIM model. And people have
7 their kind of preferences for what's the best way to
8 identify analogs.

9 So, I wish I had like a really happy story for
10 you. But like all the other challenges with comparing
11 chemicals, and materials and processes, there's no one
12 answer. There are a number of tools. It may be useful to
13 try different tools and see if they're pointing you in the
14 same direction.

15 Again, it gives you information that you can use
16 to piece together in your deliberations. But I think that's
17 where we stand, in a nutshell.

18 PANEL CO-CHAIR MORAN: So, just to sum that up,
19 you mentioned a number of predictive tools for human health.
20 You were probably implying, referring -- implicitly
21 referring to ECOSAR and EpiSuite.

22 PANEL MEMBER BAIER-ANDERSON: For eco, not --

23 PANEL CO-CHAIR MORAN: For eco, yeah.

24 PANEL MEMBER BAIER-ANDERSON: There are fewer
25 tools for human health.

1 PANEL CO-CHAIR MORAN: Yeah. So, but just that
2 those are there and EpiSuite has some chemical properties
3 information.

4 PANEL MEMBER BAIER-ANDERSON: Right.

5 PANEL CO-CHAIR MORAN: But what I think I heard as
6 the big caveat here is that it requires a certain level of
7 expertise to use these tools and interpret the data that
8 comes out.

9 PANEL MEMBER BAIER-ANDERSON: Exactly.

10 PANEL CO-CHAIR MORAN: So, this is not for the
11 average amateur.

12 PANEL MEMBER BAIER-ANDERSON: Right.

13 PANEL CO-CHAIR MORAN: This is something where
14 professional, and probably consultant or other assistance
15 would probably be necessary for most companies.

16 PANEL MEMBER BAIER-ANDERSON: Yes. I think
17 there's this trend in moving towards dashboards that make it
18 really easy for someone to get into trouble really quickly,
19 because it's easy to use, but it's very hard and very
20 sophisticated to interpret.

21 And so I think, you know, it's that tension of
22 wanting to make tools accessible to more people. But like
23 how do you also get that training out there to interpret the
24 results.

25 PANEL CO-CHAIR MORAN: So, one tool is predictive

1 methods.

2 So, what else have folks done to -- I'll call on
3 Art. But again, I keep thinking about how -- all of us have
4 faced data gaps in our decision making.

5 PANEL MEMBER BAIER-ANDERSON: I would add, it's
6 really, too, the predictive models and analogs, they're
7 really two different approaches.

8 PANEL CO-CHAIR MORAN: Oh, I'm sorry, the read-
9 across and the analogs. I guess a lot of people call those
10 read-across things.

11 Art.

12 PANEL CO-CHAIR FONG: So, what I heard is that
13 there are in fact, you know, tools out there in terms of
14 estimating or predicting potential hazard and toxicity.

15 So, it's important for us to also talk about data
16 gaps in other areas, in addition to hazard and tox. So, you
17 know, things like the market availability.

18 In cases where you have data gaps in, you know,
19 those factors, perhaps it's important that we also look into
20 that. Because, you know, in terms of practitioners, you
21 know, doing the tox part I can hire a consultant to do. But
22 it's some of the other factors that it's much harder to make
23 the estimates for, guesses, because there aren't any models,
24 you know, for making those types of predictions.

25 Another point, it's not directly related to data

1 gaps, but it's the closely, you know, related topic of data
2 quality. So, a lot of times, you know, what seems like
3 there's not in fact a data gap, but it's really crummy data.
4 So, it's important for DTSC to provide some kind of guidance
5 on like what would be quality data.

6 And I'm thinking, specifically, about a paper that
7 was published in 1997, "Systematic Approach for Evaluating
8 the Quality of Experimental Toxicology and Ecological Data".
9 And that's what I use when I have to make a decision or I
10 use it as guidance on making a decision if, you know, a
11 particular set of tox data is, in fact, going to allow me to
12 make sound decisions.

13 PANEL CO-CHAIR MORAN: Thank you. Did staff want
14 to say anything about data quality? We hadn't grouped that
15 in this topic. I know that's envisioned as being part of
16 this chapter.

17 MS. ZHOU: I think the regs specifically called
18 out to the reliable information as one of the AA reports
19 review criteria. And there's a specific definition of what
20 is reliable information in the regs.

21 PANEL CO-CHAIR MORAN: But it's probably more than
22 just doesn't meet those various criteria in the regs. What
23 I think Art's talking about is something that all of us have
24 run into, when reviewing scientific information, is that
25 some of the study designs are better than others. Some of

1 the data, the actual effect that's presented sometimes is
2 very strong and sometimes is very weak. So, we'd be
3 uncertain as to whether or not harm is actually going to
4 occur at the concentrations that are being tested.

5 So, those kinds of things, are those -- is
6 mentioning that at this point also useful or should we stick
7 to data gaps?

8 MS. ZHOU: We also refer to those deeper in the
9 frameworks, how they like evaluate data quality and kind of
10 the balance different sources. And it also goes back to the
11 deliberation, how they really document their data and use it
12 as a basis to justify their decisions.

13 PANEL CO-CHAIR MORAN: Thanks. So, it sounds like
14 that's definitely in this chapter. And if there's something
15 burning somebody wants to say about that, now, it's on the
16 table.

17 So, Cal, you've got your card back up. You kind
18 of hadn't -- yeah, why don't you do that. And then let's --
19 I'm going to start prodding people who've done AAs to talk
20 about data gaps.

21 PANEL MEMBER BAIER-ANDERSON: When you're dealing
22 with data-poor chemicals, in particular, often you don't
23 have the luxury of sorting through a number -- you know,
24 it's not like BPA where there are, you know, a thousand
25 studies that you have to sort through and you can -- you

1 know, the choice is really complicated.

2 But I think it's most important to understand the
3 strengths and limitations of the study design because, you
4 know, there's no perfect study anyway, and evaluate the
5 results with that in mind.

6 And there are some kind of guidelines out there
7 for this. The guidelines are changing a little bit. But,
8 you know, I think you find that in the Navigation Guide,
9 from UC San Francisco, and Tracy Woodruff, her group.

10 And NTP is coming out with that Systematic Review
11 Principles, and there's some data quality guidance embedded
12 in that.

13 The EPA IRIS Program also has kind of
14 considerations for evaluating studies.

15 And so, it can be like in the form of, you know,
16 just asking the questions, and looking at the study design,
17 and weighing what the limitations are, rather than just
18 throwing it out.

19 PANEL CO-CHAIR MORAN: So, while the mic's making
20 its way across, maybe we can start with Don and work down
21 the row here, and have folks talk about data gaps.

22 One thing I should mention is that I think
23 inherent in these comments that I'm hearing is that
24 examination of the data quality is most important when that
25 piece of data is important for the decision making, when

1 it's a key feature.

2 Don.

3 PANEL MEMBER VERSTEEG: You fill all data gaps
4 that are deemed to be critical based on expert data. A lot
5 of the tools that Al mentioned, structural search and
6 substructural searching --

7 PANEL CO-CHAIR MORAN: You need to eat the mic.

8 PANEL MEMBER VERSTEEG: -- structural searching,
9 substructure searching. And so, you try to fill in all the
10 blocks, even if it's with professional judgment.

11 On cancer end points, we know which types of
12 structures tend to be more worrisome and which ones tend to
13 be -- are no-brainers, we're not going to worry about these
14 typically biological type of materials or compounds that are
15 found in intermediate metabolism, kind of no-brainers. Many
16 of which are no-brainers.

17 But you fill all the data gaps. And if, at the
18 end of the day, you get to the point where you've got a
19 critical data gap on what you considered to be an important
20 end point, you go and fill it.

21 So, I've really run across very few cases where we
22 didn't have all the data that we needed on our highest
23 priority end puts.

24 PANEL CO-CHAIR MORAN: When you say, "go and fill
25 it", do you mean predictably or measure?

1 PANEL MEMBER VERSTEEG: No, you go and measure.
2 If you've got an end point for which you think the
3 predictive tools are not very good or the predictive tools
4 suggest you have a problem, and you think that's a very
5 important end point, if the predictive tool says it's a
6 problem and it's a very important end point, you either
7 believe the predictive tool or you go get the data.

8 If you don't think the predictive tool's very good
9 and it's an important end point, you go get the data.

10 PANEL CO-CHAIR MORAN: Thanks.

11 PANEL CO-CHAIR FONG: So, Don, would that just
12 apply to companies that have a lot of resources? What about
13 the small- and medium-sized companies, would that work, you
14 know, going on and just getting the data?

15 Well, in this context my understanding is no,
16 because you're not required to go out and get data. From a
17 protecting your company, your product, I would say that
18 you're duty bound to go get that information outside of this
19 process.

20 So, yes, small companies, medium-sized companies
21 are going to have a problem.

22 In Europe, what they've done is form SIEFs, to get
23 together and provide a little bit more market power to go
24 out and actually fund studies, and collect the information.
25 And, actually, there's a cost-sharing agreement. So, if a

1 big company has run a study, then the little companies pay
2 for that information so that they can use the same
3 assessment. There's nothing pretty about those SIEFs, but
4 there are solutions when companies get together and share
5 information.

6 PANEL CO-CHAIR MORAN: And I just want to clarify,
7 Don, what you're basically suggesting the DTSC do is say,
8 okay, we can't make you fill a data point, but it's in your
9 interest to fill a critical data gap.

10 PANEL MEMBER VERSTEEG: No, I'm not suggesting
11 that. I'm suggesting that there's two situations. One
12 applies to DTSC and the other applies to what I think, I,
13 Don Versteeg, a private citizen, think companies ought to
14 do. And it's up to every company to decide what's in our
15 own best interest.

16 I think DTSC has to live by the regulations. And
17 if there's a data gap that can't be filled in any way, shape
18 or form, then they've got to figure out how they interpret
19 that lack of information. I don't know what they should do.

20 PANEL CO-CHAIR MORAN: But it sounds to me like
21 you've just expressed some very good reasons as to why it's
22 in a company's interest to have that data gap filled. And
23 that seems to be important information for DTSC to share,
24 even though it's not requiring critical data gaps or any
25 data gaps to be filled, since it can't require data until

1 after the decision making.

2 PANEL MEMBER VERSTEEG: Okay.

3 PANEL CO-CHAIR MORAN: Oh, just why --

4 PANEL MEMBER VERSTEEG: I'm not weighing in one
5 way or the other on that. That's not my place, I don't
6 think.

7 PANEL CO-CHAIR MORAN: So, I don't know if Ken,
8 Mike? Yeah, we'll get to Julie next.

9 PANEL MEMBER CARINGELLO: And we use pretty much
10 exactly the same sort of methodology that Don does, up to
11 and including if there's a data gap, and it's a chemical we
12 really want to consider, then we'll just go out and generate
13 the data, ourselves. Because there's a whole slew of
14 liability concerns, as well as just the science behind it.

15 The thing I'll add is we never have done an
16 alternatives analysis where it's been here's the chemical we
17 don't want and here's the one we select to evaluate. So,
18 there may be cases where we have ones that we're
19 particularly interested in, but there's a large enough data
20 gap for that particular chemical, and that same data gap
21 doesn't exist for some of the other less -- maybe they're
22 more costly or less readily available. You do the AA with
23 multiple potential choices and a data gap could be a good
24 reason to discount one, if you feel it's a critical data
25 gap.

1 You know, but other than that, you know, exactly
2 what Don was explaining is the same way we do it. You fill
3 it in as much as you can, you determine what's critical.
4 And if you can make a true analysis between the two and
5 prove that one is better, then you're good. If you can't do
6 it, you either have to somehow fill, and a lot of that
7 filling is that eyebrow-raising expert analysis because it's
8 all that's out there.

9 You know, sometimes if you look at REACH and
10 you're up, there's a lot of data we just can't touch.
11 Because we're not a data manufacturer, so we're not involved
12 with those consortiums, but our vendors our, the people who
13 sell it. We have no issue at all reaching out to our
14 vendors and telling them, you need to obtain this piece of
15 information for us.

16 So, you have to remember that just because you are
17 the producer of the product doesn't mean you're the expert
18 on the chemical you're doing the analysis of. So, use that
19 information backwards, go to your vendor and insist they
20 obtain it. Because they're going to be, in most cases, a
21 much better resource than we are, as we start to search
22 public information. There's a lot of private information
23 out there that we could potentially use.

24 And that's something DTSC needs to consider, as
25 well. Because as they've got the priority products, and

1 they've got two, or four, or five different alternative
2 analyses coming in, and you've got a company who's
3 submitting their draft in and they've got this big data gap,
4 and company two has that data gap filled with private
5 information, what does the evaluator at DTSC do? How do
6 they juggle the data gap doesn't exist to them, but it did
7 exist to the people writing the AA. And how do you
8 discount, then, what their analysis was?

9 PANEL CO-CHAIR MORAN: Why don't we go over to
10 Julie. I'm just going down the line. I don't know if Helen
11 wants to say something. So, go ahead, Julie. And I want to
12 come back around to Tim so we catch you before you have to
13 go.

14 PANEL MEMBER SCHOENUNG: I may be changing
15 directions here a little bit. I hope that's okay. But when
16 Don was talking about, you know, how to narrow down what
17 data you're really going to take the effort to find, rather
18 than how to fill the data gaps, but the issue of how do you
19 decide what's worth the effort to actually either do your
20 own analysis, or even bother to look at all the sources.

21 The analogy comes to me of all the process
22 economic modeling that companies do routinely. I mean,
23 chemical engineering makes an art in doing process economic
24 analysis. And I teach that, too.

25 But it's hard for the students, it's hard for

1 people who aren't yet practitioners to understand that
2 you're not going to fill every box in the spread sheet. You
3 could spend, you know, five years gathering all that data
4 and you'd be no closer to being able to come up with a
5 decision than if you did it in a couple of months' worth of
6 time.

7 And so, that the art of actually prioritizing what
8 data you need and what data you don't need is an established
9 art within the industry to do it on the economics. Now,
10 economics is easier. They all have one value and it's
11 easier to just estimate a number, and just kind of put in a
12 token number until you know what the real number should be.

13 But, you know, it's a pretty established way of
14 saying we don't need to know the cost of every single thing
15 that goes into the plant. And we don't need to know exactly
16 how many joules of energy we're going to use during the
17 year. We know that these are the drivers and these are the
18 things we should be spending our time and energy trying to
19 quantify, and then running some uncertainty analysis or
20 sensitivity analysis.

21 And so, maybe in the guidance documents it might
22 be helpful to use that analogy because I think it's
23 something that people might be able to get their hands
24 around in a different way.

25 You need to be careful because it's far more

1 simple than it is to fill in the data gaps on all these
2 different traits that we're talking about, from
3 environmental and health concerns.

4 But companies are pretty comfortable with that and
5 coming up with what they really need to evaluate, and what
6 they can just brush under and go, well, that's irrelevant.
7 It won't change my decision if it's this or it's that. But
8 I know I really need to go get a vendor's quote for this
9 piece of equipment because that's going to drive my cost.
10 Or, I really need to figure out what my land or my labor
11 costs are going to be because, in this particular process,
12 I'm going to need that chemical and I'm going to need these
13 many people.

14 So, you know, that idea of narrowing down the data
15 required, there is precedent for it.

16 PANEL CO-CHAIR MORAN: Thanks, Julie.

17 Why don't we go to Ann.

18 PANEL MEMBER BLAKE: I'm trying to decide whether
19 this is actually going to add to the conversation, so I'll
20 keep it short. Forgive me if I've repeated this, like a
21 broken record, at previous meetings.

22 But when we first started looking for the MCDA
23 paper that we worked on a couple years ago, we picked what
24 we thought were two data-rich topics, which were lead solder
25 in electronics and garment cleaning.

1 And as I'm thinking about it, and based on this
2 morning's conversation, I realized we sort of backed into
3 what were significant relevant factors.

4 And what was surprising to me, and I was new to
5 this a few years ago, obviously, was that you could actually
6 make a robust decision in the presence of data gaps. And I
7 think that feeds back into our conversation about it turned
8 out it wasn't a relevant factor, but I didn't know that when
9 we went in. So, we thought we had a lot of data.

10 So, I don't know if that's helping the discussion
11 at all. But you may not get there as directly as you could,
12 even with a data rich -- what you thought was a pile of rich
13 data, you can still make reasonable decisions.

14 And, actually, it fed back and it gave us
15 information on what was driving a decision, which was then
16 articulated and more readily visualized by the MCDA tool
17 that we used.

18 PANEL MEMBER HOLDER: So, I wanted to come back to
19 some of the things that Don and Mike had touched on. And
20 there's actually a question on our pages having to do with
21 whether you should assume that a data gap means that the
22 number's going to be bad, or whether you're going to assume
23 it's going to be good.

24 And so, I want to make a recommendation that when
25 it cannot be resolved, that we should be neutral on the

1 data. Don't assume one way or another. Because if you
2 assume that it's bad, you might miss a very good
3 replacement. And if you assume it's good, you might make a
4 regrettable substitution.

5 So, you know, we really just encourage just to
6 take a data-neutral stand. Establish that minimum data set
7 based on all these things that we're talking about. And,
8 you know, if you get to -- if you really reach a point where
9 you can't fill it, and you need it, then you just set that
10 aside, that option aside. Don't ban it. But, you know,
11 don't allow it, just kind of put it in neutral until you can
12 fill it.

13 Because there's just no way you can really justify
14 either of those extreme positions. You've got to stay data
15 neutral.

16 Oh, and go back to the supplier, just to echo
17 Mike. And then say, I can't use your wonderful solution
18 that you're trying to get us to use because we need this
19 piece of information, and they often will come up with it.

20 PANEL CO-CHAIR MORAN: Data neutral.

21 Let's go to the other side and, Tim, I'm expecting
22 you have something to say here.

23 PANEL MEMBER MALLOY: Hi, thanks. I want to do
24 two things. I want to talk about some of the frames we're
25 using, the narrative frames we're using to talk about this.

1 And then I had like three points to make.

2 The frame is, there's two frames going on here.
3 One is good guy/bad guy kind of thing. So, like I was
4 really heartened to hear the stuff Don said and you hope
5 most companies are like that, like the way Mike and Don
6 described it. But we know companies vary in their behavior.
7 Volkswagen, right, and that's just one example.

8 And, you know, I was on the other side, I
9 represented companies when I was in private practice, and I
10 saw it on the inside. Even companies that were really
11 trying to do the right thing, lots of times stuff happens
12 and they cut corners, or whatever.

13 So, I think when you're thinking about how to
14 design a reg and when you're talking about the guidance, you
15 hope for the good guys, but you plan for the bad guys. So,
16 I think that's one where there's lots of games that could be
17 played with data gaps.

18 And I think your point is an excellent one. You
19 know, if it's beneficial to have a data gap for a company, I
20 think we're more likely to find that company find a data
21 gap, and then not fill it. So, I think you want to keep
22 that in mind.

23 Then the other frame I'm hearing a lot is the
24 sophisticated versus unsophisticated company. I'll use this
25 example, right. I once represented a community group where

1 an auto body shop was building next door to residences. So,
2 not a huge company building that auto body shop. Should
3 they not have to do air quality monitoring because it
4 requires sophistication and costs money? I think the answer
5 to that is no. They should have to do the modeling, if
6 that's what's required to make the appropriate choice.
7 So, that's just my viewpoint.

8 Now, for companies that don't have the resources,
9 then I think it's incumbent on the government to try and
10 figure out ways to assist them in that. But I don't think,
11 substantively, there should be different -- necessarily
12 different approaches to what data you require or how you
13 generate it, but there has to be accommodation to how you
14 get that. And I think there's ways of working around that.
15 Okay, so those are the framing things.

16 The points are, one, I think it would be useful to
17 be clear about what we mean by data gap. I did a quick
18 search. It's not defined in the regs. It doesn't seem to
19 be in the final statement of reason. It's not in the
20 guidance document. But we've been talking about at least
21 three different kinds of, maybe, what people call data gap.

22 One would be missing data, there is no data.
23 Another would be kind of, you know, janky data. You know,
24 there's data, but we don't know how good it is. And then
25 the other would be inconsistent data. You've got a number

1 of studies and maybe they're all okay, but they've got
2 different results.

3 So, I think it's better to talk about uncertainty
4 than data gaps, because I think the term "uncertainty" can
5 capture that and also capture things like variability.
6 Which, it's not that, you know, one study's wrong or right,
7 it's just that there's variability in terms of the
8 conditions and, you know, the animals or people tested.

9 So, I would say try and define data gap and I
10 would think about it in terms of uncertainty.

11 The other thing I'd say is in terms of filling
12 data gaps, I think that I agree with Don and what other
13 folks had to say, I just want to come to the defense of
14 expert judgment. I mean, I roll my eyes at expert judgment,
15 too, but sometimes I think the person who's the expert has a
16 bias. But if it was somebody who I trust, then I would
17 think expert judgment is fine.

18 So, I think we have to recognize that lots of
19 judgments have to be made based on expert opinion. That
20 expert opinion has to be support by something.

21 Don explained, you know, he would make a call
22 based on something about the structure of the chemical, and
23 what he has seen before structural. That's all expert
24 judgment. So, I don't think we should be dismissive of it,
25 but it shouldn't be our top priority.

1 And with respect to filling uncertainty, I think
2 there's a couple things you can do besides just going out
3 and doing the testing. So, there's a number of decision
4 tools. I think a lot of people have used them. They're not
5 talked about very much and maybe they will be later.

6 But one is there some fairly straight forward
7 value of information methods that can be used for judging
8 whether it's worthwhile getting the other information. And
9 that's a form of decision analysis, but it's not a tradeoff
10 analysis. Well, it kind of is but not -- you know, but
11 there's -- and they're available and, you know, it's not
12 rocket science. I mean, you need somebody who knows it.
13 Like Cal said, you need somebody who knows how to do this
14 stuff. But that's true, you need a toxicologist for tox and
15 you need, you know, a marketing person for marketing. And,
16 you know, for value of information, you need somebody who
17 knows how to use those tools.

18 The other approach is probabilistic and that's
19 what you keep talking about, Virginia. Thank you for the
20 commercial announcements. So, there's lots of tools that
21 are available, very accessible that can -- you know, and for
22 those, you want to work with a toxicologist who would tell
23 you here's the range where I would expect to see things. I
24 can't tell you where it falls in the range. And then you
25 have some tools that help you interrogate that and figure

1 out whether this is an important gap. And if it is a gap,
2 if it's going to have an effect. And if it has an effect,
3 what that effect might look like.

4 Then there's sensitivity analysis which would be,
5 you know, just looking at the different changes and seeing
6 if it's -- and then you have heuristics. And I agree with
7 Helen, I'm a little -- I think heuristics, like this one,
8 assuming something's bad or assuming it's good in a
9 comparative setting is really dangerous.

10 The last thing I just want to say is modeling,
11 along the kinds of things that Cal has talked about, and the
12 other kinds of modeling. There is language in the guidance
13 document. It's on page 56, and it's talking about modeling.
14 And it says, "While the responsible entity can use
15 information generated by these models" -- I think here it's
16 talking about tox-type models or exposure models, and so on
17 -- "the AA report required by the regulations does not
18 required that data gaps be filled in this way. However, a
19 responsible entity, if they cannot select an alternative
20 because available data are poor, may use the modeling to
21 generate the data".

22 I'm not sure why it is that we would say if you
23 have available tox data, you have to use it. But if you
24 have available modeling data, you don't have to use that.
25 And one might say, oh, but that's requiring folks to

1 generate data and you're not allowed to do that under the
2 regs. But the regs say you shall use -- I'm reading, now,
3 from step two of the stage. So, it says, "The responsible
4 entity shall use available quantitative information", and
5 here you go, "and analytical tools supplemented by available
6 qualitative information and analytical tools".

7 And these modeling approaches are analytical tools
8 and they're available. So, to me it feels like there should
9 be a little bit more oomph put on the obligation to use
10 modeling when it's available and when it's generally used in
11 the field.

12 And the fact that, you know, you might have a
13 small mom and pop shop shouldn't be used as a reason to not
14 have modeling because we require people to do modeling for
15 important decisions all the time, and I don't think we
16 should, you know, not do that in this particular things.

17 PANEL CO-CHAIR MORAN: Does staff want to comment
18 any on this, while we take the mic down to Meg, or do you
19 want to think about that? Pondering is the reaction.

20 So, let's take the mic down to Meg. And then I'll
21 see if Cal, Becky or Ken want to weigh in on this, and give
22 everybody a last bite before we move on to the next topic.

23 PANEL MEMBER SCHWARZMAN: Thanks. Tim actually
24 set that up fairly well because I've been sitting here
25 trying to ponder what to do about the availability, or lack

1 thereof, of predictive tools. And I'm feeling like DTSC
2 needs to do some stipulation about expectations. And I
3 think it would be useful to be clear about the situations in
4 which they are expected to be used and when there might be
5 significant caution exercised.

6 And I agree with Tim on the basic principle that
7 if there's an available tool that's helpful, there's no
8 reason not to require its use.

9 But I want to differentiate between where
10 predictive tools are well-established and helpful, and where
11 they're completely insufficient, still. And that basically
12 divides around -- so, around predicting, persistence, and
13 bio accumulation, and often environmental fate, and
14 environmental transformations. They're very helpful and I
15 think should be used.

16 And around predicting human health effects, I
17 think they should never be required. If somebody happens to
18 have one that's really good for one specific end point, I'd
19 be interested in seeing that, but I would still look at it
20 kind of askance. And I would never require it because then
21 people would be using tools that are completely inadequate
22 just to fill checkboxes, and we'd be coming up with weird
23 answers.

24 And the reason to differentiate between the two,
25 just very briefly, although I also am not an expert on this,

1 but in my experience, so the basic concept, right, is that
2 to have a predictive tool that works based on chemical
3 structure similarities you have to have a training set. And
4 your tool is only as good as your training set.

5 And so, if you picture some of the data gaps that
6 are present for a variety of end points for most of the
7 chemicals that we know, your training set cannot be very
8 good, except in very narrow comparisons where your training
9 set may be excellent and you're trying to distinguish
10 between small differences in structure and how they may bind
11 to a particular, well-studied receptor, or something like
12 that.

13 So, in some very focused applications I think
14 there may be some use for them. So, I don't want to say,
15 well, DTSC should say you can never use a model for a human
16 health effect. And yet, extreme caution needs to be taken.
17 And so, I would hate to get in the situation where requiring
18 that people fill as many gaps as possible, with whatever
19 predictive tools are available. And I think we need to
20 differentiate which end points are appropriately modeled and
21 which there aren't good tools for, yet.

22 And I want to just wrap that point up with a
23 little bit of my experience working on a project to try to
24 see what you would want to know about a chemical, if you
25 wanted to understand if it contributed to the risk of breast

1 cancer. And this was a year or two project, where we got a
2 bunch of experts together to consider this question.

3 And one of the things that we did in the process
4 of that project was gather some, what we thought were data-
5 rich chemicals. Really highly studied chemicals and what
6 could we learn from them about, you know, this sort of
7 conglomeration of tests that we had pulled together. How do
8 these really well-studied chemicals fare in those tests, and
9 from that we ought to be able to tell if this set of tests
10 we've called for is good. And this paper just came out,
11 actually, if anyone wants to see it.

12 And what we found is those data-rich chemicals are
13 not very data rich. I mean, they're some of, supposedly,
14 the best studied chemicals. And yet, in terms of the
15 disease processes, or the biological processes that we
16 concluded were extremely relevant for breast cancer, there
17 wasn't any data about it.

18 So, I think -- and that's one disease end point,
19 and looking at a bunch of data-rich chemicals, and you
20 picture trying to make a predictive tool that would detect
21 breast carcinogens from such a data-poor training set. And
22 the idea of being able to do that in a predictive way, it
23 falls completely flat.

24 So, I think a word of caution, really, about human
25 health end point predictions and potentially -- I guess I

1 would be interested in whether DTSC could put together a
2 small group of folks, with real expertise in predictive
3 tools, to develop a little bit of specific guidance around
4 their application.

5 PANEL CO-CHAIR MORAN: Thanks.

6 PANEL MEMBER SCHWARZMAN: Could I have a
7 discussion like that about predictive -- well, I should
8 definitely say that I don't know exposure prediction nearly
9 as well, so for one thing. So, I'm a little bit out of my
10 depth there. I can't just wander easily into that
11 territory. I have some thoughts, but it might not be worth
12 the time right now.

13 PANEL CO-CHAIR MORAN: So, as we -- yeah, so I
14 want to follow back up quickly with Tim, who's got to walk
15 out the door, and then Cal, and then come back to Ken. And
16 then, anybody else who wants to weigh in quickly while we
17 wrap this up, we can do that.

18 PANEL MEMBER MALLOY: Thanks. I agree with Meg
19 about this notion. It would be great to have guidance about
20 different types of tools. And I'm not a toxicologist, but I
21 work with a lot of toxicologists and I think that that's
22 right. Like, for complex end points like cancer, it would
23 be really difficult to have QSAR type approaches for making
24 those kinds of predictions.

25 But from what I understand from the folks I work

1 with, it really depends on the particular end point you're
2 talking about. QSARs for those kind of end points are very
3 difficult.

4 But other end points that are not as complex, or
5 for things other than QSAR, for example we've talked a lot
6 about Read Across, which is a way of making judgments about
7 the likelihood of some adverse impacts, which is pretty
8 widely used by toxicologists for making these kinds of
9 judgments.

10 So, I think we should look at it end point by end
11 point and think about what's the best tool or set of tools
12 that could be used for prediction. Within reason, right,
13 within timing. So, I think that's really important is
14 thinking about it in those terms.

15 But I would leave you with this point, which is
16 it's always a question about as compared to what? Right, so
17 when we look at these models we've got to ask, and if we're
18 not using this, what are we using for this data gap, right?

19 So, there's an iterative process in the sense of
20 for the AA, maybe you use something that is not, you know --
21 well, nothing's a hundred percent. But then there's the
22 opportunity for the agency and the public to review the
23 final, and then a decision made about whether to require
24 testing, now, knowing what we know about this.

25 So, I take that -- I wasn't trying to say this

1 would fill the gap and that it should be used everywhere, so
2 I totally agree with your point about cancer.

3 PANEL CO-CHAIR MORAN: Thank you, Tim.

4 So, let's pass on to Cal. Ken, you want to say
5 something here?

6 PANEL MEMBER BAIER-ANDERSON: Well, just super
7 quick, just to add to Meg's caveats. I mean, that's really,
8 really important to note that the models aren't -- you know,
9 have significant limitations. But some chemistries are
10 harder to model than others. Like the perfluoros that, you
11 know, that you could look -- anyway, they're really, really
12 tough to use the predictive tools with.

13 And then new chemistries, which might actually be
14 better, you know, might not fit within the training sets and
15 so you can't. And so, that's a tough position to be in.

16 And then, one plug for the exposure predictive
17 tools. There are a number of tools under development, right
18 now, in the EPA Office of Research and Development. And I
19 think that's an opportunity to have constructive dialogue
20 between the alternatives assessment communities and the
21 exposure assessors to kind of maybe influence the
22 development of these tools so that they're useful to us.

23 PANEL CO-CHAIR MORAN: Thanks. And, Becky, do you
24 want to say anything on this point?

25 PANEL MEMBER SUTTON: It's been a great

1 discussion. I'll just echo Helen's point about a data
2 neutral -- or a neutral stance when there's no data. And I
3 also really liked Tim bringing up the fact that there are
4 often going to be conflicting data for a particular
5 chemical. Everything else has been very interesting.

6 PANEL CO-CHAIR MORAN: Ken, do --

7 DEPUTY DIRECTOR WILLIAMS: I just wanted to make
8 people aware, on Cal's point, about the exposure modeling
9 that's happening at EPA. In case you're not aware, some of
10 the work that they're doing is actually merging exposure
11 modeling with lifecycle assessment tools, and impact
12 assessment tools. And, you know, it's early days, but it's
13 so relevant to the work we're doing here, and we're having
14 great conversations with them about how to give them the
15 information they need to develop real-world examples, and
16 try out these tools for our purposes. So, really working
17 hard to help us with our decision making.

18 PANEL CO-CHAIR MORAN: Okay, I'm going to attempt
19 to sum up. And, again, I'm sure my summary will be
20 imperfect, so you'll fill in.

21 But again, this is a whole bunch of different
22 ideas to help feed in to what the Department's doing, and
23 we're going to see something that's fully formed that
24 considered, probably, way more than we considered in the
25 discussion because they've been thinking about this for a

1 long time.

2 But some things that came out of this, it's really
3 important to define data gap and to recognize it's part of a
4 range of uncertainty about knowledge of a particular
5 chemical, to not hide data gaps.

6 We had a fairly robust discussion of predictive
7 tools, the pros and cons, they're applicability in some
8 places and not others. There are strengths and weaknesses
9 for different kinds of end points. They are all out there
10 and I know that's something the Department's thinking about.

11 And the question was raised, are these kinds of
12 tools within the definition of the kinds of information
13 that's available, that the Department can insist that folks
14 use in some cases.

15 So, all good questions. Because the stance in the
16 materials so far has been that use of all those tools is
17 voluntary. And now, some folks are saying, well, maybe
18 those should just be expected as part of an AA for at least
19 certain kinds of end points, and certain kinds of pieces of
20 data, like (indiscernible) data.

21 I heard a pretty good discussion about reasons why
22 filling data gaps are actually in the interest of the
23 company, and methods and a few examples as to how that has
24 come about, and been done by companies.

25 I've also heard several examples of that at SETAC

1 involving testing, asking suppliers for that, and developing
2 consortia to either leverage suppliers or to develop those
3 data. And to focus, recognizing that there will be data
4 gaps, prioritizing data gaps for filling, which is an
5 important piece about cost.

6 So, I think most folks seem to feel, I heard a
7 couple that didn't, but most folks seemed to feel that not
8 every data gap is going to be filled, and some data gaps are
9 probably not going to be important for the decision.

10 So with that, there are a number -- Julie gave
11 some really compelling examples from economics, making
12 decisions about a factory, something else that might be
13 helpful to illustrate these kinds of concepts in the
14 guidance.

15 And the idea that the value of the information,
16 the sensitivity analysis, so which ones really matter for
17 the decision and how -- what kinds of tools and approaches
18 are available to help people figure out which data gaps are
19 so important that they really do need to be addressed.

20 Several folks said it's important to recognize
21 that robust decisions can be made, even in the face of data
22 gaps.

23 We need to be data neutral on data gaps and be
24 aware of the misuse of data gaps. And that's actually part
25 of what led us into the use of predictive tools, that people

1 might say there's a gap when they might actually have the
2 information. And perhaps, Read Across and some of these
3 simpler predictive methods, if they're available for that
4 particular end point, could help shed light on if there's
5 something that you really need to know, without actually
6 having access to the data.

7 Did I miss anything that was really important
8 here? All right. Well, thank you. And I'm sure that the
9 more detailed notes will supplement my poor summary.

10 But let's move on for a few minutes to consumer
11 acceptance. And if the staff are okay with it, I'm thinking
12 of taking this discussion to potentially as late as 4:30.
13 Does that work with our schedule?

14 Okay, so consumer acceptance is something that
15 came up in the comments and the staff would really like to
16 hear more about that. And so, I asked Ken and Mike if they
17 could tee up some of the issues around this for folks to
18 comment on, how consumer acceptance would be considered in
19 an AA, and what guidance DTSC can provide in that manner.

20 So, you guys can flip a coin and --

21 PANEL MEMBER ZARKER: Well, I'm glad to help get
22 it started. I thought it was just an interesting area that
23 we should explore as a group, and it sort of jumped out at
24 me when I was reading the guidance. And I also noticed, on
25 this little form that you passed out today, that it's

1 emphasized here around these principles and it talks about
2 consumer acceptance.

3 This is an area that I don't have a lot of
4 expertise in. I feel like the private sector probably has
5 more experience with this. But I think about things related
6 to advertising, particularly how companies go about
7 marketing their products. Proctor & Gamble has a huge, you
8 know, just access of information about consumers, consumer
9 behavior.

10 So, really, just wanted to get some feedback from
11 folks that are in the business about how this plays in.
12 I've had experience with a couple of examples. One is I've
13 worked with the Outdoor Industry Association and they talk
14 about, well, we can come up with an alternative to the
15 fluorinated materials, but consumers may not like the way it
16 looks because they're used to seeing the water bead up in a
17 particular way on a product.

18 And so, there's that side of the equation as well,
19 is how are consumers going to be educated about these
20 alternatives and products because they may not behave from
21 what they've sort of been used to in the past.

22 PANEL MEMBER CARINGELLO: Yeah, that was a good
23 analysis. First off, though, I want to say I want to
24 correct a mistake I made earlier when I said -- I made a
25 comment about with DTSC's new employees, there was no market

1 research added. There actually has been. And I met that
2 person, which was a delight. So, I just wanted to clarify
3 that for the record. They do have someone who does market
4 research. You know, it's not something that I'm
5 recommending that they have to add, then, more of. I just
6 was unaware that they -- that's even better. So, I just
7 wanted to make that clear because my comment might have been
8 otherwise earlier.

9 Consumer acceptance is a very crucial important
10 for us, of an alternative analysis. Because while the aim
11 of the regulation is to provide a safer consumer product, if
12 no one buys that safer consumer product, you take all the
13 companies out, you know, that market dries up. There is no
14 consumer product.

15 And what, then, does the consumer replace it with?
16 So, you've taken something that was a viable product in the
17 market, that was relatively safe, and now they're replacing
18 it with something and you don't have an analysis on that
19 replacement.

20 So, when we look at alternative analysis, it has
21 to be with that in mind, that you are not only replacing it
22 with something safer, but something that the consumer finds
23 acceptable.

24 Ken and I were talking about his fluorinated
25 compound example earlier, and that's one that's directly

1 relevant to some work we're doing. Because if you look at a
2 lot of the alternatives for fluorinated compounds you can
3 find many that are safer, they just don't do the same thing.
4 That functionality disappears. And it might not be the
5 direct functionality you put on the label, but it's a
6 consumer expectation. So, you might still be water
7 repellent, but you don't repel other soils. You don't repel
8 greases with a lot of these alternatives. And it might not
9 be what you're labeling, but it's a consumer expectation.

10 So, we do a lot of consumer acceptance to find out
11 if at least we're at parity with our current product. So,
12 I'm not saying that to be acceptable you'd have to be
13 improved, you at least have to be parity when you're going
14 to look at consumer acceptance.

15 And as DTSC looks at that, when an analysis comes
16 in, I do want to be sure that they review that with an open
17 mind that said, while we're looking at this, if we're going
18 to lose all the business of the product, it adds no value to
19 us.

20 So, I think that's a key criteria. But it's very
21 difficult, how do you analyze that? So, we're talking
22 about, you know, you have your whole matrix and you've got,
23 okay, this is carcinogenic, it's known to be, this one
24 isn't. This one will sell maybe three percent less.

25 So, how do you weight that? And, obviously, if

1 it's -- you know, that one was a very black and white, yeah,
2 it's a carcinogen, it's not. But, you know, a lot of other,
3 small factors and it gets sort of into that decision making
4 that we talked about earlier.

5 PANEL MEMBER ZARKER: I'm also curious, within
6 organizations, in product development, the thinking that
7 goes into producing something. For example, this may not be
8 a good example, but let's use like nanosilver and socks for
9 anti-bacterial, you know, but -- or perhaps something like
10 microbeads. As a consumer, I don't know if I really need
11 that particular product. You know, it's trying to determine
12 what is the really -- the market for that particular
13 function. And sometimes I'm curious, kind of why do we see
14 certain things sort of come out and is it -- you know, if it
15 doesn't work, it goes away.

16 But it's sort of a question, a societal question,
17 you know, about what kinds of things are produced and put
18 out there, and why do we need certain things we don't even
19 know we need, you know, kind of thing?

20 PANEL MEMBER CARINGELLO: And the other piece that
21 Ken and I talked about was how do you incorporate the
22 requirements of other agencies that we haven't talked about
23 before? FTC has some very strict requirements on how you
24 market greener products.

25 So, how do we incorporate that? So, say your

1 consumer acceptance of a product is lesser, but if you could
2 have the language to market it that it's greener, including
3 something about the regulations here, in California, how do
4 you incorporate that in, as well?

5 PANEL CO-CHAIR MORAN: Why don't you guys pass the
6 mic over to Don.

7 PANEL MEMBER VERSTEEG: So, I'm only thinking
8 about this relative to consumer products, so products that
9 are typically sold in like a retail outlet, mostly
10 formulated products.

11 So, I see two types of innovation. One is a
12 consumer, or a commercial innovation which is kind of a new
13 product, a new need that consumers may not have thought they
14 needed. So, maybe it's nanosilver in socks. Consumers
15 didn't necessarily know they needed it, but now that they
16 see a product out there they go, wow, I need that, and they
17 start buying it.

18 Typically, you'll test those by giving them two
19 pairs of socks, telling them they're both nanosilver, and
20 you'll start internally in your company -- assuming you've
21 done all the safety work, but you start internally in your
22 company, and you give them both pairs of socks and say which
23 one did you like better? You like the yellow ones or you
24 like the green ones?

25 And they come back and they say, well, gee, they

1 were the same. That tells you that the nanosilver didn't
2 really help consumers distinguish between the products or
3 they pick one color versus the other and tell you, yeah,
4 they actually prefer nanosilver or they actually prefer no
5 nanosilver.

6 And so, that's kind of the commercial innovation
7 and there are different ways of testing that.

8 You can do the same with green. Do they want a
9 green product or do they run away from a green product?

10 The other one I want to talk about is consumer
11 acceptance versus your baseline product. So, when you're
12 putting a new ingredient in a product, you take the old
13 bottle, you put the new ingredient in it and you give it to
14 them. And you say, tell us what you think of it. And
15 sometimes you'll give them both products, have them do side
16 by side. And they'll come back and they'll say, hey, I
17 loved this product, or I liked it a little bit, or it tastes
18 better, or whatever, and you can judge versus the baseline
19 product.

20 The most difficult one to do, though, is when
21 you're going to change your baseline product, possibly to
22 something that's inferior, so it all of the sudden a new
23 ingredient -- or an ingredient has to go away and it's going
24 to go away for the entire industry, how do you then say,
25 okay, what's the best product -- what product competes best

1 with that new baseline, not knowing where the rest of the
2 industry is going to get to.

3 Because you want to beat the industry or compete
4 in your price tier, recognizing that typically the most
5 expensive ingredient, if it's an alternative, is probably
6 going to be the that works the best. That's just the way it
7 works out. And so, you want to use the cheapest ingredient
8 that beats the competition, recognizing you don't know where
9 their new baseline is going to be.

10 But there are ways to test these types of things
11 with consumers. For the commercial innovation, you can do
12 virtual testing. If it's a new package, a new concept,
13 we've got consumers that we show them a series of websites,
14 show them a virtual store and track their eyes, where do
15 their eyes go. And the product that their eye rests on for
16 the longest period of time tends to be the one that they're
17 most interested in, that they'll buy. So, there are a
18 variety of tools.

19 The consumer acceptance piece, I don't think
20 should be a big barrier. My concern is how do you factor
21 that into an analysis? When's it okay for a company to take
22 a three percent, or a five percent, or a ten percent hit in
23 sales, and in profits.

24 And then, what do you do when you're regulating a
25 company, an aluminum ladder company, and about the only

1 thing they can do is get out of aluminum ladders and starts
2 selling ropes, or jet packs, or something to get people on
3 their roofs. You know, the company's going to go away
4 because they make aluminum ladders. They don't make jet
5 packs or robes. You know, that becomes urgent.

6 PANEL CO-CHAIR MORAN: Those are tough regulatory
7 decisions.

8 I'm going to pass the mic over to Meg here. But
9 just remark that a couple of you mentioned that there could
10 be a product in a different class that might come out as a
11 substitute, if something's removed from the market.

12 Wouldn't that -- you can just nod the head yes or no,
13 shouldn't that be part of the AA, if that's the case?

14 Oh, I just said if a product was removed from the
15 market, so a chemical caused the product to not be
16 acceptable, and some other category or type of product would
17 show up in its place, wouldn't you think that would be
18 something you'd want to identify and include in the AA? Yes
19 or no. I mean, just -- yeah.

20 PANEL MEMBER CARINGELLO: If you were the company
21 bringing out the new product, that new, innovative product,
22 then you could put it in your AA. But in most cases, that
23 replacement product's going to come from someone else, and
24 so you wouldn't be able to put it in your analysis because
25 you wouldn't know about it to analyze that situation.

1 PANEL MEMBER SCHWARZMAN: Really helpful to hear
2 the sort of spectrum of experience. It's just enlightening
3 and helps me picture what we're talking about a little bit
4 better.

5 The one other aspect that I wanted to raise is the
6 idea about the sort of information asymmetry that currently
7 exists. And that when we talk about consumer acceptance,
8 it's a lot about sort of the attributes of a product on
9 which it is marketed. But what about the attributes on
10 which it's not marketed, and that's often its hazard?

11 So, for example, Ken, you're talking about degree
12 of acceptability of the way the water beads up. But what
13 if -- what would the consumer behavior be if they knew that
14 it doesn't bead up on this product, but it is water
15 repellent, you won't get wet in it, and if they knew about
16 the health effects of fluorinated compounds?

17 So, I feel like it's odd to operate in this space
18 missing a whole piece of information, which is the hazards
19 that we're trying to get rid of. And consumers, in a sense
20 we're expecting consumers to make a decision in the midst of
21 an information asymmetry, without all of the information
22 that's driving the whole equation.

23 So they're saying, well, this isn't like -- this
24 soap isn't like my old soap. And we're saying, well, that's
25 too bad that you don't like it as much, but this one happens

1 to not kill fish. You know, but they're not like given the
2 information to factor that in to their decision because
3 nobody's going to go on and claim, same great soap, doesn't
4 kill fish, whereas our old one did.

5 You know, so it puts -- I understand it really
6 puts companies in a bind. What do you do, like same great
7 product, no carcinogens now. I mean, honestly, it's a bind
8 and I appreciate the fact that -- sort of this idea that is
9 there a way to make that marketable. Like, is there a claim
10 they could make around being in compliance with the
11 California Safer Consumer Products Program, or something
12 like that, that would make a claim that would be marketable
13 to a certain percentage of the population, anyway, that
14 would start to address some of the information asymmetry.

15 I've also heard this brought up around outdoor
16 industry kinds of products that they're making a product
17 that's appropriate for polar expeditions, but most people
18 are wearing it to Safeway. And, you know, could we start to
19 distinguish in degrees of water repellency and what's
20 necessary for, you know, your trips to Safeway versus the
21 polar expeditions.

22 Anyway, I just wanted to kind of introduce this
23 concept of we're often -- we're often asking consumers to
24 make this big -- we're treating consumers as the all, sort
25 of powerful, defining force and, yet, we're not giving them

1 all of the information. But, yet, we're taking their cues
2 to guide it. And I feel like it's a little bit like putting
3 the toddler in the controls, you know, they don't have all
4 the information and we don't want to put them in charge.
5 Anyway, it's a tension and I just wanted to raise it.

6 PANEL CO-CHAIR MORAN: I've seen both Becky and
7 Art making notes, so I want to offer if either of you wanted
8 to say something right now?

9 PANEL MEMBER SUTTON: I liked the point you
10 brought up about, I guess, what the audience really wants,
11 what the consumer really wants. Because I think sometimes,
12 as a chemist or a formulator, you get really proud of the
13 product or the function of the chemical, and it may be
14 performing a really amazing function, whereas a consumer
15 might only need 50 percent of that function. They might not
16 really expect it to be as amazing as it is. And so, kind of
17 pinpointing what consumers need and want versus what a
18 chemical could do or a particular ingredient might be
19 important.

20 PANEL CO-CHAIR MORAN: While the mic's making its
21 way over to Helen, that's a point that Helen's done a really
22 nice job of making. It was, how good is necessary?

23 We should try to focus our conversation on what it
24 is that DTSC can say in its guidance on this topic? We're
25 doing a nice job of fleshing out the issues around it, but

1 what is DTSC going to guide people about this?

2 I think I'm pretty clearly hearing that the
3 typical consumer acceptance marketing study is not going to
4 be the only evidence that's going to be useful in their
5 decision making. But beyond that, I'm not hearing what to
6 say.

7 PANEL MEMBER HOLDER: Perfect lead in. So, I
8 think that a lot of the discussion, really, so far has been
9 about functionality, but that real decisions are actually
10 made on aesthetics. Usually, smell is like the primary
11 thing that makes people buy stuff, which is crazy. But
12 that's the truth. Or like a table, it's the flexibility of
13 this table that can be loaded up with all sorts of gunk, but
14 as long as it's really flexible people like it. Things like
15 that, it's these aesthetic things.

16 So, my thought on this was that I think it's fine
17 for a company to, in their assessment under consumer
18 acceptance, say that we think that there's an aesthetic or
19 that there's something here that's going to limit customer
20 acceptability. Here's our AB testing. That's what we call
21 it, by the way, what Don was talking about is called AB
22 testing. But, you know, you have something to back it up.

23 And I think it's also perfectly acceptable to push
24 back on that, too. You know, if they can make a compelling
25 argument that a stiffer cable, you know, is going to just

1 never be acceptable and we've tested it, and here is what
2 we've got. I think that's a valid thing to bring in. It
3 may not be the only factor, but that becomes part of the
4 assessment. But I think that that's from the aesthetic
5 perspective.

6 I think that there's another thing, though, that
7 Mike had mentioned earlier today, I think it was Mike, when
8 he said that one of the factors is actually -- from a
9 competitive perspective could be cost. And I think there's
10 a real question of how to bring that in, in sort of a fair
11 way, in a balanced way. Because, otherwise, it could turn
12 into the only thing, as it does in so many cases it's the
13 only driver. But it is a factor.

14 So, you know, maybe that's something, again, in
15 the guidance you could bring that in, is to talk about how
16 to bring in that aspect of it, so that it's not completely
17 left open. So, I think if you can touch on how to bring in
18 that aesthetic consideration and not let it overwhelm, and
19 the cost thing, again, to kind of address it in the
20 guidance, but not let it overwhelm. How to kind of put it
21 in the perspective as, you know, creating the assessment and
22 then give some sense on how it might be interpreted.

23 PANEL CO-CHAIR MORAN: Thanks, Helen.

24 Let's go to Mike and Don, and I'm going to ask you
25 to be very brief at this point, since you've had quite a bit

1 of air time on this topic. And then we'll come back to Ken,
2 and then try to move to wrap this up.

3 PANEL MEMBER CARINGELLO: And I just wanted to
4 quickly, Meg had brought up that consumers often don't have
5 the full story. In, I don't want to say reality, but
6 consumers do have a lot of information about the chemicals
7 in our products. Some of it erroneous, some of it true.
8 And so, you can compose a consumer study, and this might be
9 what belongs within the guidance, is that, yes, you do a
10 blind study first, like we were talking about. But then,
11 add to that study a component of, okay, now, what do you
12 think of these products if I tell you that this chemical has
13 been removed or substituted for these reasons.

14 You can do multi-phase studies like that, and that
15 might be what the agency would recommend is don't just take
16 a study to look for parity, but one where because the
17 consumer would eventually have that information, anyways,
18 it's a perfectly valid study for your consumer, and see how
19 that shapes things.

20 PANEL CO-CHAIR MORAN: Don't

21 PANEL MEMBER VERSTEEG: Yeah, just real quickly
22 and to Meg's point. We have asked consumers questions, such
23 as this product now contains ingredients which are not
24 associated with trans-boundary pollution. Which one do you
25 want? And they typically, many of them will go to the first

1 because it's still got the good stuff in it.

2 EPA and the DFE Safer Choice Program is kind of
3 running the experiment, they're putting labels on products,
4 Safer Choice. They're, at least historically, there have
5 been a group of consumers that will find the label and put
6 it back on the shelf, and pick the one that's still got the
7 good stuff in it.

8 And so, I think the challenge going forward into
9 the future is to get consumers to recognize that the good
10 stuff can also be the safer stuff. And how do we do that,
11 recognizing that consumers don't have a long attention span
12 when we start talking the technicalities of toxicity, and
13 effects, and greenhouse gases, and pollution, and things
14 like that?

15 PANEL CO-CHAIR MORAN: While the mic's going to
16 Ken, I'll point out that Don just said the most optimistic
17 thing I've heard all day, the good stuff can be the safer
18 stuff.

19 PANEL MEMBER GEISER: So, it's an interesting
20 discussion and it's a new factor that I've heard about, and
21 I'm sort of playing with it. But I'm sort of thinking about
22 the relevant factors and going back to the relevant factors.
23 What are the relevant factors that the Department should be
24 guiding things on, and should be reviewing things on, et
25 cetera. And it seems to me that's a baseline.

1 So then comes in a thing called performance. Does
2 it perform as well as -- does the product now meet the
3 performance tests that a firm has, as well as the product
4 when it -- well, the difference between the -- I'm sorry,
5 between the chemical of concern and the alternatives. So,
6 performance becomes an issue, a thing. And there are many
7 tests for performance, but that isn't really a relevant
8 factor. That's simply something you would obviously do.

9 So then the next thing, it seems to me, is
10 consumer acceptance is another one. And then it gets over
11 into cost, as Helen said, and maybe eventually
12 profitability, and market share. I mean, there's a whole
13 bunch -- it's a sliding out of a whole bunch of things that
14 I would think a firm would consider, but I'm not sure that
15 they're relevant factors.

16 And I think maybe, I don't want to just wrap -- I
17 was thinking, initially, when we started the conversation,
18 I'll just throw this in as another relevant factor. But I
19 think it's a very slippery slope into a lot of marketing and
20 business decisions that really important. Really important,
21 I don't deny it. But maybe they need to be dealt with in a
22 different way, just recognizing there are all these business
23 decisions that need to be thought about in making a
24 comparison amongst alternatives.

25 But I think always reminding ourselves that the

1 relevant factors are the ones that are in the statute and in
2 the regs.

3 PANEL CO-CHAIR MORAN: Thank you, Ken.

4 I think we've fully covered this topic. And I
5 don't think I'm going to try and summarize because I think
6 what we did is air a whole bunch of things and not really
7 land at a particular recommendation and guidance at this
8 point, but some caution on the use of the role of it.

9 Do you want to wrap for just a moment, Ken? Since
10 you and Mike started this, I want to offer you an
11 opportunity to quickly end it and then I'll --

12 PANEL MEMBER ZARKER: I just want to offer
13 something tangible, you know, in terms of this. I guess,
14 consideration of best practices within the industry and
15 using your staff here, at DTSC, to go out and identify those
16 currently in play. And, you know, provide that as guidance,
17 I think that would be one suggestion.

18 PANEL CO-CHAIR MORAN: Mike, you want to add?
19 Okay.

20 All right, so let's wrap this up. There were
21 three things that we were going to try to do the very quick
22 go-round on. And I think we've got time for at least a
23 couple of them, if we're quick.

24 So, let's see, we weren't actually planning to
25 talk about economic factors today. But I did want to ask

1 if, after having raised this a couple times, if anyone wants
2 to give the Department any thoughts in regards to
3 approaching the guidance on the requirement to consider the
4 economic factors that are related. So, basically, the
5 external costs associated with the product. So, the
6 environmental, public health and government costs associated
7 with a product.

8 Does anyone have anything that they would like to
9 say, at this time, that might help the Department on that
10 topic?

11 PANEL MEMBER ZARKER: Yes, I guess I'd be curious
12 if the Department has looked at environmental economics, the
13 field that's a discipline around this particular topic, and
14 whether that would be helpful.

15 PANEL CO-CHAIR MORAN: Relly, do you have a mic
16 over there?

17 MR. BRIONES: So, with the economic impact
18 factors, we considered several reports, especially the one
19 from ECAA. And they have -- on the environmental costs they
20 have, they consider this cost of emissions. And also, there
21 are some other reports that also use the lifecycle impact
22 end points, wherein they have these -- the BDF, or the
23 biodiversity affected hecter years, and there's a value
24 associated with this lifecycle impact end point by study, by
25 (inaudible) -- all those realize that these studies have a

1 range of values, so the question is how accurate would this
2 be, this quantification. It's going to be a good estimate,
3 since I think for this economic impact analysis it will just
4 be some sort of relative comparison of the baseline product
5 and the alternative, if they'll be using the same approach.

6 So, I don't know if you can sort of give us
7 additional advice on several approaches.

8 PANEL CO-CHAIR MORAN: Thanks. Meg's got her card
9 up. Here, I'll just hand you the mic.

10 PANEL MEMBER SCHWARZMAN: One area I would suggest
11 is the Field Ecosystem Services that is establishing a
12 literature and a practice around accounting for human
13 impacts on natural systems that provide value to humans.
14 And there is -- you know, it's not a field that's been
15 around forever, but there is increasingly sort of some areas
16 that they're pretty good at quantifying, like a pollinator
17 loss, and the economic value of some of those impacts. So,
18 that's one place to look.

19 The piece that I think is really, really difficult
20 is that there's this whole -- since we have so few places
21 where we really understand the causal links, like what
22 proportion of a disease is contributed to by which chemical
23 exposures, it's very difficult to quantify.

24 And the reason I raise this topic is because I'm
25 very wary about weighting some known and readily

1 quantifiable factors against a bunch of unknown and un-
2 readily quantifiable factors, and the chance of the readily
3 quantifiable factors just washing out the unknowns. So,
4 that's not a particularly helpful contribution, I recognize
5 that.

6 But I wonder, even, if there's some ways to think
7 about appropriate precautions to write into the guidance, or
8 if there are ways that the Department can stipulate what is
9 not permissible in this area, or anywhere from there to is
10 there help available on the Federal level about supporting
11 some assessments that could be then used by everybody.

12 PANEL CO-CHAIR MORAN: Just a couple of other
13 ideas, using the Chair's prerogative here, is on the
14 government side, your fellow agency, the Waste Board, I'm
15 sure has information about green waste costs and other waste
16 management costs.

17 I don't think that they or the Water Boards are
18 collecting wastewater information, but I know that EPA is,
19 and their cost assessments for the various methods of
20 disposing of sewage sludge, for example.

21 So that treatment costs, and there have been some
22 specific case studies that have come out. And I know that,
23 for example, siloxanes have caused a substantial additional
24 equipment maintenance cost for certain sewage treatment
25 plants, and that's been written up in papers.

1 But some costs are harder. A good example of that
2 was that we struggled to come up with a good numeric value
3 for the cost of copper from brake pads, and cleaning that up
4 from stormwater runoff. And it was in the billions of
5 dollars statewide. But actually having any one agency, city
6 council, let them tell us -- let them let anybody say that
7 was a whole 'nother political matter.

8 So, some of these are harder than others. And I'm
9 thinking that the best strategy here may be to try to create
10 a resource of examples that are case studies, and that using
11 that as a learning experience because I don't think there
12 are guidance manuals out there for most of at least the
13 government costs. So, there's nothing out there that people
14 can take A times B and get C, the dollar cost.

15 Does anybody else want to say anything here?

16 PANEL MEMBER SCHWARZMAN: Just to add to the list
17 of examples that are, may be possible in the human health
18 range, like things that are asthmagens, they're good models.
19 You know, there's good accounting for what asthma costs
20 society. You can't know what proportion of asthma is caused
21 by any given asthmagens, and so you can't say this chemical
22 costs this amount. But at least we understand some of the
23 societal costs around that disease.

24 So, there's some places, also, that it's easier
25 than others. So, I agree with your idea about some cases

1 where it's more possible and what can we learn from that.

2 PANEL MEMBER GEISER: Yeah, just briefly. I'm
3 thinking it might be interesting to look back at the
4 analyses that were done in the anticipation of REACH, and
5 looking at the cost models that were developed by several
6 firms. I can remember, one firm did a bunch of them, and
7 that would be useful.

8 The other thing is in the Global Chemicals
9 Outlook, in the middle section was a section on economics,
10 and insurance costs, and trying to model that to some
11 degree. I don't know how relevant it is to the single
12 chemical, but at least those are some others you might take
13 a look at.

14 PANEL CO-CHAIR MORAN: And Helen's got her flag
15 up.

16 PANEL MEMBER HOLDER: So, I really struggled with
17 the economic portion of our assessment because of all these
18 reasons we talked about. For what it's worth, my request
19 would, be even if it's not completely right, that we have a
20 standard model that everyone uses at the beginning that
21 gives some of these numbers. And says, plug in what you've
22 got for these, and these, and these.

23 And part of why I would encourage that is because
24 there is no upside to any company admitting any liability
25 for any of this, good, bad, at all. But if everyone has to

1 fill the same form, based on the same underlying data, that
2 actually does at least level the playing field.

3 So it's like if you have, you know, a sensitizer,
4 then you have to put, you know, seven in this box, or
5 something like that so that it forces a particular
6 calculation. Now, that calculation is going to be wrong
7 because these models are just not -- you know, they're not
8 developed, yet. But maybe that's something that gets
9 developed over time, as we kind of build that expertise.
10 But I think that's going to really be, at the get-go, if
11 anyone really does this seriously. I just don't see how
12 they can do it and even if they try to do it, no one in
13 their legal department's going to sign off on it.

14 So that would be my request is come up with
15 something, even if it's not ideal, and make everyone do the
16 same thing.

17 PANEL CO-CHAIR MORAN: Helen, so hang onto the
18 mic. So, Helen's saying all models are wrong, but some are
19 useful.

20 So, there's two other things that the staff asked
21 if we had reactions to, and I'm just going to ask that we
22 pass the mic around, and then this will be the last thing we
23 do before we move into our thank you's and closing.

24 Which one was if folks had any reactions to the
25 principles that are on your desk, and a suggestion as to

1 whether these might be useful in the guidance or not, or
2 appropriate given their approach?

3 And the second is if there's any other ways to
4 deliver content, other than the printed guide? And I know
5 the Department has some ideas of a website. And I know this
6 puts Helen on the spot, but I also know she's quick.

7 So, I was just going to suggest that we offer the
8 opportunity to opine on either or both of these by passing
9 that talking stick around. And if you have no opinion, you
10 can say that, too.

11 PANEL MEMBER HOLDER: Luckily, I have an opinion
12 on the principles and so that makes that simpler. These
13 principles are really targeted or addressed to regulators
14 creating these systems, not to people doing alternatives
15 assessment. And so, that would be my observation is that I
16 don't think that needs to expand.

17 Now, that being said, there are a couple of things
18 within the comments that you could potentially expand on
19 based on a couple of the points in here, about like
20 flexibility, and certain things like that.

21 Like, for example, one of the things that I
22 mentioned is don't duplicate efforts. And this is one of
23 the things that I think, I agree strongly that we shouldn't
24 be duplicating these efforts and repeating these. And
25 that's not in the comments, for example.

1 So, I mean, there are a couple of things we could
2 bring in. But by and large, the bulk of it is really
3 intended for the people in this room, you know, and the reg
4 writers. And I think we have given a lot of thought to
5 exactly these points. Thanks.

6 PANEL CO-CHAIR MORAN: And do you have any
7 thoughts on other ways to deliver the content of the AA
8 guide, other than the kind of printed version?

9 PANEL MEMBER HOLDER: And the only thing, from a
10 user perspective, is if you had online forms to submit, that
11 would make it easier. So, fill out this section, hit
12 submit, save it for later, blah, blah, blah. And I know
13 there's been some resistance to forms but, you know, that
14 would be a lot easier.

15 PANEL CO-CHAIR MORAN: Thanks, Helen.

16 So, we'll go around, either or both of the points,
17 whatever you like, or none.

18 PANEL MEMBER BLAKE: I'm not really sure that I
19 have a strong opinion about these additional ones, except to
20 echo a little bit of what -- I'm not sure what these would
21 add, I think, to describing what needs to be done. This is
22 obviously useful for someone who's doing it. So, I don't
23 know that it needs to go into the guidance, but it's good to
24 know that it's there. Maybe have a reference to it.

25 In terms of how to present -- I feel like I'm

1 dodging both questions. Here we go, in terms of content, I
2 think we'd have a better idea once we have -- to me, the
3 best content would be walking somebody through a case study
4 and we don't have those, yet. So, I think we'd have a
5 better idea of what those are after we've done -- after
6 we've gotten alternative assessments from the first priority
7 products.

8 PANEL MEMBER CARINGELLO: I don't have anything
9 additional on the principles. I think they would be great
10 in the form of an introduction or something, somehow,
11 especially if this is web-based, so that people know the
12 springboard. But I don't think they're necessarily part of
13 the guidance document.

14 Other ways for delivery of the content of the
15 guidance document, I know you're doing a lot of work with
16 trade associations. When these come out, my trade
17 associations get me the information right away. I've always
18 seen it from you guys because I keep an eye open, and you
19 guys are very good at sharing.

20 But I know there are a lot of companies that
21 aren't linked to other trade associations. I recall the
22 Fisherman's Association being on your case very rapidly,
23 because they didn't know what was going on. So, any
24 associations that you can think of, that would be affiliated
25 with these, and you can look them up on the internet pretty

1 easily, is a great way to spread this out.

2 Also, look at other agencies within California
3 that would have lists of companies that might need this.
4 CARB is who comes to mind right away. They get tons of
5 reports in from companies that are required to report to
6 them on VOC content. So, they might be a very good list to
7 share, for you to have to be able to get the content out,
8 too, as well.

9 PANEL MEMBER ZARKER: This is Ken. So, I think
10 one piece on the principle I don't see is some reference to
11 either education or a community of practice, as we're trying
12 to build this out. So, I would think we'd maybe want to
13 include something like that.

14 And then, I guess that leads to this community of
15 practice, how we can convene practitioners. And Karl talked
16 about one of the things with our new MOU is perhaps, you
17 know, bringing together states and others that are doing
18 this work, to begin to share that in practice.

19 And, for example, in Washington State we're going
20 to be doing an assessment on copper bottom boat paint, and
21 we can start to share those experiences with the group.

22 PANEL MEMBER VERSTEEG: Okay. On the principles,
23 I would think there would be room in the document for these
24 principles. Of note, all the guidance that has been put
25 together previously, that I'm aware of, very few companies,

1 very few individuals who have experience doing alternatives
2 analysis, and putting in an ingredient in a product, and
3 then selling it to consumers, very few of the documents,
4 none that I know of, have that experience. This comes from
5 a group of individuals that have that experience.

6 Full disclosure, I was part of the team that
7 developed those. I would think there's room, someplace in
8 the document, for some or all of those principles.

9 And then on sharing, small and medium -- I think
10 small and medium enterprises are the real crux of the issue,
11 getting it to them. I don't know how you do that, other
12 than getting in touch with their trade organizations or
13 going on the road to speak with them directly, and
14 individually. Thank you.

15 PANEL MEMBER GEISER: Well, just quickly, this is
16 the first I've seen these this morning. And, you know,
17 there's some good guidance in here. I'm not debating that.

18 I think it's a little unclear what to include that
19 has not been generated by the Department in some way, seeing
20 as the Department is sort of the root of the document. And
21 comments, principle, the one thing I have to say about it,
22 Bob was very heavily involved in that, so he was developing
23 it as it was going on. So, I feel a little more comfortable
24 about that, than I do about this.

25 Although, I have to say, I mean it's basically

1 good information. I'm not debating that. It's just a
2 question of what all you include.

3 On the other, I mean, it would be nice if we could
4 do something that was more visual on this. I don't know
5 whether there's a way to do short videos, or things like
6 that, that might be useful. But the document, I mean I
7 think it's going to be fine, but it's not very interactive
8 and not something that you can take around and do training,
9 like that.

10 So, I don't know whether there might be some
11 capacity to do some short visual things that might be good.

12 PANEL MEMBER SCHWARZMAN: I also have just taken a
13 brief look at these principles. But I think, process-wise,
14 I share Ken's hesitation about bringing in things that were
15 written by other entities. I think, sort of like it might
16 make sense to do it for this, but then where do you say no
17 or yes to someone else, who has good ideas about another
18 piece. And I think that's potentially opening something
19 that gets really difficult.

20 I also would flag something that looks like it's
21 contradictory in the principles here, compared to what's
22 already in the guidance, which is just the stipulation of is
23 this hazard-based or risk-based. And there's a long
24 history, obviously, to that contention. But these
25 principles are very clearly written as saying everything

1 should be -- decisions should be risk-based. And my read of
2 the guidance document was that it's hazard-based.

3 And so, if you bring in other principles and then
4 they're contradictory within the document, that I can
5 anticipate problems.

6 And I, unfortunately, don't have any clever ideas
7 about distribution.

8 PANEL MEMBER SUTTON: I'm glad Helen explained
9 more of the intended audience for the principles because,
10 when I read them, I didn't really understand how they would
11 fit into the guidance. So, I kind of agree with Ann, maybe
12 cite them or reference them, but I don't think they need to
13 be woven into the guidance.

14 I don't have any comments on dissemination.

15 PANEL MEMBER BAIER-ANDERSON: I agree that, well,
16 they exist, they should be referenced. And I don't have any
17 issues with that.

18 I like the idea of the videos, especially once
19 there's more experience with this. You could have a video,
20 like how to do a conceptual model, or how to assess relevant
21 factors, and have like a staged kind of discussion, which
22 kind of walks people through this. I think that would be
23 really fun so --

24 PANEL CO-CHAIR FONG: So, in terms of videos,
25 actually, I really like that idea. And for those of you who

1 have not seen it, there is a -- so, when nanotechnology was,
2 you know, first hitting the scene, and people wanted to know
3 what nanotechnology is, and so the industry just did a
4 horrible job of explaining why it's important.

5 And that NNI actually came up with this
6 nanotechnology song, and it's on Youtube, and it's just the
7 best thing when it comes to explaining what nanotechnology
8 is. So, if you haven't seen that, go to Youtube, type in
9 nanotechnology song, or something, and it's just the best
10 thing in the world.

11 Well, you know, what I can do is send the lyrics
12 to Helen and she can perform it at our next meeting. Yeah,
13 there you go.

14 (Laughter)

15 PANEL CO-CHAIR FONG: But in terms of content
16 delivery and dissimulation, I'm not sure I understand why
17 there's a push for it. The way I look at it is that people
18 that are interested in this already get that information.
19 They keep an eye out on the moment you deliver -- I mean,
20 you publish something. I mean, I get phone calls like
21 within minutes of you publishing. So, I guess in that sense
22 I don't think anything needs to be changed.

23 But in terms of the educational component, you
24 know, walking people through things, I think that having
25 some media savvy person help you would be great.

1 PANEL CO-CHAIR MORAN: So, just before I hand over
2 the mic to Meredith, in a minute, I also -- I'll just say
3 that I think Helen said it just right on the principles
4 document, and I just agree with that.

5 On giving out content or education, I want to echo
6 the video thing. DPR has been making very good use of
7 videos. And what they're doing is just recording seminars
8 and sticking them all up on Youtube. I mean, the service
9 water quality -- and they're watching staff do things, and
10 they're putting it on Youtube. And they're kind of over-
11 communicating in a way, but it's all right there. And then,
12 when you want to look at it, it's available.

13 I think case studies are super, super important.
14 And I'd actually love to see case studies coming into the
15 Department and getting posted with some thoughts or feedback
16 from the Department. So, not like a full evaluation, as if
17 it were regulatory, but at least some notes about, you know,
18 this is what's strong about this, and here's some weaknesses
19 compared to what might be submitted under California law.

20 And I also think a community of practice, an
21 association, whatever we want to call it, it's more than
22 time to have that, to have some predictability. We're
23 having discussions, and all kinds of different conferences,
24 and settings, and all of us are going different places and
25 doing that. And we really need to have a central place to

1 have the conversations around growing the profession here,
2 and working through some of the issues that we're talking
3 about.

4 PANEL CO-CHAIR FONG: So, actually, I slightly
5 disagree with Kelly on just putting a bunch of videos
6 online. For one, I think it confuses the issue a lot of
7 times. So, if you're going to put a video online, you
8 should put a lot of thought into the content before putting
9 it on, as opposed to just recording, you know, seminars or
10 discussions. Because I think that would lead to confusion
11 because they might not be -- those discussions and seminars
12 may not be specifically addressing issues related to this
13 program.

14 PANEL CO-CHAIR MORAN: That's a very good point.
15 So, at this point I'm going to wrap that up and take us into
16 the last items on our agenda. We have half-an-hour for a
17 wrap up that I think is going to take about five minutes.

18 But there's something very important that we're
19 going to get to do, now, and it's a pleasure to kick that
20 off, which is to thank three of our long-time panelists for
21 their service and express our sorrow that we're losing them,
22 and their expertise on this Panel.

23 And those folks are Bill Carroll, Don Versteeg and
24 Julie Quint. Is Bill on the phone, yet? So, we really
25 missed him today. And all of them have done just amazing

1 service to our State and to DTSC.

2 And, Meredith, do you want to take over, now?

3 DEPUTY DIRECTOR WILLIAMS: Oh, right. I would
4 love that.

5 Okay. So, I'm going to start with Bill, even
6 though he's not here. And Bill was a co-chair of the GRASP
7 when it was even bigger and more unwieldy. And he and Ken
8 were in great partnership. That was before my time, but I
9 have heard wonderful things about the work that was done.
10 And, obviously, it was fruitful because we have regulations.
11 And I think that that Panel and many of you were responsible
12 for that.

13 So, I'm just going to read the certificates that
14 we put together. This is just a small -- I'll read it as if
15 Bill was here, so I don't have to try to adapt the language.

16 "This certificate recognizes Bill Carroll's
17 leadership and contributions to the development and
18 implementation of the Department of Toxic Substances
19 Control's Safer Consumer Products Regulations. As Co-Chair
20 of the Green Ribbon Science Panel for the State of
21 California, you provided critical perspectives and helped
22 identify insightful avenues for common agreement. You
23 provided steady leadership to the Panel over long and
24 complex deliberations to ensure the Panel considered the
25 practical implications of the SCP Regulations. We thank you

1 for your contributions in bringing this new framework to
2 fruition, for management and regulation of chemicals in
3 commerce. We salute your generosity in sharing your deep
4 knowledge of organic electro-chemistry, polymer chemistry,
5 combustion chemistry, recycling, and the chemicals industry
6 as a whole to inform the Panel, and the Department, and for
7 maintaining good humor and perspective throughout. Thank
8 you for your service." Signed "Barbara Lee".

9 (Applause)

10 PANEL MEMBER GEISER: Yeah, let me just -- let me
11 just add to that. Yeah, let me just add to that, Meredith.
12 I remember when it was first proposed that Bill and I would
13 be co-chairs, even before Debbie's name was raised into it.
14 And I remember the two of us calling each other and saying,
15 is this going to work? Because Bill and I had had probably
16 10 or 12 years before of active engagement about various
17 things. Never, ever anything but very gentlemanly,
18 thoughtful things, but often on different sides of issues.

19 And I remember Bill and I initially saying, look,
20 we've always respected each other to this point and I think
21 we can make this work.

22 But I do salute Bill because Bill, what you all
23 don't know is how much the co-chair work really is behind
24 the scenes, as well as there is meetings, and discussions,
25 and all. And Bill, and Debbie, and I would work a lot

1 before we'd get to the meetings. And Bill was always
2 incredibly insightful, and very, very good about process,
3 and about how to think about getting people to participate.

4 But he was also in the meetings, I thought, very
5 good about giving a business or an industry perspective on
6 things, in a way that was not defensive, that was very
7 clear, that was very thoughtful about how to move industry.
8 But at the same time, to protect the issues of industry.

9 And then there was always Bill's humor, which was
10 always so self-effacing and so wonderful because, as we all
11 know, he would say things which were sort of like, well,
12 with a simple mind like mine, it's hard to believe I have
13 something to say. And then he would roll off something,
14 really very, very thoughtful.

15 But it was all of that. I think he's a remarkable
16 man and I certainly salute him and enjoyed my years of
17 working with him as a co-chair.

18 (Applause)

19 DEPUTY DIRECTOR WILLIAMS: Okay, the next of our
20 three retirees that I will mention is Julia Quint.

21 And this says:

22 "Julia, thank you for your service on the Green
23 Ribbon Science Panel for DTSC in California. Julia, you are
24 known to be exacting and rigorous in your application of
25 toxicology to human health and worker safety. You

1 consistently appealed for accurate information to be
2 developed and disseminated by chemical manufacturers. These
3 hallmarks were of tremendous value to California's Green
4 Chemistry Initiative and it's foundation of sound science.
5 You demonstrated an eagerness to share your knowledge and
6 experience with staff to strengthen the SCP Regulations. In
7 doing so, it was clear that you recognized the opportunity
8 that the SCP Regulations created to address issues you had
9 pursued over the course of your rich career. You
10 exemplified the vision of science and service of sound
11 policy and decision making that was envisioned when the
12 Green Ribbon Science Panel was established in statute. As
13 the Panel wrestled to realize the ideals put forth in AB
14 1879, you brought a clarity and precision in logic and
15 science which advanced deliberations, and the work of the
16 Panel. We thank you for your rigor, incisiveness and
17 focus."

18 (Applause)

19 DEPUTY DIRECTOR WILLIAMS: Ah, you get to come up.

20 "Thank you for your service on the Green Ribbon
21 Science Panel, for DTSC, in California. Before you offered
22 to be of service on the Panel, you contributed to the
23 Department's Green Chemistry Initiative. Your technical
24 support for DTSC's 2010 Alternatives Analysis Symposium I,
25 helped make the symposium a success. Staff continued to

1 benefit from your efforts to facilitate a dialogue between
2 the Department and you, and your colleagues, at Proctor &
3 Gamble. You shared industry practices and perspectives with
4 us to inform our approach to integrating alternatives
5 assessment into the SCP Regulations. You then generously
6 offered to share your nearly three decades of experience, as
7 a member of the Panel. We recognize your long commitment to
8 sustainability and to designing safety into consumer
9 products and we commend you for your contributions to the
10 implementation of the SCP Regulations.”

11 (Applause)

12 DEPUTY DIRECTOR WILLIAMS: And I do want to add
13 that it was just interesting, because it was several years
14 ago that that symposium took place. But when it became
15 apparent that you were retiring, Tony, and Xiaoying, they
16 both came up with this spider graph that you had presented
17 years ago, that still was so fresh in their mind in terms of
18 being a valuable tool. And they had a couple other
19 examples, too, so it's really -- we've had a really good
20 discussion. Thank you.

21 (Applause)

22 PANEL CO-CHAIR MORAN: So, with just a couple
23 minutes to go today, we're supposed to summarize action
24 items on the parking lot, but I don't think we wound up with
25 a parking lot. And I think we gave the staff a lot to think

1 about in terms of action items, but nothing specific.

2 Oh, Meredith's has some different --

3 DEPUTY DIRECTOR WILLIAMS: There were some items
4 that we didn't cover, that we voted on today, but we didn't
5 cover. And so, I think those should go into our parking lot
6 as, you know --

7 PANEL CO-CHAIR MORAN: Excellent point. The staff
8 and Co-Chairs will take those as input for the agenda, for
9 the next meeting.

10 So, and now, we do need to talk about the future,
11 the restructuring of the Panel. Are you ready to do that?

12 DEPUTY DIRECTOR WILLIAMS: With the retirements,
13 we do have -- we will have positions open. And as you may
14 have noticed, we are losing some industry voices which are
15 very important to us to giving us that reality check. And
16 also, being able to call up the different parts of industry
17 that are impacted by the regulations. In some cases, it's
18 our technology folks moving to make some connections there,
19 and understand how people are managing CBI effectively. But
20 mostly, it's the scientific expertise.

21 So, we will be opening a solicitation process for
22 nominations within the next week or so, and we really
23 welcome people to put their names in. We're taking
24 suggestions. A couple of Panel members have made some
25 suggestions already, and we appreciate that.

1 And then, with Julia, Julia had brought a special
2 perspective with respect to worker safety. And that is
3 something that it's -- we've stated it as a policy priority
4 for our three-year work plan. We think it's important to
5 continue to have that expertise on the Panel. And, of
6 course, those are big shoes to fill, but we do -- we are
7 particularly interested in that knowledge base.

8 PANEL CO-CHAIR MORAN: Should existing Panel
9 members assume that they're automatically being reapplied?
10 So, the answer to that was yes, so you don't need to fill
11 out an application form.

12 But I'll reiterate the Department's request to
13 think through the folks you know, the folks you respect, the
14 folks you would love to sit in one of these meetings with,
15 and contact them, and contact DTSC with their names.

16 This is a truly amazing group. And today's
17 discussion reminded me of what an incredible privilege it is
18 to be sitting in the room with all of you, and all of the
19 amazing staff working on this program today.

20 I want to thank you for the work that you've done,
21 for the brain power you brought to today's discussion. It
22 was a pretty long day. And we have another half-day to come
23 tomorrow. So, a little chance overnight to bone up, because
24 I see a whole bunch of you running around and doing this
25 tonight. Doing these things the night before and coming up

1 with amazing thoughts the day of.

2 But we also will be adjourning momentarily, and so
3 most of us should be going to dinner tonight. So, I'll
4 remind you of your Bagley-Keene responsibilities not to be
5 discussing our agenda items at our dinner, which is purely a
6 social event.

7 And we'll look forward to seeing you tomorrow for
8 our discussion on tools, and approaches and issues around
9 the priority product selection process.

10 So, are there any final things?

11 PANEL MEMBER GEISER: Quickly, just very well
12 facilitated discussion today. I want to thank the Co-Chairs
13 for excellent facilitation.

14 (Applause)

15 PANEL CO-CHAIR MORAN: Thank you very much. The
16 meeting's adjourned. We'll see you tomorrow morning.

17 (Thereupon, the Meeting was
18 adjourned at 4:56 p.m.)

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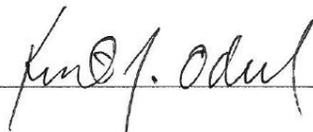
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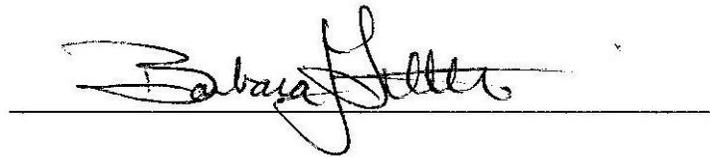
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IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of December, 2015.

A handwritten signature in cursive script, appearing to read "Barbara Little", is written over a horizontal line.

Barbara Little
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