

VIDEOCONFERENCE MEETING
STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
AIR RESOURCES BOARD
SCIENTIFIC REVIEW PANEL
ON TOXIC AIR CONTAMINANTS

ZOOM WEBINAR

FRIDAY, OCTOBER 9, 2020

9:31 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

A P P E A R A N C E S

PANEL MEMBERS:

Cort Anastasio, PhD, Chairperson

Ahmad Besaratinia, PhD

Paul D. Blanc, MD

Stanton Glantz, PhD

S. Katharine Hammond, PhD

Michael T. Kleinman, PhD

Joseph R. Landolph, Jr., PhD

Lisa A. Miller, PhD

Beate R. Ritz, MD, PhD, MPH

REPRESENTING THE AIR RESOURCES BOARD:

Walter Ham, Monitoring and Laboratory Division

Chris Jakober, PhD, Air Pollution Specialist, Monitoring
and Laboratory Division

Kathleen Kozawa, PhD, Staff Air Pollution Specialist,
Industrial Strategies Division

Christal Love-Lazard

Carolyn Lozo, Chief, Oil and Gas and GHG Mitigation
Branch, Industrial Strategies Division

Lori Miyasato, Panel Liaison

REPRESENTING THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD
ASSESSMENT:

Heather Bolstad, PhD, Pesticide and Environmental
Toxicology Branch

A P P E A R A N C E S C O N T I N U E D

REPRESENTING THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD
ASSESSMENT:

John Faust, PhD, Chief, Community and Environmental
Epidemiology Research Branch

Rachel Hirani, PhD, Community and Environmental
Epidemiology Research Branch

REPRESENTING THE DEPARTMENT OF PESTICIDE REGULATION:

Nan Singhasemanon, PhD, Assistant Director

ALSO PRESENT:

Gustavo Aguirre, Jr., Central California Environmental
Justice Network

Amy Kyle, PhD

David Viveros

Mark Weller

I N D E X

PAGE

1. Welcome and Introductions 1
2. Informational Update from Department of Pesticide Regulation regarding 1,3-Dichloropropene mitigation pilot studies 11

Department of Pesticide Regulation (DPR) staff will provide the Panel with a brief synopsis of the July 9, 2020 presentation to the Panel on 1,3-Dichloropropene (1,3-D or Telone), followed by an update on the current status of mitigation pilot studies being conducted in the AB 617 community of Shafter.

3. Informational Update Assembly Bill 617 Consultation Group Meetings. 74

Update from the AB 617 Consultation Group member. The AB 617 Consultation Group includes individuals representing environmental justice organizations, air districts, industry, academia, public health organizations, and local government. Its meetings provide an opportunity to discuss various aspects of Community Air Protection Program implementation. The Panel's representative in the group will provide an update on recent AB 617 Consultation Group meetings.

4. Informational Update on the Study of Neighborhood Air near Petroleum Sources (SNAPS) Program. 91

Part I. SNAPS Program Overview from California Air Resources Board Staff

The Study of Neighborhood Air near Petroleum Sources, or SNAPS, is a California Air Resources Board (CARB) program designed to study air quality in communities near oil and gas extraction and related facilities. SNAPS is an air monitoring effort that utilizes stationary trailers and mobile measurements to determine community exposure to emissions from all sources.

I N D E X C O N T I N U E D

PAGE

SNAPS communities will receive a final report containing an analysis of the monitoring data and a health risk assessment prepared by OEHHA. CARB staff will provide a brief overview of the SNAPS program, including background information and status updates regarding monitoring and planning activities in the communities of Lost Hills and Baldwin Hills, CA.

Part II: Update from the Office of Environmental Health Hazard Assessment on Development of Provisional Values

127

Many of the air toxics chemicals being monitored in CARB's SNAPS program do not have OEHHA-approved cancer potencies or noncancer reference exposure levels. In order to consider the emissions from chemicals that have not been assigned an approved health value, staff propose to assign provisional values to these chemicals. Staff from the Office of Environmental Health Hazard Assessment (OEHHA) provided an overview of proposed methods for assigning provisional values to chemicals at the July 9, 2020 SRP meeting; additional details will be provided in this follow-up presentation.

5. Consideration of administrative matters.

The Panel may discuss various administrative matters and scheduling of future meetings.

171

Adjournment

172

Reporter's Certificate

173

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

2 CHAIRPERSON ANASTASIO: All right. Good morning,
3 everybody. Welcome to this meeting of the Scientific
4 Review Panel. First, a bunch of notes after calling this
5 meeting to order.

6 First, I'd like to welcome everybody. This
7 meeting is being recorded and it will be transcribed.
8 Also, for Panel members and everyone else, the chat
9 function in Zoom, there will be a transcription of that as
10 part of the public record, so please keep that in mind
11 when you're making comments.

12 I'd like to next introduce our two Spanish
13 interpreters, Ms. Marci Valdivieso and Ms. Claudia
14 Lindgren. And they're going to now give instructions in
15 Spanish for joining the Spanish-translated channel of the
16 meeting.

17 So Marci or Claudia.

18 MS. LINDGREN: Claudia. Good morning. Thank
19 you.

20 (Interpreter translated in Spanish.)

21 MS. LINDGREN: Thank you, Cort.

22 CHAIRPERSON ANASTASIO: Gracias, Claudia.

23 Okay. Next, we're going to introduce the Panel.

24 MS. LOVE-LAZARD: Cort, can I interrupt you real
25 quick and just --

1 CHAIRPERSON ANASTASIO: Yes.

2 MS. LOVE-LAZARD: -- make sure that everybody
3 selects either English or Spanish by choosing the
4 interpretation globe at the bottom. If you could just
5 pause a sec. I know this is a new feature for many of us.
6 Just make sure that everyone gets that. So at the bottom
7 of your screen, there should be a globe that says
8 interpretation and feel free to chat with me, Christal, in
9 the chat box privately if you're having issues. But there
10 should be an interpretation button at the bottom. And we
11 are asking that everybody selects either English or
12 Spanish.

13 Do you see that the bottom of your screen?

14 CHAIRPERSON ANASTASIO: Christal -- oh, I see it
15 now, yes.

16 MS. LOVE-LAZARD: Okay. Good.

17 CHAIRPERSON ANASTASIO: It just appeared.

18 MS. LOVE-LAZARD: It just appeared. Good.

19 Let's just give folks a sec. I know this is a --
20 is a different meeting format than many of us are used to.
21 So we are asking for everyone to select either English or
22 Spanish. And that will allow for the simultaneous
23 interpretation to occur.

24 CHAIRPERSON ANASTASIO: Fantastic. Sorry. I'm
25 responding to a request by the interpreter in the chat.

1 I'll be right with you.

2 MS. LOVE-LAZARD: Yeah. And it goes without
3 saying, everyone, that we just appreciate your patience.
4 This is a new platform and we're trying to do it in both
5 languages. So we appreciate in advance your patience with
6 whatever technological glitches we experience along the
7 way.

8 CHAIRPERSON ANASTASIO: There will be no
9 glitches.

10 (Laughter.)

11 CHAIRPERSON ANASTASIO: This is a glitch-free
12 meeting. We're not allowing any glitches.

13 (Laughter.)

14 CHAIRPERSON ANASTASIO: All right. So next I'd
15 like to introduce the Panel. So I'm Cort Anastasio. I'm
16 Chair of the SRP and I'm a Professor at UC Davis.

17 Joe, you want to go next.

18 Sorry, Joe, you're muted.

19 PANEL MEMBER LANDOLPH: Hi. I'm Joe Landolph,
20 University of Southern California, Keck School of
21 Medicine. And I'm Associate Professor of molecular
22 microbiology and immunology, pathology, and molecular
23 pharmacology and toxicology and I do cancer research.

24 CHAIRPERSON ANASTASIO: Great. Thank you, Joe.
25 Mike.

1 PANEL MEMBER KLEINMAN: Good morning. I'm Mike
2 Kleinman. I'm an inhalation toxicologist from the
3 University of California, Irvine, in the Department of
4 Environmental and Occupational Health.

5 CHAIRPERSON ANASTASIO: Thank you, Mike.
6 Kathie.

7 PANEL MEMBER HAMMOND: Good morning. This is
8 Kathie Hammond. I'm a Professor of environmental health
9 sciences at the School of Public Health, University of
10 California, Berkeley. And my area of expertise is
11 exposure assessment.

12 CHAIRPERSON ANASTASIO: Thank you, Kathie.
13 Paul.

14 Sorry, Paul, you're muted.

15 PANEL MEMBER BLANC: I'm Paul Blanc. I'm a
16 Professor of medicine at the University of California, San
17 Francisco. My area of expertise is occupational and
18 environmental medicine and medical toxicology.

19 CHAIRPERSON ANASTASIO: Great. Thank you, Paul.
20 Lisa.

21 PANEL MEMBER MILLER: Good morning, everybody.
22 My name is Lisa Miller. I'm a Professor in the Department
23 of Anatomy, Physiology, and Cell Biology at the UC Davis
24 School of Veterinary Medicine. And my area of research is
25 in air pollution and respiratory immunology.

1 CHAIRPERSON ANASTASIO: Great. Thank you, Lisa.
2 Stan.

3 PANEL MEMBER GLANTZ: I'm Stan Glantz. I am now
4 a retired Professor of medicine from UCSF. And I'm on the
5 Panel in the biostatistics seat.

6 CHAIRPERSON ANASTASIO: Thank you, Stan. And
7 congratulations on your retirement.

8 PANEL MEMBER GLANTZ: Yep. Well, I'm still --
9 I'm still doing my best to cause --

10 CHAIRPERSON ANASTASIO: I'm sure you're not
11 slowing down at all.

12 PANEL MEMBER GLANTZ: Not too much.

13 CHAIRPERSON ANASTASIO: Beate.

14 PANEL MEMBER RITZ: I'm Beate Ritz, Professor of
15 Epidemiology in the Department of Epidemiology,
16 Environmental Health and Neurology at UCLA, the Fielding
17 School of Public Health. My specialties are in human
18 observational research, mostly focused on pesticides and
19 air pollution.

20 CHAIRPERSON ANASTASIO: Thank you, Beate.
21 And Ahmad.

22 PANEL MEMBER BESARATINIA: Good morning. I'm
23 Ahmad Besaratinia. I'm Associate Professor of preventive
24 medicine at University of Southern California, Keck School
25 of Medicine.

1 CHAIRPERSON ANASTASIO: Great. Thank you, Ahmad.

2 All right. So it's wonderful to have the entire
3 Panel here. As Christal mentioned, this is the first time
4 we've been using Zoom for an SRP meeting. But as I
5 mentioned, there will be no technical difficulties, so
6 don't worry about that.

7 We will be inviting public comments on every
8 agenda item. Everything we're going to talk about today
9 is related to AB 617. So what we'll be doing is having a
10 presentation, then the SRP will have a chance to comment,
11 and then we'll give the public a chance to comment.

12 All right. So today's agenda is shown on the
13 introductory slides. Christal is going to pop that up
14 through the magic of technology.

15 Wonderful. Thank you, Christal.

16 So one note, after the Panel discussion and then
17 the public providing comments, members of the public, you
18 can either type your question into the chat box of Zoom or
19 you can raise your hand and then I can call on you through
20 the participant's box. So either way should work. And in
21 interpretation will be available for those who wish to
22 provide comments in Spanish.

23 Okay. So I'm going to pause now and let our
24 Spanish interpreters do their best to interpret what I've
25 just said.

1 MS. LOVE-LAZARD: I think we're good.

2 CHAIRPERSON ANASTASIO: Our interpreters are so
3 good that they're already done. Fantastic.

4 Okay. So since this Zoom format is different
5 from what we've done in the past, we're going to go over
6 some ground rules before we proceed. And so I'm going to
7 introduce Christal Love-Lazard from California Air
8 Resources Board's Environmental Justice Office. She's our
9 technical wizard and she's going to go over our community
10 expectations for this meeting.

11 Christal

12 MS. LOVE-LAZARD: Thanks, Cort. Technical wizard
13 is definitely overselling it, but I'm happy to support you
14 guys in this meeting today. Thank you so much for having
15 us.

16 So just a few reminders. I know many of us are
17 on Zoom, but it bears repeating to please mute yourself at
18 all times, unless you are planning to speak or are
19 speaking, just so there isn't a lot of background noise.
20 There's a lot of folks on this call.

21 And if you haven't already done so, please make
22 sure to use -- to rename yourself with your full name,
23 your first and last name. You can do it by clicking into
24 your picture on the top right hand corner. There's three
25 dots and you can rename yourself. And so we will --

1 because we're not going to do self-introductions for
2 everybody at this point, but we do want everyone to see
3 who all is here. And this is a Zoom meeting, so it's
4 fully open, so everyone can click into the participants
5 link and see who all is participating today.

6 So if you need any help at any point, feel free
7 to chat with me directly in the chat box and I can -- I
8 can give you a little assistance.

9 So if you can't find your mute/unmute is on the
10 bottom of your screen on the left. It's a little
11 microphone button. Because this is a Zoom meeting and
12 it's open, everyone has the ability to mute and unmute
13 your -- themselves. If you forget, and something is going
14 on in the background, one of our core team running the
15 meeting will probably mute you just to remove the
16 background noise.

17 If you are on the phone only and not
18 participating in the Zoom -- the full Zoom, please dial
19 star 6 to mute and unmute yourself.

20 Your video is a wonderful way to sort of
21 virtually recreate this in-person experience, but it does
22 cause a lot of bandwidth. So if, at any point, you need
23 to turn off your video, you can do it just by clicking
24 your video camera at the bottom here and it will alleviate
25 some of the bandwidth issues or just give you the

1 opportunity to step away and still listen.

2 Like Cort mention we are going to use the
3 raise-hand feature today to indicate that you want to
4 participate in the discussion or you have a comment or a
5 question. So you can find your raise-hand button first by
6 clicking participants and then the little blue hand.

7 And again, Cort, we already went over this, but
8 it bears repeating, if anyone has just joined us, that we
9 are using language interpretation in this meeting. And we
10 ask that everybody in the meeting select their preferred
11 language, be it English or Spanish, to participate. And
12 chat box is also at the bottom. It says little chat box
13 with the little dialogue doohickey coming down.

14 Please use the chat icon. If, at any point in
15 the meeting, you want to chat one-on-one with me or anyone
16 else in the meeting, you're welcome to do so. You can
17 also put in comments, if you would like them to be
18 captured in the chat function, but be aware that the chat
19 is recorded. And so be civil and respectful at all times,
20 please.

21 Okay. Last, but not least, you can use -- we are
22 doing public comment. Like Cort mentioned, we're going to
23 have public comment opportunities after the Panel
24 discusses each agenda item tonight -- today. And you can
25 use your chat comment -- the chat function to provide your

1 comments, if you don't want to raise your hand verbally
2 and we'll record all of those.

3 The Panel may or may not have time to review all
4 of those comments in the meeting itself, depending on how
5 much we -- you know, how much dialogue there is and how
6 many comments are given, but we will -- staff will commit
7 to carefully review them and follow up as necessary.

8 If you have any priority items that you don't
9 feel were discussed today, but you would like a response,
10 I am definitely not in charge. I am just here helping.
11 So it's still Lori here at CARB who is your point of
12 contact and you can see her email here displayed. So
13 please follow up with Laurie.

14 Okay. So again, if you have any tech support
15 issues feel free to reach out, but I think I'm going to
16 turn it back to you, Cort, to get the meeting really
17 going.

18 CHAIRPERSON ANASTASIO: Great. Thank you very
19 much, Christal.

20 So three major items at our meeting today. The
21 first one is a continuation of the discussion we had with
22 DPR on July 9th, but they're update on the proposed
23 mitigation pilot studies for the pesticide
24 1,3-dichloropropene in the AB 617 community of Shafter.
25 So we'll start with that.

1 And then we'll move on to Mike Kleinman will give
2 us an informational update on the AB 617 Consultation
3 Group meetings he's been attending.

4 We'll then segue into an informational update on
5 CARB's Study of Neighborhood Air near Petroleum Sources,
6 also called SNAPS. And that's going to be two pieces.
7 First, we'll get an update from the SNAPS staff, and then
8 John Faust from OEHHA, the Office of Environmental Health
9 Hazard Assessment will talk to us about provisional health
10 guidance values.

11 As I mentioned earlier, each of these items we
12 will first go to comments and discussion for the SRP, and
13 then once that's concluded, we'll go to public comment.

14 All right. So without any further delay, let's
15 move right into our first agenda item. And to remind you
16 again, right, we heard from Edgar Vidrio of DPR on July
17 9th about the beginning of the Shafter study. And today,
18 Dr. Nan Singhasemanon of DPR is going to give us a
19 synopsis of the July presentation, but then also an update
20 on the current status of the mitigation pilot studies that
21 they're planning for Shafter.

22 All right. Thank you very much. And, Nan, the
23 floor is yours.

24 (Thereupon an overhead presentation was
25 Presented as follows.)

1 DPR ASSISTANT DIRECTOR SINGHASEMANON: Great.

2 Thank you, Cort.

3 Good morning. So let me go ahead and I'll begin
4 sharing my screen.

5 Is that showing?

6 CHAIRPERSON ANASTASIO: Yes.

7 DPR ASSISTANT DIRECTOR SINGHASEMANON: And, okay,
8 then I will be switching over to slide show mode. Then
9 I'm going to switch. Good thing I practiced at this.

10 Swap. There you go. Is that good?

11 CHAIRPERSON ANASTASIO: (Nods head.)

12 DPR ASSISTANT DIRECTOR SINGHASEMANON: Okay.

13 Hold on a second here. Let me -- I've still got something
14 else over here. Okay.

15 So good morning, everybody. As Cort said my name
16 is Nan Singhasemanon. I am one of the Assistant Directors
17 over here at the Department of Pesticide Regulation in
18 Sacramento. And today's presentation is really going to
19 be kind of a bit of an update on what Edgar Vidrio the
20 Branch Chief of our Environmental Monitoring Branch
21 presented in July. But, of course, there's been quite a
22 bit of development since then and I'm here to share that
23 with you.

24 Now, I'm going to be referring a lot to the
25 1,3-dichloropropene. It's 1,3-D for short. And sometimes

1 I'll refer to the mitigation pilot simply as the pilot,
2 the pilots, you know, mitigation pilot program. So just
3 be aware of some variation of where I might go with that.

4 --o0o--

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: Well,
6 first, I'd like to thank the SRP for having DPR here to
7 present our mitigation pilot program as it performs its
8 function in an advisory role to support AB 617. I believe
9 DPR is one of the first agencies to -- to engage the SRP
10 in those role on our AB 617-related work.

11 To start, I'd like to point out that, you know,
12 there are some overlaps and intersects between AB 617 and
13 our mitigation pilot program. And specifically, you know,
14 the Shafter Community Emission Reduction Plan, or the CERP
15 as some folks call it, includes 1,3-D explicitly. Also,
16 the Shafter community steering committee is an -- you
17 know, we have been engaged with -- with that -- that group
18 for sometime now. In fact, I believe starting -- started
19 in 2019 as the CERP is being developed. So there's
20 already ongoing interactions there.

21 Thirdly, there is certainly a geographical
22 overlap in that Shafter is just one of the three pilot
23 study areas that DPR is looking to conduct the study.
24 And, in fact, DPR has a -- an ambient monitoring
25 network -- monitoring site there at the Sequoia Elementary

1 School over the last couple of years. But before that,
2 we've been -- I think we've been in Shafter for -- since
3 2011. So before that, there are air monitoring stations
4 located at the local high school and the Shafter High
5 School.

6 And to remind -- excuse me, I'm moving the camera
7 a little bit to adjust here.

8 Just to remind folks again that, you know, the
9 goal of our pilot program, and this was touched on last
10 time, is to -- is to explore alternative 1,3-D
11 applications, methods that we want to evaluate and see if
12 they're feasible for growers and applicators to use and
13 implement and see how effective they are at reducing the
14 emissions and also the acute exposure, you know, at the --
15 at the site of application.

16 --o0o--

17 DPR ASSISTANT DIRECTOR SINGHASEMANON: To show
18 why there's a great interest in 1,3-D use and emissions in
19 the area, here's the 1,3-D use map showing relative use of
20 the fumigant in townships. And the township here I
21 refer -- I'm referring to are the squares -- the colored
22 squares. They're 6 by 6 mile -- square miles, or 36
23 square miles per town -- square -- per township, excuse
24 me. So they're pretty good sized.

25 The darker squares represent higher average

1 annual use over this selected period here. I think in
2 this case it's 2014-2018. So that gives you an idea of
3 the relative use in the Shafter area.

4 On the right, there is a wind rose diagram. That
5 shows a predominant -- in this case, a predominant wind
6 direction as being from the south. However, of course,
7 based on this diagram, you can see that there -- the wind
8 can blow from different -- from other directions as well,
9 but predominantly, in this case, it's from the south.

10 It's important to highlight here that the
11 selection of the 1,3-D, the pilot study area, was
12 significantly influenced by the community. And as a
13 result, you can see from the map that it -- the township
14 that we're looking at, that's kind of blown up on the left
15 side, actually envelops the immediate area around the AB
16 617 Shafter area, which is outlined in black. And the A
17 there, the blue A on the chart for the dia -- the graph --
18 not graph -- the figure, essentially is showing the --
19 kind of like the location of where our ambient monitoring
20 air station has been stationed there for a long time and
21 still there.

22 --o0o--

23 DPR ASSISTANT DIRECTOR SINGHASEMANON: We've gone
24 previously into a similar background on the July 9th
25 presentation, but this kind of to help orient folks in

1 terms of context.

2 1,3-D is a widely-used, pre-plant fumigant that
3 helps control pests and diseases in the soil. And i'ts
4 often used to -- you know, to treat fields that for a --
5 that are used for fruit and nut tree -- nut production.
6 The commodities that it's used for -- are commonly used
7 for are strawberries, grapes, carrots, and sweet potatoes
8 and such.

9 And, you know 1,3-D is a toxic air contaminant.
10 And this is another reason why there's a lot of interest
11 by the SRP. The use of this material, this fumigant,
12 requires a restricted materials permit issued by the
13 county ag commissioners. And, you know, the commissioners
14 are our -- are DPR's regulatory partners.

15 To use the material, the grower must have -- must
16 get a recommendation from a licensed pest control advisor,
17 or PCA, some folks refer to them. The applications
18 themselves must be supervised by a licensed certified
19 applicator. So you can see that there's quite a bit of
20 oversight and -- you know, that's needed to use the
21 material -- to apply the material.

22 Specifically, DPR can also recommend conditions
23 in the permit to the whole permit conditions to the county
24 ag commissioners. For example, currently, this is how
25 1,3-D is regulated right now. It is regulated as

1 restricted material. So there are existing permit
2 conditions that exist to help control the use of 1,3-D and
3 therefore its emission as well.

4 --o0o--

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: As a
6 result of our previous presentation, the SRP shows some
7 interest in hearing more about relevant health-based
8 concentrations or thresholds for the mitigation pilot. As
9 a reminder, you know, the aim of this program is to ensure
10 that health-based acute reference concentrations are not
11 exceeded. That's the goal of this particular --
12 particular program is to address acute exposure.

13 And I know for those of you who have been
14 following the developments of 1,3-D, our Department has
15 conducted human health risk assessments before, a number
16 of years now. And we have calculated the reference
17 concentrations for not just the acute but also for the
18 subchronic and the chronic exposures as well.

19 And third, you know, to help kind of define what
20 I mean when I say reference concentrations, that -- and
21 I'll just read it out here. It's essentially the estimate
22 of inhalation exposures to humans that are likely to be
23 without appreciable risk of deleterious effects.

24 So in something -- in essence, we're using these
25 reference concentrations as screening levels or screening

1 values when we compare it to monitoring data.

2 Specifically, you know, DPR is siting our
3 reference concentrations that we develop in our 2015 risk
4 characterization document. And we are focusing
5 specifically in this program to address the acute scenario
6 reference concentration for residents or bystanders, so
7 not necessarily workers. And the concentrations that
8 we're -- the reference concentrations that we have been
9 looking to -- looking to focus on would be the 110 parts
10 per billion that's protective of children's -- exposure to
11 children.

12 There's also April an adult reference
13 concentrations, however -- concentration. However, it's
14 relative -- it's higher. Its at 367 parts per billion.
15 So, you know, for the purpose of our work, we're really,
16 really focusing on -- focusing in on 110 parts per
17 billion.

18 Now, acute exposure to high concentrations of
19 1,3-D result -- could result in like upper respiratory
20 symptoms in people. So this would be something like chest
21 tightness, irritated watery eyes, dizziness, runny nose.
22 However, I think the most sensitive in it's acute endpoint
23 that's been documented, at least in lab animal studies,
24 specifically body weight loss. So that's one of the --
25 one of the endpoints that we're looking to address.

1 And I want to point out, too, that, you know, I
2 think -- you know, if we were able to address the acute
3 exposure, lower acute exposure, there would be some
4 beneficial decreases in terms of exposure on a subchronic
5 and chronic level as well. So I just wanted you to keep
6 that in mind as we -- as we -- as we think about
7 mitigating the acute exposure.

8 --o0o--

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: I
10 mentioned earlier that DPR has a monitoring station in
11 Shafter for some time. So here is a graph that shows the
12 weekly 24-hour average concentrations of 1,3-D at Shafter.
13 When I say weekly, it means that we -- you know, there's
14 seven days out of the week. We sample -- we collect air
15 samples in one of the seven days for a 24-hour period. So
16 there's a -- it's a 24-hour average that you're seeing
17 here.

18 As you can see, most of the levels here are very
19 low, or in some cases, are actually below detection
20 limits. Some data points do stand out, however. Note
21 that I think the highest concentrations you see here
22 is that -- it's to the right on the graph and it's about
23 51 parts per billion, which is still well below our
24 reference concentration or screening value of 110. That's
25 in the blue box on the left.

1 In fact, the highest 1,3-D concentration
2 documented among all of our air ambient monitoring
3 network -- air monitoring network sites was 110 -- or 111,
4 actually, pardon me. And that was in Parlier in the
5 Fresno area. That was from many, many, many years of
6 monitoring many, many samples, from weekly samples over
7 time.

8 And I want to remind folks that the exceedance of
9 a reference concentration or screening level does not
10 necessarily indicate a health concern, but it does
11 indicate the need for the Department and, you know, and
12 our regulatory partners to get involved in more in-depth
13 conversation, and for us to do more in-depth evaluation of
14 the circumstances to which resulted in the higher
15 concentration.

16 So some folks may ask why we -- we are
17 considering additional mitigation, especially if most
18 of -- if all the monitoring data, particularly at Shafter,
19 is showing that it's below reference concentration. And I
20 do want to point out a few things and its -- they're
21 captured in the box on the left of the graph.

22 And number one, I mentioned that we really only
23 capturing one of those seven days each week. So perhaps
24 the data that -- the data points that we're seeing are not
25 really fully representative of the actual, you know,

1 ambient air monitoring profile in Shafter. That's one
2 question.

3 Another one is that, you know, even though, you
4 know, these are at the monitoring sites -- ambient
5 monitoring sites in Shafter the community, however,
6 they -- the areas or the space between the application
7 sites in the larger area, and the -- and the monitoring
8 site may actually have higher concentrations. That would
9 make sense.

10 Oftentimes, there's dispersion between the edge
11 of the field where applications are made. And, you know,
12 you're essentially getting lower concentrations as you
13 move away. So there could be areas that's between, you
14 know, our monitoring sites and the fields that have higher
15 concentrations.

16 Moreover, we've done some modeling with
17 existing -- I mean with the existing parameters for
18 applications. And it shows -- monitoring results show
19 that reference concentrations may be -- may be exceeded
20 beyond the current hundred foot setback that's in the
21 current permit conditions these days.

22 So with that, you know, we -- we have interest in
23 trying to fill in data gaps a bit more to try to better
24 understand, you know, what -- what -- what's really going
25 on. You know, are our ambient monitoring data really --

1 really giving us a really good idea of the local area
2 exposure.

3 --o0o--

4 PANEL MEMBER GLANTZ: So this is Stan Glantz. I
5 just had a question.

6 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

7 PANEL MEMBER GLANTZ: If you could back up. So a
8 lot of those are zero. So does that mean those are days
9 where it just isn't being applied?

10 DPR ASSISTANT DIRECTOR SINGHASEMANON: So
11 remember, there are weekly con -- there are weekly -- a
12 reflection of weekly concentrations. 1,3-D is applied
13 really is in the season -- in the seasonal sense. And
14 there's a lot of it going on in the fall, starting around
15 this time of the year October/November. There is -- no
16 applications are allowed in December. So applications
17 pick up again in January, February, March and so on.

18 So, you know, it's -- it's being applied at
19 sometimes, not certain times. Hopefully, in December,
20 we're not seeing concentrations because there's not
21 supposed to be application. But, you know, there is a bit
22 of a lag when the material is applied or -- and then
23 there's a lag where the material -- the gas would come out
24 after the application. But generally, we wouldn't expect
25 to see anything in December.

1 So it really -- I think it's really dependent on
2 when the applications are made, where the applications are
3 at relative to the monitoring site, right, where the --
4 which where -- which way the wind is blowing, how hard
5 it's blowing. That's multiple factors that would lead to
6 a result in what you're seeing at the monitoring stations.
7 Is that helpful?

8 PANEL MEMBER GLANTZ: Yes.

9 CHAIRPERSON ANASTASIO: Nan, I have a related
10 question.

11 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

12 CHAIRPERSON ANASTASIO: So you've determined an
13 acute reference concentration. But these are 24 hours
14 measured concentrations. What was the time period in your
15 health evaluation for the acute exposure, is that 1 hour,
16 8 hours?

17 DPR ASSISTANT DIRECTOR SINGHASEMANON: I'm sorry.
18 Could you say the last part again?

19 CHAIRPERSON ANASTASIO: So you've got an acute
20 exposure reference concentration.

21 DPR ASSISTANT DIRECTOR SINGHASEMANON: Right.

22 CHAIRPERSON ANASTASIO: What was the time period
23 when you were calculating the risk for that?

24 DPR ASSISTANT DIRECTOR SINGHASEMANON: Well, the
25 acute exposure for us is typically 24 hours. We were

1 trying to match --

2 CHAIRPERSON ANASTASIO: For you, it's 24 hours.

3 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah, we
4 were trying to match that

5 CHAIRPERSON ANASTASIO: Okay.

6 DPR ASSISTANT DIRECTOR SINGHASEMANON: So it's
7 one day.

8 CHAIRPERSON ANASTASIO: All right. Thank you.

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: Um-hmm.

10 --o0o--

11 DPR ASSISTANT DIRECTOR SINGHASEMANON: So at this
12 point, I'd like to kind of refocus on the pilot program
13 again. And kind of, you know, really talk about the why
14 and the how. You know, our objectives as we stated before
15 is to provide growers and applicators with alternative
16 application methods that would reduce 1,3-D emission to
17 levels that are comparable to the use of total -- totally
18 impermeable film, or TIF, tarps.

19 That's the idea. I think, you know, we could
20 growers to -- to use tarps everywhere, but it's -- you
21 know, we've learned that, you know, it's use can be
22 somewhat impractical, can be expensive, and, you know, in
23 terms of like the materials that's generated -- the tarp
24 material that's generated after -- after the application,
25 you know, you have to kind of deal with that material too.

1 So we wanted to give -- give growers and
2 applicators some options to help with the reduction. And
3 we're looking at reducing emissions by at least 60
4 percent. That's compared to the standard untarped
5 applications. That's the goal of the reduction that we're
6 looking for for these -- for the options.

7 In terms of the approach, in the beginning,
8 DPR -- essentially, we worked with our -- or models, our
9 HYDRUS Model and our AERFUM Models. HYDRUS model is
10 really -- is what, you know, it predicts the behavior of
11 the fumigant 1,3-D in the soil. AERFUM is essentially our
12 air dispersion model. And it predicts what's going to
13 happen once the fumigant leaves the soil and then goes out
14 into the surrounding ambient air. So we use the models to
15 identify various mitigation options that could make --
16 could make the reductions happen.

17 And the approach -- the larger -- the bigger
18 picture approach involves getting growers and applicators
19 in their study areas to select and use these options over
20 the duration of the program, which, you know, we've been
21 saying is one year essentially.

22 --o0o--

23 DPR ASSISTANT DIRECTOR SINGHASEMANON: So here's
24 a high level overview of how the pilot program is
25 developed. You know, planning for the program in these

1 areas started really in 2019 with the implementation that
2 we are -- we are working toward is fall 2020, which is
3 right now. In fact, that's what's going on and I'll be
4 updating that a little bit later.

5 Certainly, the -- you know, the community of
6 Shafter expressed a lot of interest in the reductions that
7 we're trying to achieve. You know, they -- they were
8 particularly interested in tarps as well, especially early
9 on in the conversation.

10 --o0o--

11 DPR ASSISTANT DIRECTOR SINGHASEMANON: And that
12 led DPR to engage in quite a bit of a discussion between
13 -- among us, you know, a grower groups, applicators,
14 county ag commissioners, and also the registrant, which is
15 Dow AgroSciences. There's quite a bit -- quite a bit of
16 coordination on that level.

17 The -- what we were finding out is that really
18 what we were looking for in terms of data generation,
19 what's critical, are field-level monitoring data from
20 applications for using these alternative options. And
21 again, you know, both to look at the acute exposure that
22 comes off of fields and also to further validate models I
23 just mentioned. And this is significant because, for us,
24 really the models -- well-validated models are what we're
25 going to be relying on heavily as we develop our future

1 rulemaking on 1,3-D or additional restrictions.

2 PANEL MEMBER GLANTZ: Can you explain what the
3 actual mitigation is? When you say use of tarps, are you
4 saying you inject the staff into the soil --

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes

6 PANEL MEMBER GLANTZ: -- and then put a tarp over
7 it to keep it from getting into the air or could you
8 explain --

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: I will.

10 PANEL MEMBER GLANTZ: -- the mitigation
11 techniques you're looking at?

12 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes. I
13 will actually do that in the very next slide. So this is
14 kind of to set us up to talk about the options. So that's
15 a good segue.

16 But I mean, I just do want to point out in terms
17 of program development that certainly the -- you know, we
18 had some impacts from COVID. It certainly impacted our
19 ambient monitoring network. We are still doing 1,3-D in
20 all -- in many sites. But it developed -- it impacted our
21 work a little bit, our development off the pilot itself.
22 But, you know, I think that's -- that's why we ended up
23 shifting more emphasis to the field level monitoring than
24 rather looking at some of the ambient monitoring data that
25 I've shown earlier.

1 I think for -- I think after some discussion, we
2 believe that -- you know, the idea here is to reduce 1,3-D
3 concentrations in the applications. And if the current
4 monitoring at our ambient monitoring sites are already
5 showing very, very low levels or non-detect most of the
6 time, I don't know if we will be able -- to be able to
7 actually see additional reductions from -- you know, from
8 the pilot. So that was one -- one area where we feel like
9 perhaps we should really focus more of our attention onto
10 the field level monitoring.

11 And certainly, there was -- earlier on in the
12 discussion of a pilot, there was interest from Dow
13 AgroSciences in, you know, co-locating an ambient
14 monitoring site next to ours in Shafter to -- to
15 essentially help develop the monitoring profiles
16 throughout the week. So the additional six out of the
17 seven days that we weren't getting, that will -- could
18 have been helpful. That was impacted by COVID. So
19 that -- you know, it's not going to happen.

20 So, you know, but for us, I think it's important
21 that we keep our -- our eyes -- our goals on the
22 rulemaking and what are going to get us there are the
23 additional validation from -- on the models used in the
24 field data from the study.

25 And, you know, just to say -- just to point out

1 too that, you know, our weekly air monitoring data in
2 Shafter is going to continue. It's going to go on.

3 CHAIRPERSON ANASTASIO: And can I interrupt for a
4 second. I see that Kathie has a question.

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

6 CHAIRPERSON ANASTASIO: Kathe.

7 DPR ASSISTANT DIRECTOR SINGHASEMANON: And Kathie
8 may be on mute.

9 CHAIRPERSON ANASTASIO: She is on mute. I'm
10 going to allow her to unmute herself.

11 PANEL MEMBER HAMMOND: Yes. Yeah, I tried and it
12 didn't work.

13 Okay. Thank you. Some of this follow-up on
14 what -- Stan's questions and then some on what you've just
15 said. Stan asked about when you had actually -- the
16 relationship between your monitoring and when the
17 applications had happened. And I think it would be very
18 useful to indicate on the graphs that you have when there
19 has been application. And not only that, as I look at the
20 wind rose that you showed earlier and the pilot program,
21 there are a lot of areas that apply the material that very
22 rarely have the wind blowing from them.

23 So I think it's also worthwhile to have that kind
24 of information. So perhaps a more detailed, impactful
25 examination of, I don't know, the day of application, the

1 day -- the day after application, and analyses that have
2 been done there. And that would be good.

3 So we could look at that and -- as distinct from
4 sampling that's done when there hasn't been any
5 application. And then the other thing is you were talking
6 about moving from just the environmental sampling at one
7 location to doing -- it sounded like you might be looking
8 at field-level monitoring, which I applaud being concerned
9 about worker exposure.

10 And I guess I -- I'm thinking about the AB 617,
11 which I think of as the community, but I think that we --
12 workers should always be seen as members of the community.
13 And there is certainly no doubt that the workers are among
14 the impacted people and environmental justice issues
15 apply. So that I think it's important to include them
16 more. So I'm glad to see that you're -- it looks like
17 that's what you're doing by doing more field-level
18 monitoring.

19 But again, all of that monitoring should be put
20 in the context of whether or not there's been an
21 application in recent times that would be enough to even
22 ex -- have any expectation of something to be --

23 DPR ASSISTANT DIRECTOR SINGHASEMANON: I
24 appreciate t. That's a good observation. And I think I
25 want to address the worker health aspect or the two that,

1 you know, DPR has been working on separate mitigation on
2 worker health in terms of 1,3-D. And obviously, they --
3 they're wearing -- you know, the folks that are there were
4 in the -- the concentrations maybe relatively high in --
5 during the application. They are wearing personal
6 protective equipment.

7 So there's a number of safeguards that are
8 provided to the workers in relation to the 1,3-D
9 application. But, yeah, we do definitely take them into
10 consideration, because they're going to be the one really
11 exposed, particularly during the shorter exposure periods
12 for this.

13 PANEL MEMBER HAMMOND: And if you're doing that,
14 that includes the importance would be to do personal
15 monitoring for the workers --

16 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes.

17 PANEL MEMBER HAMMOND: -- as distinct from just
18 area monitoring.

19 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes. Yes.
20 We -- that's actually -- have been done in the past by our
21 Worker Health and Safety Branch to do personal monitoring
22 of the workers and seeing their specific exposure, so --
23 but that was a good observation for sure.

24 Okay. Can I resume real quick here?

25 CHAIRPERSON ANASTASIO: (Nods head.)

1 --o0o--

2 DPR ASSISTANT DIRECTOR SINGHASEMANON: So I think
3 maybe it was Glenn[SIC] that asked earlier about the
4 options. So here are kind of like a simplified menu of
5 our reduction options. And this is, you know, current as
6 of essentially September.

7 So now right now -- you know, the reason we're --
8 we're trying to have some options in terms of applications
9 for -- alternative applications for 1,3-D is that there's
10 no commercial scale alternative. So it's -- you know,
11 otherwise, it would be easier to just kind of point folks
12 to a different -- to a different active ingredient, to a
13 different pesticide. But, you know, 1,3-D is obviously
14 very important. A lot of use in the state. And we
15 understand that some of these options are going to be more
16 palatable or more feasible for the growers, as well as the
17 applicators to work on.

18 What I'm showing on this table here are
19 individual options. And, you know -- but we can actually
20 combine some of these options. And the orange rows are
21 these kind of specific options. Generally, they come out
22 to -- the combination that seems to be working -- that
23 we've looked at comes out to about 12 methods.

24 I say methods, in this case, because the method
25 essentially would represent a combination of options or a

1 single option. And these -- you know a grower would
2 essentially pick an option or one of the 12 methods. And
3 it would dictate some of the -- you know, the -- the other
4 factors that are in gray.

5 And, for example, if a grower picks, you know, a
6 deeper injection, you know, for the material and also a
7 high soil moisture, that would -- you know, they would
8 have to think about that -- how -- what would that mean in
9 terms of like the size of the block that they want to
10 treat, because that could influence the reduction -- or
11 the application rate. And it could also -- it would
12 influence the setback distance. A setback essentially is
13 a distance no -- that no applications can be made, you
14 know, between an occupied structure and the -- you know,
15 the application.

16 So, you know, there's a bunch of different
17 options that could lead up to a number of methods. And
18 again, once -- once -- the grower would have to first pick
19 what's in the orange boxes first and then think about, you
20 know, how large the treatment size is going to be and
21 that's going to impact the rate, the application, and also
22 the type of setback or kind of a buffer distance that's
23 necessary here.

24 Tarp. As I mentioned earlier, it's also one of
25 the options, Tarping. So we're not necessarily taking

1 that out. And also -- there's also an option for partial
2 TIF tarping. For example, half -- you know, every other
3 rows would be -- row would be -- would be tarped and then
4 every other row would be opened. That's what's
5 considered -- what partial tarping is.

6 And, you know, at DPR we have a table -- we have
7 a larger table that shows multiple applicate -- multiple,
8 you know, options and also the multiple combination of
9 options with methods -- what I call methods. That could
10 be -- you know, could be easy to see for folks that are
11 interested. We're updating that right now.

12 I crossed out the post-application water seal
13 here to show folks that because we haven't been having a
14 lot of conversations with growers and applicators, after a
15 lot of -- a lot of talking, we just -- we found out that
16 the water seal option is not very practical. You know,
17 it's hard for them to get the equipment, to work with the
18 equipment when there's a lot of water or, you know,
19 heavily water logged soils on a property.

20 And water costs money, and in some of these
21 places it costs a lot of money. So it's not really
22 something that's practical. So after deliberating with
23 the growers and applicators, we felt like that was a
24 productive outcome. We found out that that's something
25 that we thought would work. It's necessarily practical.

1 But the other ones right now, you know, the
2 partial tarping, the injection of the various soil depths,
3 and also use -- applications at higher soil moisture,
4 which helps keep sealed -- help to seal the 1,3-D that are
5 still on the table.

6 --o0o--

7 CHAIRPERSON ANASTASIO: Nan, I see a question
8 from Beate.

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

10 CHAIRPERSON ANASTASIO: Beate.

11 PANEL MEMBER RITZ: Yeah, so just so I understand
12 better what this does, these reduction methods. Will that
13 actually contribute to the agent being broken down, so
14 that it doesn't escape at all or does it mean it just will
15 escape at a slower rate, so the acute -- the acute
16 reference value will not be hit?

17 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah, I
18 believe it will be both. I think typically when we --
19 when we think about these options, we tend to think about
20 whatever it takes, so that, you know, 1,3-D will not leave
21 the soil. Whether it breaks down in the soil or it's just
22 kind of kept in the soil, it's not as important.

23 I think, you know, the idea -- you do want to
24 keep the 1,3-D in the soil as much as you can for efficacy
25 sake. You want it to actually kill the pests, be

1 effective. So the idea is, you know, it's important to
2 keep the material in the soil. But obviously, we don't
3 want materials -- you know, we want as little as possible
4 to come off of the field and get into the air, so...

5 Just a quick update on the status. As I
6 mentioned, we are entering the field work phase. And, you
7 know, we've been working a lot with applicators mainly,
8 commissioners, in some sense, and some of the growers to
9 identify some of the initial fields that we want to look
10 at. I do know that Dow AgroSciences is actually doing a
11 study as well, a very similar study, where they're looking
12 at two or three different opt -- alternative options.

13 So we're collaborating with them. We'll be doing
14 some of the monitoring work for soil monitoring, you know,
15 soil analysis. We will be reviewing their protocol --
16 their monitoring protocol to make sure that it's
17 sufficient.

18 So that work I know is starting I believe next
19 week. It's in the Parlier area. Actually, no, is it
20 Parlier? No, I think that one is more in the -- in the
21 Delhi -- Merced, Delhi area already.

22 So that's something that's already happening.
23 That's not something that we're including in our pilot,
24 but that's some work that's related to that. We are still
25 looking to identify the fields to monitor. There's been a

1 number of them that have come up for -- that's been
2 recommended. But, you know, we have very specific site
3 criteria, where, you know, we don't want obstructions
4 around the field. We need the field to basically be --
5 be -- be ideal in terms of generating the data. That's
6 really important to us.

7 So we're continuing to work with the different
8 groups. Our priority area, in terms of society providing
9 a -- getting a site is Shafter. That's going to be number
10 one. You know, if we can't get in Shafter at a certain
11 time of the year, we'll look in the Parlier area, which is
12 where our other study -- study area, and also in the Delhi
13 area, which is our other study area.

14 I think -- yeah, like I said, you know, we still
15 really need to coordinate closely with the growers, and
16 applicators, and the commissioners this time. We are --
17 our field folks are constantly in conversations right now
18 with -- with these groups.

19 And, you know, keeping the community informed is
20 really important. I know that myself, our Director, Val
21 Dolcini, and a number of our staff are -- are engaged with
22 the Shafter community steering committee. It's a
23 monthly -- it's a monthly meeting. The next actually is
24 this Monday, coming Monday. And now it's formed --
25 recently formed a pesticide subcommittee. So we -- we

1 endeavor to -- you know, to engage the groups continuously
2 to give them updates, where things are, where things are
3 going.

4 I know in those groups, we don't necessarily just
5 talk about the mitigation pilot, but we also talk about
6 the notification work as well, because there's been a lot
7 of interest in that. Obviously this talk is about
8 mitigation. I'm not going to go into the notification
9 aspect of it, but I know that's very -- you know, a very
10 important aspect to the community.

11 That said, back to the mitigation, we -- DPR is
12 targeting about four or five applications in our three
13 study areas. And again, if you can get all of them or
14 most of them in a Shafter area, we would. We'd like to at
15 least get that much.

16 You know, as we look at this -- you know, this is
17 really kind of a voluntary type program. You know, we're
18 hoping that this is almost like demonstration to the
19 grower -- other growers, not just in the Shafter area, but
20 just in other areas where 1,3-D is used.

21 It's important to -- you know, to show that --
22 that these alternatives are feasible and they can be done.
23 So it's spread -- to spread the success of the
24 demonstration.

25 I mentioned before that the fields needed to meet

1 certain selection criteria. That's why we can't just do
2 every field that comes up. You know, we have to think
3 about, you know, would that field result in us, you know,
4 get good data. I mentioned earlier, I'll say it here,
5 that you know the registrant is investigating other
6 methods nearby.

7 Yeah, I think I touch on this point right here,
8 on the bottom -- on the bottom bullets.

9 --o0o--

10 DPR ASSISTANT DIRECTOR SINGHASEMANON: And to
11 kind of give a visual about what we're planning to do in
12 terms of monitoring, I know there's two schematics over
13 here, since one is like a rectangular field, one is a
14 square field. And the circles and stars essentially
15 represents the sampling points, where we're going to be
16 locating our samplers. And, you know, I think we --
17 ideally we're looking to do 12, maybe 16 around the field,
18 spaced in a certain -- certain pattern to get coverage.

19 And I'm showing a diagram on the right here
20 that's -- it shows that there's going to be variable
21 height where we can set the sampler to take the samples,
22 to take -- you know, to collect samples. They can be
23 adjusted. We won't have this many points of sample on
24 our -- on our -- on our sampling point, but, you know,
25 we're trying to locate it in an adult breathing height --

1 or rather a breathing height on the field to give us a
2 representative data.

3 And, you know, it's kind of a little bit
4 misleading to have temperature gauges or, you know -- you
5 know, sensors for -- to measure wind speed on the sampler.
6 We won't have that. In reality, what we will have is a
7 single monitoring meteorological station, a weather
8 monitoring station, on-site. And it's going to have --
9 measure the meteorological data, wind speed, temperature,
10 and so on, a number of things actually from two different
11 heights. And that will -- what will be used to help feed
12 our -- our modeling inputs.

13 And our work here is not just one-time thing.
14 It's not just one time during that one day, during the
15 application. It's going to end up stretching over seven
16 days to help capture the acute -- you know, what's coming
17 off the field and the acute -- in the period and also
18 beyond.

19 And to give you an idea, this is not -- again,
20 not 10 samples, not 20 samples. This is going to be more
21 than -- more than a hundred samples, maybe even, you know,
22 200 Samples per field. So it's intensive in terms of the
23 samples that it would generate.

24 --o0o--

25 DPR ASSISTANT DIRECTOR SINGHASEMANON: And the

1 this is my last side in terms of kind of redirecting this
2 a little bit and some considerations for the SRP.
3 Obviously, this is the beginning. We're starting. So,
4 you know, perhaps in the -- at a future SRP meeting, we
5 can get some feedback on, you know, what we've identified
6 in terms of the field, what we've selected, and what are
7 the methods that we are -- we've looked at perhaps in -- I
8 know that the SRP, you know, have these regular meetings,
9 so perhaps earlier next year.

10 And then also once data are generated from -- you
11 know, from the various -- from the various fields, you
12 know, compare and discuss the methods, you know, how do
13 reductions look, are they -- are they actually getting the
14 reductions that we're looking for at 60 percent or more,
15 and also to compare and discuss the modeling and
16 monitoring results that come out of the -- come out of the
17 study. That's probably more longer term, because
18 that's -- you know, we want that to be closer to probably
19 about a year from now to be able to do that.

20 So leave it kind of open-ended there, because I
21 know the SRP may actually have its own idea of what --
22 what other types of input or interactions that you want us
23 to provide on this.

24 CHAIRPERSON ANASTASIO: Thank you, Nan.
25 Appreciate your presentation.

1 Panel members, if you have questions or comments,
2 please raise your hand and then I'll call on.

3 Mike.

4 PANEL MEMBER KLEINMAN: Yes. Thank you, Cort.
5 Nan, could you go back to your slide number 11, the field
6 monitoring schematic.

7 DPR ASSISTANT DIRECTOR SINGHASEMANON: Certainly.

8 PANEL MEMBER KLEINMAN: Yeah. First, I'm not
9 sure what -- what are the circles and what are the stars?

10 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah, this
11 is kind of a general schematic just to kind of show the
12 arrangements. The circles and the stars represent what's
13 on the right, essentially a sampling point. In reality,
14 it would basically be a pole, with a pump, with sorbent
15 tubes. That's what we're going to be collecting the air
16 samples with. And, you know, we're going to be going in
17 intervals during the seven days to collect samples. Our
18 field folks are going to go in there to do that. So the
19 circles and stars represent the sampling points that's
20 going to be spread around the field.

21 The dark part of the diagram would be the actual
22 field where the applications take place. So as you can
23 see, all the samplers are going to be placed around the
24 edge. Oftentimes, we call this edge-of-field sampling or
25 around-the-field sampling, around-the-edge sampling.

1 You'll hear multiple things called -- that it's called.
2 That's what at they are.

3 PANEL MEMBER KLEINMAN: In conjunction with this,
4 you also have the sampler -- your monitoring samplers
5 running in the community.

6 DPR ASSISTANT DIRECTOR SINGHASEMANON: Correct.

7 PANEL MEMBER KLEINMAN: And that's only going to
8 be one day over of every six.

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: One out of
10 seven, yeah.

11 PANEL MEMBER KLEINMAN: One out of seven.

12 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah.
13 That's what we call our ambient monitoring -- monitoring
14 site. And it's been ongoing -- it's been going on for a
15 long time. But I think, as I was trying to make the point
16 earlier on the presentation that I think, you know, our --
17 the -- our best data that's going to be useful for the
18 pilot and to -- and also to help support rulemaking on
19 this one in the future would be the work around the field.
20 This is going to be the work that's going to generate the
21 most useful information for validating our -- validating
22 our models and also for identifying some of the local --
23 you know, the -- the acute exposures.

24 PANEL MEMBER KLEINMAN: I think that's great, but
25 I guess the, you know -- you know, knowing what is

1 actually happening in the community as you're going
2 through this, it might -- you know, and given that your
3 sampling frequency is rather limited, you know, the -- you
4 don't all -- as Kathie mentioned, the wind direction is
5 generally from one direction and all -- you know, these
6 fields that you're going to be monitoring, you know,
7 looking back at the picture -- let me see which slide it
8 was -- slide number 3 where you have your overall map.

9 So looking at this map, are -- which are the
10 fields that you're actually going to be working in? Is
11 that in the -- the highlighted dark square with the --
12 with the designated sites and M2752 and -- or S2? Yeah.

13 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah. So
14 Mike, the dark boundary and the number you just read,
15 that -- that is the township in which the AB 617 Shafter
16 area is included in.

17 PANEL MEMBER KLEINMAN: Um-hmm.

18 DPR ASSISTANT DIRECTOR SINGHASEMANON: So our
19 study area, what we call our study area, would be the four
20 squares that's showing that's being blown up on the left
21 side of that particular -- that figure. So, yeah, I mean,
22 obviously Shafter right in the midst of an area that
23 there's actually relatively high use around the -- around
24 the community. This is why it's -- you know, I think it's
25 a -- it's really important for us to take a look at the --

1 at the emissions in this area. We've had -- we've had
2 the -- the blue diamond there is our ambient monitoring
3 station. The monitoring station has been there for a long
4 time.

5 PANEL MEMBER KLEINMAN: Okay.

6 DPR ASSISTANT DIRECTOR SINGHASEMANON: And again,
7 we can't control the wind direction. Although, like I
8 said, it's predominantly from the south, but it does
9 shift. So, you know, looking at it one day out of the
10 week is limited. And that's one of the reasons that we
11 want to move ahead with the pilot is to better understand,
12 you know, the -- you know, what's coming off the field and
13 how it could impact these -- the ambient sites during the
14 rest of the week. It's hard in sampling when you're --
15 that frequency is really important. But, you know, the
16 ambient monitoring sites, you're really looking at more
17 long-term exposure. So it's not ideal to try to interpret
18 acute exposure using ambient monitoring sites like this,
19 especially when it's farther way from the applications.
20 So there certainly are implications in terms of like data
21 interpretation, you know, that -- which you had just
22 brought up.

23 PANEL MEMBER KLEINMAN: The main limitation I
24 guess, you know, that forces you to do this limited
25 sampling is, I guess, it's pretty expensive to do the

1 analysis and also changing filters on a regular basis,
2 because -- it would really be -- I'm wondering whether you
3 could use -- change your sampling strategy to collect
4 daily filters, but analyze a weekly composite and then
5 only look at individual days for weeks where you have a
6 high level on your composite sample. Would a strategy
7 like that work?

8 DPR ASSISTANT DIRECTOR SINGHASEMANON: I see what
9 you're saying. So, you know, again, the mon -- our
10 ambient monitoring air station has been there for a long
11 time. And it exists within a particular monitoring
12 program that's implemented by our air monitoring
13 program -- our air program. So, you know, they've come up
14 with this kind of a long-term way of assessing the air
15 concentrations.

16 Something like that, we would have to kind of
17 discuss, because it has an impact, not just at Shafter,
18 but it would have an impact beyond to all our ambient
19 monitoring stations. You know, we have -- we had eight
20 stations the last couple of years. It's been dropped down
21 more right -- dropped down to less now, because of funding
22 considerations.

23 So, you know, it's something that we have to kind
24 of could take a look at a larger -- a larger scale scheme
25 of things and not just for this particular pilot. So it

1 just happens to be that the ambient monitoring air station
2 for Shafter is here in the study area. But, you know,
3 again, I'm going to shift again the focus more onto the
4 edge-of-field work that's going to give us the data that I
5 think we're particularly interested in.

6 But I see what you're saying and I can certainly
7 talk to our staff about that -- about your idea, in terms
8 of how we'd inform -- you know, would it better -- would
9 it better inform, you know, our assessment, have a better
10 picture of in terms of the exposure relative to what we're
11 doing now. So I could bring that up with them.

12 PANEL MEMBER KLEINMAN: Thank you.

13 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

14 CHAIRPERSON ANASTASIO: Thank you, Nan.

15 I see that Paul has a question.

16 Paul, we can't hear you. I don't know if you're
17 muted.

18 Oh, yes.

19 PANEL MEMBER BLANC: Yes, I'm unmuted. Thanks.

20 Sorry.

21 I guess I have a more existential question, which
22 is if all of this -- how -- how can this great investment
23 of work be generalizable to the broader question? And it
24 seems to me that unless what you're doing in your pilot is
25 setting up a process, which would be generally applicable

1 to a series of chemical exposures as they come up, we
2 would -- it would probably take us a hundred years to
3 address even a short list of exposures. It's not that I
4 don't think Telone matters, but this seems pretty
5 intensive and glacial for a single exposure at a single
6 site. It may be clear to the agency why this work is
7 generalizable, but I think it would be worth stating that
8 explicitly or illuminating for us explicitly.

9 DPR ASSISTANT DIRECTOR SINGHASEMANON: Paul, I
10 guess I'm trying to better understand or frame your
11 question. And when say generalizable, what do you mean
12 exactly by that?

13 PANEL MEMBER BLANC: If we came up with a second
14 chemical tomorrow, would you be able to use exactly the
15 same approach for it and not have to pilot and just do it?

16 DPR ASSISTANT DIRECTOR SINGHASEMANON: I think
17 it's -- the work is really focused on the modeling. And,
18 you know, our ability to -- to validate the models and do
19 it well enough that we can rely on it for future
20 prediction.

21 But we would -- you know, from a different active
22 ingredient, we would probably need -- it needs to be
23 modeled differently. There would be different inputs and
24 we would -- we would likely need data that's -- field data
25 that's generated using studies with that, say, fumigant

1 for example -- fumigants.

2 PANEL MEMBER BLANC: Yes.

3 DPR ASSISTANT DIRECTOR SINGHASEMANON: So I think
4 the framework is there, but the specific results from this
5 particular -- you know, for 1,3-D I don't think is
6 necessarily portable to another AI that easily. We would
7 have to structure it and tailor it to something more
8 specific for whatever that particular next AI would be.

9 PANEL MEMBER BLANC: So that probably is the
10 correct industrial hygiene response. I guess I'm curious
11 from the other panelists what the larger public health
12 overview might be.

13 CHAIRPERSON ANASTASIO: Yeah. Nan, I would hope
14 that the model -- you know, you test it with 1,3-D, but I
15 mean it must be volatility, and soil reactivity, and water
16 solubility, these all must be modeled parameters and you
17 can tweak them, right --

18 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes.

19 CHAIRPERSON ANASTASIO: -- for the next compound
20 to at least get a decent idea of off-field exposure to a
21 whole range of pesticides.

22 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yes. Yes.
23 No, I think that part is certainly true. I think we would
24 want to set -- to still validate the field study using
25 other AI though, because, you know, modeling it's like --

1 you know, if you can validate, especially if you're going
2 to use the results to support regulation, we want to like
3 at least validate them. We may not need a scale of study
4 this big where, you know, we're looking at multiple areas,
5 many, many fields. Maybe we're looking at one or two
6 studies at most, to -- you know, assuming -- assuming that
7 we're looking at similar types of application options to
8 get our data, but that's a good point.

9 PANEL MEMBER BLANC: Cort, I'd just be curious to
10 have some of the other panelists weigh-in on this -- this
11 more global question.

12 CHAIRPERSON ANASTASIO: Sure. I see Lisa has her
13 hand up. Lisa, did you want to weigh in on Paul's
14 question or did you have a question?

15 PANEL MEMBER MILLER: I actually had a different
16 question

17 CHAIRPERSON ANASTASIO: Okay. So could we hold
18 that for a minute then --

19 PANEL MEMBER MILLER: Sure.

20 CHAIRPERSON ANASTASIO: -- and see if any of the
21 other panelists would like to weigh in on Paul's questions
22 of the wider generalizability of the pilot program?

23 Joe.

24 PANEL MEMBER RITZ: So does --

25 CHAIRPERSON ANASTASIO: Or sorry, Beate.

1 PANEL MEMBER RITZ: Yeah. So having been --
2 being in the field of building models, land-use regression
3 models for air pollution, I know that there are
4 generalizable ways of looking at these models. We know
5 what kind of like volatility was mentioned, the amount of,
6 you know, ingredient injected, et cetera, so those --
7 those are -- those are parameters we will use in every
8 single model, but we also know that we have to validate
9 the model. Then I guess the bigger public health question
10 is how -- how much do we have to -- how far do we have to
11 go to validate the model before we can say, well, this is
12 a general model that works, and, you know, we -- we can --
13 we don't have to invest every single time this same effort
14 of model validation again.

15 It also would be good to understand whether this
16 model -- what really the most important contributors to
17 this model or its validity are. And maybe those are
18 things that can be stated very clearly after this pilot
19 program knows this or has done this, so that, you know,
20 we -- we generate some more general knowledge about model
21 building, model validation, that we don't have to reinvent
22 the wheel every time a different agent is being evaluated,
23 and that that should be one of the goals of this pilot
24 project and the investment in it.

25 CHAIRPERSON ANASTASIO: Thank you, Beate.

1 Joe, did you have a comment related to Paul's
2 question or a separate comment?

3 PANEL MEMBER LANDOLPH: Related to Paul's
4 question. Can you hear me?

5 CHAIRPERSON ANASTASIO: Yes. Go ahead.

6 PANEL MEMBER LANDOLPH: Yeah. Yeah, Paul, thank
7 you for asking that question. I was thinking about this
8 too, a long similar lines of Paul's. And my question to
9 Nan and his colleagues would be is there any possibility
10 of replacing Telone with some compound that's less toxic
11 to humans? And I'm thinking about this and it just seems
12 like we'll be doing this over, and over, and over again.
13 And what happens, do we eventually get to a point where
14 there's so much pesticide in the soil that you have to
15 scrape off the top couple of feet or something say after
16 50 years? What kind of thinking have you done along those
17 lines.

18 And now with the advent of all these elegant
19 molecular biology tools like CRISPR-Cas9, are there ways
20 that pest populations can be modified, so that they don't
21 cause so much of a problem or create other pests which
22 will attack these pests, and go at it in a biological way,
23 is there anything going on there?

24 DPR ASSISTANT DIRECTOR SINGHASEMANON: So in
25 terms of alternatives, I had mentioned earlier that, you

1 know, right now there's no good alternative for 1,3-D, in
2 terms of this specific use. However, that doesn't mean
3 that, you know, there's no -- there won't be alternatives
4 in the future. You know, we -- we can get registration
5 requests every once in a while for a new material, for
6 like a fumigant. It doesn't come up very often for
7 fumigants. It happens a lot more for other types of
8 products, but it's possible.

9 I think if there were alternatives out there, we
10 wouldn't be really thinking about the pilot program. We
11 wouldn't really be thinking much about mitigating use
12 necessarily. Maybe we would -- we would be looking at
13 other materials.

14 I do know that the Department -- you know and I
15 can't speak on the specific -- some of the specific
16 pest -- pest management alternatives you brought up, but I
17 know that we're committed to really -- to exploring the
18 IPM mass -- integrated pest management part of it deeply.
19 That's been a commitment from our Director. And it's
20 really supported by our agency as well. So, you know, I
21 would say that that type of work is -- you know, it's
22 important and it's not something that ignore, so.

23 PANEL MEMBER LANDOLPH: Thank you very much.

24 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

25 CHAIRPERSON ANASTASIO: Okay. Lisa, sorry to

1 keep you waiting. Go ahead.

2 PANEL MEMBER MILLER: I just have a practical
3 question related to this. I'm not familiar with how these
4 materials, these pesticides are applied this -- this
5 particular pesticide is applied. Excuse me. Is the
6 equipment used to apply this material consistent across
7 the Board between fields. And again, I'm thinking, you
8 know, from a practical perspective, how much variability
9 that might impose.

10 And you mentioned the timing -- you know,
11 seasonality is important in terms of the application
12 process. I get that. Do weather conditions also --
13 weather conditions during the application process, I would
14 assume, would add some variability to the amount of
15 material that actually gets into the specific field that
16 you're sampling versus elsewhere. Is that taken into
17 consideration during the application process itself?

18 DPR ASSISTANT DIRECTOR SINGHASEMANON: Boy,
19 that -- I wish Edgar Vidrio was here. He'd be able to
20 answer that question very well. He's very familiar with
21 the applications and how it's done. I'm not so much.

22 You know, I -- I want to say that it's some of --
23 a lot of the equipment that's used is consistent, because
24 there's only, I think, two, or three, or four applicator
25 companies that actually does this work, but it could be

1 that they have different applica -- you know, application
2 equipment for different situations. I really don't want
3 to answer a question that I'm not super familiar with,
4 but, you know, that's something, if possible, we could
5 follow up on. I think that's a good question.

6 In terms of like the, you know, environmental
7 factor during application, I think that's certainly
8 important. That's one of the reasons that we have weather
9 stations out there when we're looking at -- when we're
10 collecting data to make sure we understand the
11 circumstances of which the -- you know, the -- what we're
12 detecting is -- you know, it's been generated at.

13 So, yeah, and I can't really answer too much more
14 about the -- the app -- the equipment question. But, you
15 know, maybe there's an opportunity to kind of like follow
16 up on that. I don't want to misinform people, so...

17 PANEL MEMBER MILLER: Yeah. I'm just wondering
18 whether that might influence your modeling.

19 Thank you.

20 DPR ASSISTANT DIRECTOR SINGHASEMANON: Thank you.

21 CHAIRPERSON ANASTASIO: Thank you, Lisa.

22 Mike, you have a question.

23 PANEL MEMBER KLEINMAN: Yes, I do. Going back to
24 Paul's point about generalizing. You've got several
25 different mitigation approaches that might be taken and

1 different application times and whatever. In order to
2 really generalize, you really need sort of -- you know,
3 some kind of systematic approach to generating the data
4 and analyzing the data. And have you given thought to how
5 you're going to structure the -- the database and the
6 acquisition to give you a good chance to be able to
7 interpret it and generalize it going forward?

8 DPR ASSISTANT DIRECTOR SINGHASEMANON: I know
9 that our staff have done these type of studies, the field
10 studies, before, and involving 1,3-D as well. So I know
11 there is -- there's an existing sort of like a
12 database-type structure or data analysis framework that
13 exists. You know, we've done some of these type of
14 studies before in the past. We have a guidance that we
15 work off and that we -- you know, we -- we used, that we
16 tell the registrant, for example, that are doing their
17 studies soon, we want them to follow that guidance. So
18 there is a framework in place that's been developed over
19 the years. 1,3-D is not something new to us. It's been
20 around for a long time and we've studied it for a long
21 time too. Did I answer your question there, Mike?

22 PANEL MEMBER KLEINMAN: Well, I guess what I'm
23 asking about is this is a voluntary program and different
24 fields are going to be treated in different ways at
25 different times. And, you know, that makes it difficult,

1 so if you have one field where they're doing a deep
2 injection and on another field where they're using a tarp,
3 and they both do this at the same time, how do you
4 disentangle?

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: That is
6 one of the site criteria requirements that we have. We
7 don't want applications occurring next to each other from
8 a certain -- you know, we would need a certain distance in
9 between. I didn't go into detail on that too much,
10 because I thought that might kind of, you know, derail the
11 focus a little bit. But that's something that we are
12 working through in terms of like determining which field
13 we want to -- we can monitor.

14 Unfortunately -- you know, I mean, if we didn't
15 have much in terms of, you know, how -- how the type of
16 criteria are for selection, we would get more fields and
17 we would already be working. But because we're very
18 particular about, you know, not trying to get
19 interferences from nearby fields, or nearby structures, or
20 orchards, you know, that's -- that's something that we
21 have to kind of work through.

22 CHAIRPERSON ANASTASIO: I think part of Mike's
23 quest --

24 PANEL MEMBER KLEINMAN: Thank you. That --
25 that's very helpful.

1 DPR ASSISTANT DIRECTOR SINGHASEMANON: Thank you.

2 CHAIRPERSON ANASTASIO: Yeah. And Mike, was part
3 of your question more about the variability of the
4 different applications? It's something I was wondering
5 about too. So, Nan, you talk about having four or five
6 applications that you'll be able to study, but you had 12
7 methods, you know, either individual or combinations of
8 methods that you hope to evaluate, so it doesn't seem
9 feasible with only four or five applications. Can you
10 talk a little bit about that?

11 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah. And
12 so, you know, we were trying to generate as many
13 combinations of methods as possible as -- you know, for
14 the -- for the benefit of the growers and applicators. So
15 there's, you know -- there's more than just one way of
16 doing something. So we're giving them variety.

17 Now, you know, we can only do so many monitoring,
18 like as mentioned, at least four or five. The Dow
19 AgroSciences is going to be doing three. So, you know,
20 there's -- hopefully, we're going to cover a number of
21 methods. But remember too that the methods we're going to
22 up monitoring are going to be the methods that the growers
23 and applicators choose. So there is a bit of a filter in
24 terms of what we'll look at.

25 Maybe some of the additional -- some of those

1 methods won't be so well received beyond what we already
2 though. So therefore, we won't be able to look at it,
3 because it's not going to be used. But that's a good --
4 it's a good preview of like, you know, what we would do in
5 terms of future rulemaking. Well, let's not put that
6 option in there, because that's not going to work. We've
7 learned that from the pilot study, that's not going to
8 work.

9 So that's how I envision us being able to look at
10 these methods. It's a -- there's a filter of what the
11 growers and applicators can do and then there is what in
12 reality, you know, what we can actually monitor.

13 It's a bit open -- a bit of an open book, I have
14 to say. It's not like it's already pre-set this is what
15 we're going to look at, what we're going to do, but that's
16 just the reality of it.

17 CHAIRPERSON ANASTASIO: Thank you, Nan.

18 Beate, question.

19 PANEL MEMBER RITZ: Yeah. Actually,
20 question/comment. If I remember correctly, last time when
21 we heard about this already, the predictions from the
22 model were not very good. And I'm wondering -- of the
23 monitoring data. So I'm -- and, I mean, in R square
24 measures, from what I remember. I have to go back to it,
25 but I was quite surprised how little it predicted. Is

1 there an exchange between the people who are building the
2 mode and the people who are doing the monitoring what
3 really the parameters are you need to absolutely measure
4 in order to improve your modeling?

5 DPR ASSISTANT DIRECTOR SINGHASEMANON: So, yeah,
6 I don't remember exactly what you're referring to, but --
7 in terms of the question of the modelers and the folks who
8 generate the data. Our air monitoring -- our air program,
9 both groups of the modelers and also the field folks are
10 in the same program. And there's quite a bit of
11 collaboration between them. So this -- to me, this is a
12 constant part of our work is to when we were -- especially
13 when we're doing validation is to make sure that the
14 modelers are talking to the field folks, you know, the
15 field study folks who are generating the data. It's
16 all -- it's very -- it's just a back and forth. So it is
17 something that we integrate into our regular -- the
18 regular part of our work.

19 And again, when we generate the data coming from
20 the study, it's going to be more of the same, you know,
21 most groups working together to get the result.

22 CHAIRPERSON ANASTASIO: Thank you, Nan. Thank
23 you, Beate. Ahmad, do you have a question?

24 PANEL MEMBER BESARATINIA: Oh, hi. Yeah. I
25 might have missed, but do you have any plan perhaps in

1 your pilot program or in the future to collect personal
2 dosimetry data from users, for example, from residents, or
3 from farmers, or applicators how feasible is it to measure
4 the concentration of these compounds or its metabolite in
5 say exhaled breath or, blood plasma, or urine of
6 individuals who are exposed?

7 DPR ASSISTANT DIRECTOR SINGHASEMANON: I
8 mentioned earlier that we -- you know, we do work on the
9 worker health and safety aspect. And those -- of course,
10 those are exposures that are relatively high. They're in
11 the fields or they're around the fields doing the
12 applications or, you know, helping with the application.

13 In terms of, you know, monitoring bystanders or
14 residents, that's not something that I'm as familiar with.
15 And I think there's probably -- that's probably work
16 that's been done, you know, by academia more. It's not
17 something that I think that our Department engages in
18 historically by monitoring, you know, residential
19 bystander level type exposures.

20 That's why we do a lot of the modeling to kind of
21 help inform us of, you know, what the concentrations would
22 be, the exposures would be. And, you know, we -- we can
23 estimate the risk based on, you know, looking at various
24 threshold, affects thresholds and so on.

25 That's the best -- to my knowledge, that's

1 what -- you know, that's what I -- that's what I'm seeing,
2 so...

3 That's a good question though.

4 CHAIRPERSON ANASTASIO: Thank you, Nan.

5 We're running a little behind schedule, so I'd
6 like to move forward.

7 So this is the time for public comment. So,
8 members of the public if you'd like to participate or ask
9 a question, you can either do it by raising your hand and
10 I'll call on you, or you can put it into the chat. Either
11 way should work.

12 I know that some people have had questions
13 already in the chat, but the chat is a little chaotic. So
14 if you have a question, please retype it and I will state
15 it and then ask the relevant expert to respond to it.

16 MS. LOVE-LAZARD: Cort, can I just jump in before
17 we do that? When you do ask your question after you've
18 raised your hand, can you state your name just in the
19 interests of if there's anything follow-up we need to do,
20 so we know who everyone is.

21 Thanks.

22 CHAIRPERSON ANASTASIO: Sounds good. Thank you,
23 Christal.

24 Okay. I see a questions from Mark Weller. Mark,
25 go ahead.

1 MR. WELLER: Thank you. My name is Mark Weller.
2 And given 1,3-D is a carcinogen, where long-term exposure
3 is a factor, mitigating for acute exposures won't
4 necessarily address chronic health threats, since the
5 amounts can be much smaller. I'm told this meeting is
6 only about acute scenarios, but will we also engage our
7 Scientific Review Panel for chronic scenarios in Shafter,
8 and if so when? And shouldn't we be trying to prevent
9 cancer now rather than putting that off for later?

10 Thank you.

11 DPR ASSISTANT DIRECTOR SINGHASEMANON: So is that
12 more of a question from the SR -- for the SRP then, I
13 think.

14 CHAIRPERSON ANASTASIO: No, it sounds like a DPR
15 or maybe OEHHA question to me. Nan, can you talk about,
16 are you interested in -- or is DPR doing anything related
17 to reference concentrations or cancer potency factors for
18 long-term exposure?

19 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah. And
20 so, you know, I mentioned that we have collected data over
21 the long term for Shafter and other air monitoring network
22 locations. And, you know, we look at not just acute but
23 we look at the subchronic and also the chronic exposure as
24 well. And the chronic one would be more relevant towards
25 something like -- like cancer, you know, because it's a

1 likely carcinogen.

2 The -- I think what's important is that, you
3 know, I've talked about how -- if we were able to try to
4 address the mitigation on the acute level, that it would
5 help somehow reduce exposure -- general exposure, so that
6 it's part of the exposure profile for a chronic period,
7 that that would -- the exposure would be lower as well.
8 You know, I'm not going to engage and say, well, how --
9 how low is that -- you know, what reduction would that
10 mean, in terms of the chronic exposure. That's for
11 another conversation.

12 I do know that, you know, as we're looking toward
13 doing rulemaking for 1,3-D, that we're going to be looking
14 at both the acute exposure and also the chronic exposure.
15 So that's my understanding where the Department has been
16 heading and we've had our conversations with our -- with
17 CalEPA. So, you know, we're really well kind of locked
18 arms in what we want to do in terms of rulemaking.

19 I believe that's going to be addressed more in
20 that aspect of it and not -- and not in the period of this
21 study, obviously, because a study to kind of -- to reduce
22 acute exposure.

23 CHAIRPERSON ANASTASIO: So, Nan, are you saying
24 that DPR is developing a chronic health value?

25 DPR ASSISTANT DIRECTOR SINGHASEMANON: The -- we

1 have the chronic health value. We have subchronic health
2 values as a matter of the next level of mitigation. You
3 know, we -- in 2016, we developed permit conditions and we
4 came out with a risk management decision to address the
5 chronic exposure of 1,3-D so that -- there's already
6 existing mitigation in place for that. Now, whether --
7 or, you know, whether we want to further re -- to further
8 advance that or, you know, reduce the -- you know, the
9 increased protection from a chronic exposure, that's what
10 I'm saying is going to be evaluated when we're -- when
11 we're bringing this back up for rulemaking.

12 CHAIRPERSON ANASTASIO: I see. Thank you.

13 Well, the Panel would be very happy to help you
14 evaluate a chronic exposure for 1,3-D or any other
15 pesticide.

16 DPR ASSISTANT DIRECTOR SINGHASEMANON: Thank you.

17 CHAIRPERSON ANASTASIO: Okay. I see a question
18 in the chat. Let's see sere here.

19 This is from Amy Kyle. How much of the pesticide
20 exposures in this area are represented by this compound?
21 So I believe that means out of the total active ingredient
22 applied, what fraction is 1,3-D, because Amy points out
23 that AB 617 is about addressing community scale for air
24 pollution. And how are we getting to community-level
25 concerns pesticides overall?

1 So, yeah, to what -- so can you talk broadly
2 about that, Nan? You know, why the focus on 1,3-D, is
3 that thought to be a big component of the pesticide
4 toxicity in this area or how does it compare to what else
5 is being applied?

6 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah.
7 Again, this is a -- this is a great example of, you know,
8 just having -- of talking to the community and working
9 through AB 617 and the steering committee -- community
10 steering committee. So, you know, within the actual CERP
11 document that -- the emission reduction plan, there are
12 very specific references to 1,3-D and the desire to have
13 lower exposure in the community.

14 So this is something that the community
15 identified and, you know, I know that we've provided
16 information on the material and on 1,3-D. In the past,
17 We've had staff talk about use, so such -- you know, these
18 kind of use maps have been provided. And, you know, folks
19 live there. Folks know through, you know -- you know,
20 talking to growers, you know, whether it's interacting
21 with the ag -- local ag commissioners that 1,3-D is
22 something that's used heavily in the area. So that's not
23 a mystery. This is something essentially that the
24 community identified and that's why, you know, we're
25 interested in addressing this issue.

1 And obviously, there's 1,3-D use going around
2 other areas as well in the state. It's not just -- just
3 in the Shafter area.

4 No, you know, Shafter is really in the middle of
5 a large productive agricultural area and so you're going
6 to have other pesticides that are used. But perhaps those
7 pesticides are just not as -- you know, as not in the --
8 in the -- front and center in the interests of the
9 community and 1,3-D is, because, you know, it's a
10 fumigant. Some of the other pesticides are not
11 necessarily a fumigant. You know, they're applied in
12 different formulations whether they're liquid, whether
13 they're solid and off-site movement is not -- you know,
14 it's not as significant potentially as 1,3-D -- or at
15 least the perception that off-site movement is not as
16 significant. So that would be my take on, you know, my
17 response to that question.

18 CHAIRPERSON ANASTASIO: So has DPR done a
19 calculation of relative risks from various pesticides in
20 the Central Valley? Does 1,3-D pop up as one of the major
21 contributors.

22 DPR ASSISTANT DIRECTOR SINGHASEMANON: Well, if
23 you start talking about risk, I'd go back again to where
24 the results from our air monitoring network. You know, we
25 present -- we present the data pretty routinely in public,

1 and, you know, if you're looking at 1,3-D and you're
2 looking at screening levels, whether they're acute,
3 whether, you know, the subchronic and chronic, generally
4 the risks are de minimis or very low. It just depends on
5 the area. It depends on the situation. But, you know, we
6 keep the communities, we keep the public informed of --
7 you know, of these kind of risk estimates routinely. If
8 folks go to our air monitoring, our air program webpage,
9 they can actually have access to the air data.

10 Because the exposure is typically very low or,
11 you know, non-detect, we're not expecting to see a lot of
12 risk relative to 1,3-D. We look at -- you know, our air
13 monitoring network does not only look at 1,3-D. It looks
14 at, you know, 35 other pesticide active ingredients or
15 degradants. This is just air. So, you know, there could
16 be exposure from water or groundwater, but that's a
17 different conversation.

18 But for air, you know, we also look at the risk
19 relative to that as well. So if you go to our air
20 monitoring network documents it actually walks through the
21 relative risk, at least for air contaminants.

22 CHAIRPERSON ANASTASIO: Okay. Great. Thank you,
23 Nan.

24 DPR ASSISTANT DIRECTOR SINGHASEMANON: Sure.

25 CHAIRPERSON ANASTASIO: Any other comments from

1 the public? If so, please raise your hand or type it in
2 the chat.

3 Yes, Gustavo.

4 DPR ASSISTANT DIRECTOR SINGHASEMANON: Gustavo.
5 I know Gustavo.

6 MR. AGUIRRE, JR.: Yeah, how's it going, brother.

7 How's it going everyone? This is Gustavo
8 Aguirre, Jr. with Central California Environmental Justice
9 Network down here in Kern County. And I am also a member
10 of the Shafter AB 1617 steering committee, along with some
11 of the folks here on the call as well.

12 But my question goes to Nan. And appreciate it,
13 Nan. Always good to look at this data.

14 Excuse me. Let me move here. I'm battling with
15 my seven-year old for bandwidth.

16 But my question is, you know, if the -- at the
17 current level of monitoring, which was significantly
18 decreased from last year, in the contrary, if more
19 monitoring in more locations at a higher frequency was to
20 be deployed as -- would you guys like foresee seeing the
21 same amount of kind of averages in 1,3 readings or a
22 higher frequency, based on what you guys already know and
23 already have collected, deploying more air monitoring
24 like, you know, getting more ground truth? What kind of
25 forecasts do you guys have for that? That's something

1 I've always been curious about.

2 DPR ASSISTANT DIRECTOR SINGHASEMANON: Gustavo, I
3 think you're probably referring more to the ambient
4 monitoring locations, right? Not like the -- by the edge
5 of the field, but let's say something that's similar to
6 what's out at the Bonilla Elementary School, if there are
7 more ambient sites -- monitoring sites like that around --
8 around the community, is that where you're talking about?

9 MR. AGUIRRE, JR.: Right. Yes.

10 DPR ASSISTANT DIRECTOR SINGHASEMANON: And also,
11 I think you're also talking about the higher frequency as
12 well, not just location, so two things.

13 MR. AGUIRRE, JR.: Exactly. Yes. Both -- both
14 of those indications.

15 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah, I
16 think, you know, that's a good question actually. Because
17 we have a long history of monitoring in Shafter, and, you
18 know, we're talking many, many years, so, you know, 52
19 samples per year, times nine-ish years or so, you know, we
20 have hundreds of samples from Shafter. And, you know,
21 with the graph that I had shown earlier in the
22 presentation -- am I still showing this?

23 The -- I think it kind of gives us a good idea of
24 what to expect into exposure. You know, I did mention
25 that there's a bit of a blind spot that we're not

1 necessarily looking at every six -- you know, if you're
2 only looking at one out of seven days, but the -- you
3 know, because we have a larger data set, I think there's
4 some level of confidence. It has -- you know, as we keep
5 collecting data, we could feel more comfortable about how
6 this is -- you know, the more data we collect, the more
7 representative what the graph would be.

8 So, this is why, you know, you can -- you can
9 maybe model, you can predict, you know, what the
10 concentration would be like in an ambient -- in an ambient
11 station location, but nothing is a substitute for actual
12 monitoring data.

13 And, you know, if we are able to get more
14 monitoring data, that would help kind of boost the
15 confidence in what we're seeing. But as you know,
16 that's -- it'd -- you know, a lot of it, it costs money.
17 And, you know, to add another station, to add -- to add
18 additional samples to the mix it just costs more money.
19 You know, it's not something that we can -- that will
20 really give us -- gives -- it's kind of -- it's kind of a
21 cost-benefit, I guess that's what we can think about it
22 as.

23 So I think it's a good question and it's
24 something we could probably visit in a separate forum,
25 maybe as part of the subcommittee that we have with you

1 guys, because this is something that would involve
2 conversations with the program staff and our scientists
3 there to give us, you know, their take on it.

4 MR. AGUIRRE, JR.: Yeah. Yeah. And my question
5 maybe was less directed towards like the modeling itself,
6 like, you know, forecasting per modeling, but maybe more
7 towards like, you know, the capturing of one out of seven
8 days a week, like how does that -- my question more or
9 less, like how does that correlate with the frequency of
10 like pesticide permits?

11 And I know right now there's an issue with like
12 how quickly accessible pesticide permits are, right? And
13 that's something that we're currently running in Shafter
14 to simply make like, you know, a notification, which
15 doesn't seem to be rather difficult. But -- and my
16 question is -- or like my 2.0 question rather is if -- if
17 we were to have access to permits on pesticide use and
18 have that correlated with, you know, more targeted,
19 ambient air monitoring sites, maybe it's just out
20 curiosity, like I wonder how that approach would be
21 different from the current approach and methodology that
22 you guys have?

23 DPR ASSISTANT DIRECTOR SINGHASEMANON: Yeah.
24 Yeah. It's a pretty deep question, but I think -- I mean
25 a quick take on that would be that, you know, the ambient

1 side is meant to be sort of representative of community
2 exposure over a long period, right? If you start moving
3 some of the ambient sites, say closer to certain
4 application sites and to try to time it, you know, I'm --
5 I'm wondering if it we take -- have that kind of
6 conversation and explore that in this -- in another
7 setting. I feel like that's something that we really --
8 that we can kind of talk about, and think about, and work
9 through. It's going to take a lot of time.

10 MR. AGUIRRE, JR.: Yeah. Yeah. It was more of
11 a, you know, kind of like let's think about this, right,
12 and then we -- come back to -- I want to place that in the
13 parking lot.

14 DPR ASSISTANT DIRECTOR SINGHASEMANON: Okay.
15 Right. Thanks, Gustavo.

16 CHAIRPERSON ANASTASIO: All right. Thank your,
17 Gustavo. Thank you, Nan. In the and interests of time,
18 and I don't see any other public comments, we're going to
19 move to our break. So we're running a little late, so
20 we're going to have a five-minute break. So we will
21 reassemble at 11:14. And then we'll continue. All right.
22 Thank you, everyone.

23 DPR ASSISTANT DIRECTOR SINGHASEMANON: Thank you.

24 (Off record: 11:09 a.m.)

25 (Thereupon a recess was taken.)

1 (On record: 11:14 a.m.)

2 CHAIRPERSON ANASTASIO: Thank you, Christal for
3 putting up that slide about the break.

4 We're going to move on to our next agenda item,
5 which is a report from Mike Kleinman about the AB 617
6 Consultation Group meetings he's attended recently.

7 For a little bit of background, AB 617
8 consultation group includes individuals representing
9 environmental justice organizations, air districts,
10 industry, academia, public health organizations, and local
11 government. And it's meetings provide an opportunity to
12 discuss various aspects of the Community Air Protection
13 Program implementation.

14 So Mike is going to give us an update now about
15 what transpired at the February 28th, 2020 meeting.

16 Mike, take it away.

17 PANEL MEMBER KLEINMAN: Okay. Thank you very
18 much, Cort. So I'm going to share my screen.

19 (Thereupon an overhead presentation was
20 presented as follows.)

21 PANEL MEMBER KLEINMAN: And there we go. So --

22 CHAIRPERSON ANASTASIO: Sorry, Mike. You're in
23 presentation mode. Can you go to display settings.

24 PANEL MEMBER KLEINMAN: Yeah, let me do that.

25 CHAIRPERSON ANASTASIO: Great. Thank you.

1 PANEL MEMBER KLEINMAN: There we go. Okay.
2 Sorry about that.

3 So I'm Mike Kleinman and I'm with UCI. I'm a
4 member of the SRP and also on the Consultation Group.

5 --o0o--

6 PANEL MEMBER KLEINMAN: I wanted to just give a
7 brief overview of the SRP, the Scientific Review Panel's
8 role in AB 617. And within the language of the act, we
9 have a consultation role with regard to toxic air
10 contaminant monitoring, integrating with existing
11 community air monitoring systems, as these are developed,
12 and providing consultation on approaches to community air
13 monitoring, and plans to reduce the air toxic contaminants
14 and criteria air pollutants. And also, specifically
15 provide consultation on reducing exposures in communities
16 where there are high cumulative exposure burdens.

17 And basically, these are the criteria that define
18 communities that are of interest to AB 617. And I just
19 want to point out in the agenda, and perhaps Lori can put
20 this in the chat, but there is background information on
21 the SRP roles on the website. So if you want more
22 detail -- I'm going to try to give a very brief discussion
23 of this. But if you want more details, Lori can put those
24 website indicators in there.

25 --o0o--

1 PANEL MEMBER KLEINMAN: So specific topics for
2 the SRP are -- you know, will include -- and this is not
3 an exhaustive obviously discussion of this, but
4 identifying emerging contaminants of concern, specifically
5 priority substances for OEHHA to develop or update health
6 risk values, and contaminants identified by community
7 members from air monitoring data, emissions inventories,
8 and what they know of potential sources of exposure in
9 their communities.

10 And those will help identify the list of chemical
11 substances that CARB is currently updating. So Appendix A
12 of AB 2588, which is the air toxic hot spots emissions
13 document, contains a very large list of chemical
14 substances to which people are being exposed. And that
15 list is being reviewed and updated and more importantly,
16 we hope to be able to help prioritize compounds that are
17 going to, you know, get additional attention or sooner
18 attention.

19 This is a work-in-progress. It's still ongoing
20 and we are in the process of reviewing some of the new
21 documentation.

22 --o0o--

23 PANEL MEMBER KLEINMAN: So proposed specific
24 topics that were suggested where the SRP could be helpful
25 would be reviewing plans for assessing potential health

1 risks and specifically looking at levels at or below
2 current standards. So reference exposure levels, or
3 ambient air quality standards, and looking at exposures
4 that may even be below the levels. We, for example, know
5 national ambient air quality standards for PM2.5 are not
6 as low as they could be and there are still significant
7 health effects that have been identified through
8 epidemiology and other studies that show significant
9 health effects, even in communities where the levels are
10 below the current ambient air quality standards.

11 Our interests are also to look at potential risks
12 to the sensitive population and relate that back to AB 617
13 communities, because areas where exposures to various
14 contaminants are high are happening in communities where
15 the populations are also subject to other risk factors.
16 And we've -- you know, some of these are due to economics,
17 some of these are due to nutrition, some of these are due
18 to the fact that the communities have more sources or are
19 impacted by more sources of environmental contaminants.

20 So we, as a group, SRP, can help with providing
21 some guidance and review of plans to identify the
22 potential for health benefits, for -- from reductions in
23 localized pollution.

24 --o0o--

25 PANEL MEMBER KLEINMAN: So specific areas of

1 concern are integrating, and analyzing data, and helping
2 provide guidance on how to utilize that data. So we on
3 the SRP have many years of experience and we can help with
4 providing the benefit of that experience and acting as
5 consultants to the communities to help interpret some of
6 that data.

7 We know that in many of the communities there
8 are, as in Shafter, concerns about pesticide use. And
9 pesticide exposure data are incomplete. And one of the
10 concerns that we've raised at the recent meetings were
11 that pesticide usage is not under the rule of just one
12 agency. A number of agencies help in terms -- are
13 involved in terms of permitting and in terms of
14 monitoring.

15 And sometimes adequate monitoring at community
16 levels is not complete enough or -- and sometimes not
17 practical. And communities are concerned. And those
18 concerns have been raised at the consultation group that
19 more attention needs to be looked at -- you know, given
20 to, you know, practical levels of monitoring.

21 With regard to air toxics, often they're not part
22 of the general air quality monitoring programs. These are
23 more specific, yet, there are sources in communities, for
24 example storage areas, that are not always included or not
25 completely included in emission inventories. And SRP

1 could help provide some context for toxic air
2 contaminants, TACs, and pesticides with respect to
3 potential community risks as these compounds are
4 identified and brought to the attention of the
5 consultation group and to the SRP eventually.

6 --o0o--

7 PANEL MEMBER KLEINMAN: So as part of AB 617, a
8 number of activities are ongoing. There have been some
9 very interesting source apportionment and street level
10 monitoring activities in West Oakland, for example, that
11 drew upon years of accumulated data by the Bay Area Air
12 Quality Management District. And this has been updated
13 and integrated, and a very innovative street level
14 monitoring system was used to develop a much denser map of
15 contaminant levels. And the results of this has been
16 provided to the community. And eventually, these data
17 will improve exposure estimates.

18 In terms of community air monitoring, using
19 community dispersed small air samplers in addition to the
20 standard air samplers used by the districts and by ARB,
21 small monitors, such as the PurpleAir network being used
22 for monitoring PM levels and also recording air quality
23 indices, and providing a much richer fabric of data for
24 people to be able to get a better idea of what the
25 exposures are.

1 And there's also, you know, a number of web
2 sources, web available sites, such as AirNow and the
3 PurpleAir network that provides, you know, a lot better
4 view of what's going on in our air and how our communities
5 are being exposed. And those are very useful and in the
6 time of these wildfires has actually been quite scary when
7 you look at how intense exposures to smoke and aerosols
8 from the wildfires has been.

9 --o0o--

10 PANEL MEMBER KLEINMAN: There's been a lot of
11 work being done right now more on procedural efforts.
12 The -- there had been some concern that some community
13 members were not able to get compensated for time. You
14 know, if they need to put in additional time working on
15 community level needs, there was a -- and, you know, a
16 need and also a -- an agreement that CARB will provide
17 some guidance for making stipends available or how
18 stipends would be -- stipend agreements would be reached
19 between the communities and the air districts. Another
20 main issue is that AB 617 operates by creating a
21 blueprint. And this is a consensus type document that
22 provides the idea of what are the best practices, how are
23 different communities coping with ambient exposure.

24 And the document is a living document. And it
25 was written and the first draft was put out, but there

1 were gaps in what was in there and the blueprint does need
2 to be updated.

3 And so a subcommittee has been formed with
4 members -- with balanced representation across the
5 consultation group. The first subcommittee meeting was
6 scheduled and actually happened the end of September. And
7 the -- that document is in the process of being redrafted.
8 And the subcommittee will then bring back recommendations
9 on how to improve a number of aspects that the blueprint
10 covers.

11 --o0o--

12 PANEL MEMBER KLEINMAN: There will be some -- so
13 in the next consultation group meeting, which is coming
14 up, there will be a briefing on proposed changes, also a
15 briefing on the impact of COVID-19 on air quality. There
16 has been some speculation and actually some data that
17 would indicate that as a result of the shut down of
18 various activities and other things, because of COVID-19
19 and the lockdown, there have been improvements in air
20 quality. And this gives us a really interesting
21 laboratory sort of situation to look at how air quality
22 changes as different parts of our economy start coming
23 back on stream.

24 And I think the most important thing in what I'm
25 looking at coming up on this next meeting would be a

1 discussion of the link between community air quality
2 measurement activities and what the State laboratories and
3 the district laboratories are doing and trying to work out
4 ways to integrate some of the citizen science efforts and
5 the community level monitoring, and start to make better
6 sense of how does that relate to our typical air
7 monitoring networks, which are, for want of a better word,
8 designed really to evaluate our compliance with federal
9 and State air quality regulations.

10 And not necessarily as the perfect tool for
11 understanding the link between exposures and health
12 effects.

13 --o0o--

14 PANEL MEMBER KLEINMAN: So moving forward, the
15 blueprint is being revised and hopefully we'll be building
16 mechanisms that will ensure that the processes and
17 products will reflect the community's needs.

18 There's a recognition that the blueprint needs to
19 provide mechanisms for creating a shared understanding.
20 And to do this in a way that we don't set one group of
21 partners above the others, it's got to be equitable, that
22 will take into account the links between air pollution and
23 health, and that the ARB and the districts are continuing
24 to shoulder the burden of understanding how to help
25 communities understand the links between air pollution and

1 held and what can be done to address that.

2 So the technical elements of the blueprint are as
3 it's going to be redrafted will focus on methods that will
4 help with evaluation of how well existing approaches work,
5 what alternative approaches could be considered, and
6 prioritizing processes that can be completed in a
7 relatively short time to help reduce the burden on
8 community members.

9 And another concept is that the blueprint should
10 reflect how data systems and platforms at the State and
11 district levels can be scaled up to address all impacted
12 communities eventually, and, you know, get the work
13 completed within a reasonable time frame.

14 CHAIRPERSON ANASTASIO: Great. Thank you, Mike.

15 PANEL MEMBER KLEINMAN: Okay.

16 CHAIRPERSON ANASTASIO: Panel, any comments?

17 All right. I don't see any.

18 Any comments from the public?

19 All right. Joe, you have a comment.

20 PANEL MEMBER LANDOLPH: Can you hear me?

21 CHAIRPERSON ANASTASIO: Yes.

22 PANEL MEMBER LANDOLPH: Yeah. Mike, very nice
23 presentation. Can you tell me how many members does the
24 Consultation Group have, and how were they selected, and
25 what do they represent?

1 PANEL MEMBER KLEINMAN: The Consultation Group
2 represents participation from CARB, and OEHHA, as well as
3 various -- various other groups and representatives of
4 community associations within the state. And I believe I
5 just saw that a roster has been put onto the chat. So you
6 can get more details on that.

7 But it's a broadly based group of community
8 leaders in -- on air pollution, as well as scientists from
9 various university affiliations, state affiliations. And
10 each of the districts has representation on the
11 consultation group.

12 CHAIRPERSON ANASTASIO: Great. Thank you, Mike.

13 Seeing no other Panel questions, I'm going to
14 move over to public comment. I see Amy Kyle has a comment
15 Amy, go ahead and unmute yourself.

16 DR. KYLE: Thank you. Thank you for that really
17 excellent presentation. I think that captured the -- the
18 current state of the consultation group well. I was
19 appointed to the subcommittee that's working on the
20 blueprint. And there are few things I think you all could
21 really help with that I'm not sure are exactly on your
22 list. So I'm going to just take this opportunity to bring
23 those forth.

24 I've done a lot of work related to the methods
25 for the community assessment and thinking about how those

1 could work. And a lot of the review up to now has been on
2 the process piece of it, and I'm not going to speak to
3 that. So I think for -- I think what we're missing in a
4 lot of ways in this whole discussion is methods for what
5 we're now calling community scale assessment. And that
6 word is in the briefing you just got. And, you know, I
7 mentioned a little bit before when looking at the
8 pesticides, we have a lot of things that give us kind of
9 a -- maybe a regional scale or a large scale assessment
10 for air quality and those pesticide monitors. You know,
11 they're in seven places and they take a certain number of
12 estimates a year.

13 And they're not designed really to figure out
14 what are the impacts in the most impacted communities,
15 which is what these 617 communities are. They're more of
16 a reading for their area as a whole.

17 And I think what we're seeing is that we haven't
18 quite faced that yet in this discussion, in that we're
19 using -- those monitors and that data as if that's going
20 to help us deal with these issues at the community level.
21 And I think we're seeing, well, it doesn't really. I
22 mean, what's happening regionally really doesn't tell you
23 what's happening in Wilmington, or West Oakland, or some
24 place like that. And so we have to start to think about
25 this differently.

1 And your discussion earlier got into a lot of
2 these points, you know, about, well, how do we do things
3 that are generalizable and that we can do one time and
4 then apply elsewhere? And how much -- what is the amount
5 of assessment that we can do that will actually be
6 informative but not take a hundreds years. You know,
7 those are really some of the issues here.

8 And I think the Panel could really help a lot in
9 thinking about this question of, well, we already know
10 these are highly impacted communities, so we're not
11 starting from scratch here. What do we really need to
12 move forward to get to reductions? Because the point of
13 this is to get to reductions in an informed way, but also
14 with alacrity. You know, it's not to do it 20 years from
15 now.

16 And so is there a way that we can reconceptualize
17 some of the things that we do, so that we feel we have a
18 sound foundation for that without spending a billion
19 dollars and taking 20 years. And what we have so far is
20 the communities coming in with their point of view and
21 their perspective and what they see. And I think largely
22 we're finding that truthful, even though it doesn't always
23 have all the data that you might want to have. And so
24 there's something -- you know, some people have called
25 this ana -- analytic deliberative processes, where you

1 deliberate, you bring in what you know, and then you do
2 analyses as needed to supplement to that.

3 I think we need to move something a little bit
4 more like that than what we have now in the blueprint,
5 which is basically -- and I think -- I'm going to stop and
6 say I don't -- I don't mean this as a criticism, because
7 the blueprint was put together in a huge hurry, because
8 this thing had to get done in a year. So there wasn't a
9 lot of time to explore a lot of different options.

10 And so I don't -- I honor the effort that CARB
11 put in to getting it done and getting these projects done.
12 And I -- I'm not criticizing it. I'm saying, well, let's
13 think about now what we've seen from that. It was built a
14 lot around the SIP methods, the State Implementation Plan
15 methods, that we use at a regional scale to identify all
16 the sources of the major criteria pollutants, like PM, and
17 ozone, and the others.

18 And in the communities, you have a little bit
19 different thing where there are I lot more pollutants of
20 potential concern. You know, it's not just five things
21 with a lot of sources. There are a lot more smaller
22 things that are more differential between these different
23 communities.

24 And in looking at the plans, I don't really see
25 that the -- a lot of the technical analysis was that

1 illuminating. I think people knew what they were before
2 and they have the same list after. And in the meanwhile,
3 a lot of analysis was done that the community people
4 couldn't really understand mostly, because it was very
5 complicated.

6 So the kinds of questions you all are asking when
7 you're looking at this pilot project are the same kind of
8 questions that we need to be asking in resetting these
9 methods and thinking about how we can do this in an
10 effective and informed way, but a reasonable way.

11 And it is about scale, and what -- where can
12 we -- what can we generalize, and what are the most
13 important things to measure that will be informed
14 elsewhere? And I think there's also a part of it that's a
15 little bit like read across when do we chemicals. It's --
16 you know, if we found in this community that this is a
17 problem --

18 CHAIRPERSON ANASTASIO: Sorry, Amy -- Amy, sorry
19 to interrupt, but I --

20 DR. KYLE: I'm just about done.

21 CHAIRPERSON ANASTASIO: Can you wrap it up?

22 DR. KYLE: It's my last -- I am wrapping it up
23 right now.

24 CHAIRPERSON ANASTASIO: Okay.

25 DR. KYLE: That the -- we might want to be -- do

1 something in detail in one community and then read it
2 across to others, so that actually is my last point.

3 CHAIRPERSON ANASTASIO: Okay. Great. Thank you.

4 DR. KYLE; So thank you very much for the
5 opportunity.

6 CHAIRPERSON ANASTASIO: No. I appreciate the
7 comment. And I would like to ask ARB OCAP, Office of
8 Community Air Protection, I think this is an important
9 area in which the SRP could offer guidance, as Paul
10 already showed in his comment to the DPR presentation. So
11 if we could discuss this at a future SRP meeting, I think
12 that would be very helpful.

13 OCAP ACTING DIVISION CHIEF HUGHES: Okay. Yeah.
14 This is Vernon Hughes. Yeah. Good -- good question,
15 Cort, and good question, Amy.

16 CHAIRPERSON ANASTASIO: Yeah. Great. Thank you.
17 Okay. In the interest of time --

18 PANEL MEMBER GLANTZ: Can I -- this is Stan.

19 CHAIRPERSON ANASTASIO: Yeah, Stan, go ahead.

20 PANEL MEMBER GLANTZ: So, you know, I think what
21 this all comes down to is what kind of supplemental data
22 collection do you want to be doing in these communities
23 and how do you decide what to measure. And I think that,
24 you know, the experience that Mike alluded to with the
25 wildfires and the AirNow and PurpleAir networks -- and,

1 you know, it has really engaged the public in a way that
2 I've never seen before. I mean I installed AirNow on my
3 phone. And I'm going to go out in the backyard this
4 afternoon, because it says it's okay. But I think that,
5 you know, the basic problem, which has existed from the
6 beginning, as several people have said is that the
7 monitoring networks are set up regionally and your real --
8 what you really are asking about what's going on in
9 specific communities.

10 And so I think the real question is, you know,
11 what are the criteria for collecting additional data in
12 those communities? And, you know, what -- what things
13 should you be measuring? You know, should it be something
14 fairly straightforward like PM2.5 or other chemicals. And
15 then how do you get the data in those communities?

16 Because otherwise, you're just stuck with trying
17 to extrapolate from the regional data -- and, you know,
18 the problems with doing that is what led to AB 617 in the
19 first place.

20 CHAIRPERSON ANASTASIO: Yeah. Thank you, Stan.
21 I think that definitely will be part of our larger
22 discussion how you can get this smaller scale data and how
23 you can use it.

24 Okay. So thank you, everyone on that item.
25 Thank you Mike for the presentation.

1 We're going to move on now to the next agenda
2 Item, number 3. I would like just to let everyone know,
3 presenters, public, panel, we're running about 20 minutes
4 late, so if people could be concise, I would very much
5 appreciate it.

6 We're going to move on now to Agenda Item number
7 3, an informational update on the Study of Neighborhood
8 Air near Petroleum Sources, SNAPS.

9 And we're going to start with a CARB
10 presentation. So this CARB study is a program designed to
11 examine air quality in communities near oil and gas
12 extraction and related facilities. And what we're going
13 to do first we'll have the presentation from CARB that
14 will be an overview of the SNAPS Program, including
15 background information and status updates regarding
16 monitoring and planning activities in the communities of
17 Lost Hills and Baldwin Hills.

18 And Kathleen Kozawa of CARB's Industrial
19 Strategies Division is going to start off the
20 presentation. And Dr. Chris Jakober from CARB's
21 Monitoring and Laboratory Division will also be
22 presenting.

23 And then after this presentation, we'll have John
24 Faust from OEHHA talk about provisional health values.

25 All right. So Dr. Kozawa.

1 (Thereupon an overhead presentation was
2 presented as follows.)

3 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Hi.
4 Can everybody hear me?

5 CHAIRPERSON ANASTASIO: Yes.

6 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Okay.
7 Let's go ahead and share my screen here.

8 Cort, can you confirm that you're seeing my --
9 the presentation screen and not the presenter's screen?

10 CHAIRPERSON ANASTASIO: Yes, it looks good.

11 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Okay.
12 Great. Thank you so much for the introduction, Cort.

13 It's our pleasure today to present to the SRP on the Study
14 of Neighborhood Air near Petroleum Sources, or SNAPS.

15 I wanted to start with a couple words about why
16 we're here today talking to you about this. The SRP
17 identified some overlapping aspects of some of the other
18 programs that they're consulting with, such as 617 and
19 2588. And it was asked of us to kind of provide sort of
20 an overview of SNAPS and sort of how that all fits into
21 the rest of CARB's programs. And so I hope that this
22 overview kind of gives a little bit more context to the
23 SRP on how SNAPS -- on what SNAPS in -- is and how it fits
24 in.

25 And like you had mentioned, my name is Kathleen

1 Kozawa. So my colleague Chris and I will be giving this
2 overview, which includes our efforts in Lost Hills and
3 Baldwin Hills.

4 --o0o--

5 --o0o--

6 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: And
7 so as the name of the program suggests, it is an air
8 quality study and in neighborhoods that are close to oil
9 and gas extraction facilities. Now, something that I do
10 want to point out is that this is a program that was
11 developed in -- across different CARB divisions and also
12 with our sister agency OEHHA, who you'll be hearing from
13 in the next presentation.

14 Something that the SNAPS Program does and is
15 important to note is that even though we're monitoring
16 close to these oil and gas facilities, we're actually
17 evaluating the potentia impacts from all sorts of
18 different emissions sources, such as other industrial
19 sources and mobile sources as well.

20 --o0o--

21 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: The
22 other thing that I want to point out regarding the SNAPS
23 Program is it actually predates 617. And although there
24 are definitely some overlapping features of it and we've
25 certainly coordinated with the 617 group to further our

1 programs and move them forward, this does precede it just
2 by a little bit.

3 And so there were several factors that motivated
4 the development of SNAPS. And this includes the
5 continuing concerns that have been raised by communities
6 that live near oil and gas facilities. And we really
7 wanted to get a better idea and understanding of what the
8 air quality in these communities were.

9 Second was the Aliso Canyon underground natural
10 storage leak that occurred in 2015. And that really
11 highlighted the potential issues with aging oil and gas
12 infrastructure across the state. Also, in 2015, the
13 California Council on Science and Technology released a
14 report that further recommended air quality studies be
15 done near oil and gas facilities as the impacts were not
16 well known or understood.

17 And finally, SNAPS is part of a broader effort at
18 CARB to understand impacts of oil and gas. And this
19 includes our oil and gas regulation designed to reduce
20 methane emissions and also air sampling during both
21 stimulation or fracking events. And CARB is also funding
22 work to support these efforts and others, specifically
23 mobile monitoring in communities and in and around oil
24 fields.

25 ---o0o---

1 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: So
2 the SNAPS study program goals are three-fold, first, to
3 characterize air quality in communities, and then, as
4 feasible, identify emission sources. Now, this data that
5 is collected is then analyzed for possible health risks,
6 and that's where our colleagues at OEHHA come in.

7 The SNAPS Program has the ability to monitor for
8 over 200 pollutants, so it's a very intensive monitoring
9 program. Some of the major pollutant categories are
10 listed here in the slide and include toxic air
11 contaminants, criteria pollutants, and volatile organic
12 compounds.

13 The SNAPS monitoring portion is actually a
14 one-year effort. And so, we cite stationary trailers in
15 communities for the period of one year, which is followed
16 by data analysis and the publication of a final report
17 that's specific to each community.

18 At this point, I do want to highlight the
19 importance of community engagement and input throughout
20 the whole SNAPS process. So even before we site our
21 trailers, we -- we meet with the community, hold a
22 community meeting to gather input on what they would like
23 to see and what their concerns are. We are also striving
24 to maintain communication with the community throughout
25 the monitoring period. And in the case of Lost Hills, we

1 did a mid-monitoring report, where we reported some
2 preliminary data to them and Chris will be sharing some of
3 that data in the next upcoming slides.

4 And then as we draft the final report, we'll be
5 posting that publicly to get community input and public
6 input on that as well.

7 --o0o--

8 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: So I
9 just wanted to bring in OEHHA here just a little bit and
10 not to steer it -- steer -- steal their thunder. But
11 again, they will be looking at some of the health impacts
12 of the data that we collect and basically comparing data
13 to health-based guidance values to characterize these
14 potential health risks.

15 And you'll hear a little bit more about health
16 guidance levels in their presentation, so I'll just leave
17 it at that.

18 --o0o--

19 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Since
20 this is the first time that SRP is likely hearing about
21 the SNAPS Program, I wanted to go into a little bit of
22 detail about the community selection process. It is a
23 three-tiered approach that we took. And again, you might
24 see some overlap with 617. Again, although SNAPS predates
25 the 617 program, we did coordinate with them and actually

1 are -- the announcement of the SNAPS communities and the
2 first 617 communities were done in coordination with each
3 other.

4 But back to the community selection process. The
5 first stage is the identification stage, which resulted in
6 a candidate -- a list of 56 candidate communities. These
7 communities were divided into two regions in California,
8 the Northern California region, which includes the Central
9 Valley, and the Southern California region, which includes
10 the Central Coast.

11 The identification stage was really just kind of
12 a collection of all the communities that could be near oil
13 and gas or are oil and gas. And this was done with a
14 basic mapping analysis. And also suggestions were
15 collected by the public and the air districts.

16 These 56 candidate communities then went to the
17 evaluation stage, where we further evaluated communities
18 based on specific characteristics that might make some
19 communities more likely to be impacted by oil and gas
20 compared to others. And so these were kind of yes/no
21 questions for us.

22 So, for example, in terms of local
23 characteristics, were communities downwind -- downwind of
24 wells -- excuse me -- yes or no, were communities near
25 areas of high well density, yes or no, and so forth. So

1 this evaluation of the communities narrowed the list to a
2 short list of four to six communities per region that were
3 further evaluated in the prioritization stage, which is
4 Stage 3.

5 So prioritization involved really a deeper dive
6 into the data. As we've been -- as we've described it.
7 So in the case of high well density in our local
8 characteristics, we actually looked at what the well
9 density was. Was it 10 wells per square mile or was it a
10 hundred miles per -- wells per square mile, for example?
11 And so based on this deep dive, we came up with four
12 communities for monitoring.

13 --o0o--

14 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: And
15 these are the first round communities that were selected
16 for SNAPS. So first is Lost Hills. And I should say Lost
17 Hills, and McKittrick, Derby Acres were the two
18 communities selected in the Northern California/Central
19 Valley region. And then the two communities selected in
20 the Southern California region were Baldwin Hills and
21 South Los Angeles.

22 And so the first community to receive monitoring
23 was Lost Hills. And Chris will be going over that in a
24 minute. And the second community was Baldwin Hills and
25 I'll be talking about that a little bit later in the

1 presentation.

2 So at this point, I'm going to go ahead and
3 transition the presentation to Chris, who will talk a
4 little bit more about our efforts in Lost Hills.

5 Chris.

6 MLD AIR POLLUTION SPECIALIST JAKOBER: Thanks,
7 Kathleen. And thank you to the SRP members for giving us
8 the opportunity to give you an overview of the program.

9 Next slide, please.

10 --o0o--

11 MLD AIR POLLUTION SPECIALIST JAKOBER: So briefly
12 an overview of the timeline for the SNAPS monitoring
13 that's been completed in Lost Hills. The official start
14 date was in May of 2019 with over 200 compounds being
15 measured since June of that year. Throughout the process,
16 we've conducted third-party audits throughout the
17 monitoring campaign for validation and verification of
18 data collection.

19 Additionally, mobile monitoring efforts were
20 completed at six separate times throughout the community.
21 We'll discuss some of those results from both the
22 stationary and the mobile monitoring later on in this
23 presentation, as well as some examples of the types of
24 analyses that can be completed with this data.

25 Unfortunately, due to stay-at-home orders going

1 into effect in March of this year, CARB had to adjust
2 operations in Lost Hills to ensure safety of both staff as
3 well as Lost Hills residents, and the monitoring was drawn
4 to a conclusion in April 29th.

5 CARB is currently analyzing the data and working
6 on a draft final report for -- to be released for public
7 comment. And we anticipate the release of that material
8 in 2021.

9 --o0o--

10 MLD AIR POLLUTION SPECIALIST JAKOBER: So some of
11 the instruments measured pollutants at the Lost Hills
12 SNAPS trailer. Some are faster than laboratory methods
13 and report data preliminarily every second or every hour.
14 And while these methods measure a smaller number compounds
15 than laboratory methods, the on-site measurements can
16 report data much more quickly. Measurements on-site
17 included both gases as well as particulate species.

18 Next slide, please.

19 --o0o--

20 MLD AIR POLLUTION SPECIALIST JAKOBER: We also
21 had a public facing website, where the real-time data for
22 six pollutants were uploaded within a few hours of
23 collection and provided information on the current Air
24 Quality Index, or AQI, for Lost Hills and provided that in
25 context to other regional monitoring stations.

1 The key pollutant levels were shown relative to
2 the health standards. And also the previous week of
3 measurements were shown as a histogram at the bottom of
4 the page. If any of the pollutants would have exceeded
5 the health standard, the box labeled with the pollutant of
6 concern would have changed to a highlight of red rather
7 than green. And while we did not expect concentrations of
8 pollutants on the data displayed to be of concern, if
9 levels were seen areas of concern, we would have contacted
10 proper authorities and operators and the community would
11 have been notified as well.

12 Next slide, please.

13 --o0o--

14 MLD AIR POLLUTION SPECIALIST JAKOBER: So
15 preliminary data at Lost Hills for PM2.5, ozone, carbon
16 monoxide and hydrogen sulfide were compared against both
17 short-term air quality standards as well as health
18 protection guidelines. Shown for each pollutant are the
19 average concentration, the maximum concentration, and the
20 standard or guideline level.

21 All of the preliminary data collected at Lost
22 Hills for these pollutants were below health protection
23 levels. This is true for both the average as well as the
24 maximum concentrations that were observed.

25 For instance, average concentrations of hydrogen

1 sulfide were over a hundred times less than the acute REL.

2 Next slide, please.

3 --o0o--

4 MLD AIR POLLUTION SPECIALIST JAKOBER: Comparing
5 the preliminary PM2.5, ozone, carbon monoxide and hydrogen
6 sulfide hourly concentrations measured for the first four
7 months of the study from June through essentially August
8 of 2019 to the other pollutants from Lost Hills that were
9 measured on-site reveals some interesting things.

10 This figure is showing you the relatively hour
11 abundance for pollutants over the course of the day. On
12 this graphic, we are showing what the average looks like
13 based on our measurements to date. Yellow blocks are
14 levels higher than the average hourly concentrations.
15 Blocks shown in blue are periods where the pollutants are
16 below the average hourly concentrations.

17 Along the horizontal axis, we show the hour of
18 the day when the measurements were collected. And the
19 vertical axis are the pollutants from top to bottom.
20 Non-methane hydrocarbons plus BTEX, methane, hydrogen
21 sulfide, black carbon, carbon monoxide, ozone, and PM2.5.

22 Several interesting observations can be shown in
23 this data comparison including the following. We see
24 elevated levels of hydrocarbons including methane
25 typically in the early morning hours before sunrise.

1 Additionally, we see black carbon and carbon monoxide at
2 elevated levels, both in the early morning hours and in
3 the early evening with a possible contribution from motor
4 vehicle combustion.

5 And lastly, the highest levels of PM2.5 are
6 typically in the late afternoon or early evening. And
7 these levels are often associated with elevated wind
8 speeds.

9 --o0o--

10 MLD AIR POLLUTION SPECIALIST JAKOBER: If we now
11 transition to some of the discrete analyses, and
12 preliminary results for such approaches are shown here.
13 We collected air samples and pressurized them within a
14 stainless steel canister. The canister is taken back to
15 the laboratory for direct analysis of the gases sampled.
16 We measured 135 different compounds each week. Most were
17 measured over a 24-hour sampling period. However, many
18 could also be measured hourly as well.

19 Initially, we have seen ten organic species
20 detected above our laboratory analyses limits, but none
21 have been detected at any acute health thresholds.

22 --o0o--

23 MLD AIR POLLUTION SPECIALIST JAKOBER: There we
24 go. These are the species that have been observed to
25 date. Many at or below regional or global background

1 levels.

2 --o0o--

3 MLD AIR POLLUTION SPECIALIST JAKOBER:

4 Additionally, airborne particulate was sampled
5 onto teflon filters. Teflon filters were then taken back
6 to a laboratory for XRF analysis. This analysis looked
7 for 28 different particle-bound metals weekly at the Lost
8 Hills site. Twenty-four of those metals were detected in
9 the preliminary data. Shown here on the vertical access
10 of the graph are concentrations in units of micrograms per
11 cubic meter. The horizontal access are the different
12 elemental species. On the right-hand side, we show a
13 figure contrasting the data for when the wind speeds were
14 less than five miles per hour with those where the wind
15 speeds were greater than ten miles per hour. Days with
16 higher wind speeds showed greater ele -- concentrations of
17 silicon, aluminum, calcium and iron. These elements are
18 typical for crust material, suggesting a possible origin
19 as wind-blown soil and/or dust for these elevated levels.

20 --o0o--

21 MLD AIR POLLUTION SPECIALIST JAKOBER: Shifting
22 gears, we'll look at and discuss some of the mobile
23 monitoring efforts for the data that was collected in Lost
24 Hills. Mobile monitoring is a technique where
25 measurements are taken along surface streets as we are

1 driving in order to construct a snapshot of pollutant
2 concentrations in an area.

3 We use an auxiliary battery to power the
4 instruments. And this limits the amount of time that we
5 can actually use this technology in the field. We use all
6 the available information to determine the best times to
7 conduct the mobile monitoring. For example, we can use
8 information like that from the previous slides to
9 determine when we expect to see higher concentrations of
10 hydrocarbons or methane. We also try to target our
11 periods of monitoring for when the community has reported
12 odors.

13 --o0o--

14 MLD AIR POLLUTION SPECIALIST JAKOBER: For our
15 Lost Hills measurements, the platform was equipped with
16 instrumentation to measure methane, ethane, BTEX compounds
17 and hydrogen sulfide. Measurement of methane, ethane and
18 hydrogen sulfide occur once per second and BTEX is
19 profiled every 15 minutes.

20 CARB staff have completed multiple trips with
21 nearly every street in Lost Hills driven and measured
22 multiple times. Additional measurements were gathered in
23 areas surrounding Lost Hills, including collection of data
24 both upwind and downwind of Lost Hills and the oil field.

25 Similar methods for mobile monitoring will be

1 used in the communities that surround the Inglewood Oil
2 Field. For -- and some of the initial data collected to
3 date will be shown on the next slide, but it's important
4 to remember that mobile monitoring is a snapshot in time,
5 and that a single measurement is not necessarily
6 representative of long-term trends or persistent pollutant
7 concentrations.

8 --o0o--

9 MLD AIR POLLUTION SPECIALIST JAKOBER: I'll be going
10 with an overview of a single measurement run for the
11 morning of October 1st during the time period of 6:25 to
12 7:38 in the a.m. This map shows Lost Hills in the center,
13 the oil field on the left to the west of the town and the
14 I-5 and Highway 46 intersection on the right to the east
15 of town.

16 Methane concentrations are shown on this map with
17 the scale shown on the right-hand side. Each color dot
18 represents a single measurement and the color corresponds
19 to the concentration for that measurement.

20 On the left-hand side is a wind rose indicating
21 the wind speed and direction during the periods of
22 measurement. Wind was primarily from the south, southwest
23 in direction and of low wind speed. Typically, less than
24 two miles per hour.

25 For this particular trip, the data collection

1 began in the Lost Hills school parking lot, then traveling
2 west on Highway 46 through the oil field, turning around
3 to drive back east into Lost Hills. Methane
4 concentrations were typically in the range of 2.0 to 2.2
5 parts per million as we traversed through the field.
6 However, later measurements captured some elevated levels
7 within the southwest corner of Lost Hills.

8 --o0o--

9 MLD AIR POLLUTION SPECIALIST JAKOBER: So looking
10 closer at the data in Lost Hills. Elevated methane
11 concentrations are centered around Inyo, King streets and
12 Martin Avenue relative to the area on the eastside of Lost
13 Hills which was measured approximately 15 minutes later.

14 These measurements suggest a methane plume
15 traveling through the area during the 5 to 10 minutes the
16 mobile platform was in that area collecting data.

17 Concentrations observed by the mobile platform
18 agree with the measurements collected by the staff's
19 stationary monitoring trailer, which is located at the
20 Department of Water Resources' facility for the date and
21 time that this data was collected.

22 With that, I'll now transition back to my
23 colleague Kathleen Kozawa for discussion of SNAPS future
24 efforts plan for the Inglewood Oil Field.

25 --o0o--

1 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA:

2 Thanks, Chris. So I'm gong to close the
3 presentation here with a few slides on our current efforts
4 in the Baldwin Hills area. Again, this is in Southern
5 California near the Inglewood Oil Field. So Baldwin Hills
6 is actually one of several communities that surround the
7 Inglewood Oil Field. And it's located about halfway
8 between downtown L.A. and the coast. Inglewood Oil Field
9 is a large urban oil field that's characterized by complex
10 terrain and actually has several major thoroughfares that
11 run through it.

12 --o0o--

13 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA:

14 Engagement with the Baldwin Hills community
15 started about a year and a half ago starting with
16 communities input -- holding community meetings to gather
17 input on potential monitoring sites.

18 And the community had a lot to say with regards
19 to monitoring sites. And we came away from this meeting
20 with a list of 20 total sites to look into. And so what
21 we ended up doing was doing some groundwork to verify that
22 the sites met technical and logistical requirements, which
23 include things like considerations for staff safety,
24 power, space, site access and, of course, relative
25 location to the oil feeds.

1 Once we -- once we were able to look at these
2 different things, we presented a short list of four sites
3 to the community, and this was just back in February.

4 After presenting our sites, we did hear from
5 members of the community -- of the Baldwin Hills
6 community. They wanted a little more information about
7 our reasoning and justification for our four sites. So we
8 created a detailed document that basically detailed our
9 thinking and our site selection process. And we opened
10 this document for a 30-day comment period in May.

11 And so at this point, we are finalizing the
12 two -- finalizing two sites. And let me kind of go back a
13 little bit. Because of the input that we received from
14 the community and based on the complex terrain of the
15 area, we did decide to build a second trailer to help in
16 the monitoring efforts in the Baldwin Hills area.

17 And so once we have established agreements with
18 these two sites, we'll begin air monitoring and host a
19 kick-off meeting. And we plan to do that in early 2021.
20 Again, as Chris alluded to, for Lost Hills, COVID has
21 definitely set back a little bit of our timeline for the
22 Baldwin Hills area, but we are aiming to be there early
23 next year.

24 --o0o--

25 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Just

1 a little bit closer look at the site selection. And you
2 can see a map here of the area, the Inglewood Oil Fields
3 is just kind of in the center here. And I don't know if
4 you can see my cursor, but the oil field is quite large.
5 And so the four sites span across the oil field, two on
6 the westside and two on the eastside. And you can also
7 see where the prevailing wind directions come from.

8 One other aspect of the site selection that we
9 did also take into consideration was the existence of odor
10 complaints. And that's what you see here in the dotted
11 circles. These are areas where community residents have
12 reported odor complaints. And these certainly informed
13 where our sites in -- in and around the Inglewood Oil
14 Field would be, but also the odor complaints will
15 certainly inform our mobile monitoring routes. And again,
16 we'll be finalizing the two sites shortly hopefully
17 sometime soon.

18 --o0o--

19 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: And
20 just to close up, a lot of these next steps we've already
21 sort of mentioned, but I did want to add, like in Lost
22 Hills, we will be streaming real-time data on a small
23 subset of pollutants on the SNAPS website that the public
24 can go and view.

25 We do plan to get connected with the community

1 during this process and would like to -- and strive to
2 work with all interested stakeholders and residents as
3 much as possible.

4 --o0o--

5 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: And I
6 guess -- I guess this is my concluding slide, just some
7 resources, which include our website, our email -- program
8 email snaps@arb.ca.gov and some contact information,
9 Carolyn Lozo, who is the Chief of the Branch. She's
10 overseeing this -- this program

11 So with that, I'll -- I'd be happy to answer any
12 questions and Chris.

13 CHAIRPERSON ANASTASIO: Great. Thank you very
14 much, Kathleen. Thank you very much, Chris.

15 I'm going to open it up first to the Panel. I
16 see Ahmad has a question. Ahmad, go ahead.

17 PANEL MEMBER BESARATINIA: Hi. The question is
18 for Kathleen. For the first part of the presentation, I
19 understood that there were questions and questionnaires
20 that are used to -- for identification and prioritization
21 of communities.

22 And second question to ask. My question to you
23 is we know that air pollution is related, if not causally,
24 at least there are a wide variety of diseases attributable
25 to air pollution such as respiratory disease, asthma,

1 cardiovascular disease, COPD and cancer, was the incidence
2 of this disease used as an indicator, for example, data
3 from county registry, was used in order to help prioritize
4 communities that are at least historically affected by
5 these diseases as a result of pollution?

6 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA:

7 That's a -- that's a great question, Ahmad, and
8 thank you for asking it. I -- I know -- I know the issue
9 of looking at these different health metrics had come up.
10 But in the selection process, we actually did not look at
11 specific health metrics, like incidences of asthma or
12 anything like that to prioritize communities.

13 Our focus was really were these communities near
14 oil and gas and did they have the potential to be impacted
15 by such sources?

16 CHAIRPERSON ANASTASIO: All right. Thank you.

17 Other questions from the Panel? Just to let
18 everyone know, we're going to do the Panel's questions
19 first and then I'll call on the public or agency staff, if
20 they have any questions. But we're going to start with
21 Panel discussion.

22 So I have a question, but I think John is going
23 to get to this, but I just want to make sure it gets
24 covered. So a lot of VOCs were monitored and I imagine
25 many of them do not have reference concentrations or

1 health guidance values. So that's the effort of OEHHA to
2 do these preliminary values.

3 MLD AIR POLLUTION SPECIALIST JAKOBER: (Nods
4 head.)

5 CHAIRPERSON ANASTASIO: Okay. I see Chris
6 nodding his head.

7 MLD AIR POLLUTION SPECIALIST JAKOBER: Yeah.
8 Yeah, that's correct. And I think John will give you some
9 more context as far as their methodology and follow-up
10 material.

11 CHAIRPERSON ANASTASIO: Okay. That's great.
12 Thank you.

13 Mike, I see you have a questions. Go ahead.

14 PANEL MEMBER KLEINMAN: Yeah, I was just curious
15 as to whether there are nearby air monitoring network
16 sites, so that you can look at how your community level
17 monitoring compares with the regional monitoring?

18 MLD AIR POLLUTION SPECIALIST JAKOBER: We do on
19 the real-time website compare to the regional scale
20 locations for the pollutants that are available.
21 Unfortunately, we don't always have the granularity from a
22 regional site that would be directly comparable to the
23 measurement intensity of the SNAPS data collection. So
24 where it's available, we certainly do try.

25 CHAIRPERSON ANASTASIO: Thank you, Mike. Thank

1 you Chris.

2 Beate, your question.

3 PANEL MEMBER RITZ: Yeah. You mentioned that
4 you're not using any of the health outcomes to site the
5 locations, but I thought I heard that you're interested in
6 health effect evaluation eventually. Would you mind
7 telling us what kind of databases you will be looking at
8 in order to do that, or is there any kind of surveying of
9 communities, or what's going on?

10 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: I
11 think OEHHA might be better -- in a better position to
12 answer that question. And I don't know if John wants to
13 chime in at this point.

14 DR. FAUST: I mean, I can say a little bit. I
15 mean, the -- the analysis that OEHHA is doing is based
16 upon the air monitoring data and will be of the health
17 risk assessment that is based upon, you know, the measured
18 concentrations of air over, you know, the various
19 durations.

20 So the study itself does not include a -- you
21 know, a health survey or a -- or a component that looks at
22 actual community health -- yeah, and is strictly based
23 upon the monitoring.

24 ISD OIL AND GAS AND GHG MITIGATION BRANCH CHIEF
25 LOZO: I'd like to just add to that.

1 PANEL MEMBER RITZ: So it's -- it's risk
2 Assessment. It's not research?

3 DR. FAUST: (Nods head.)

4 ISD OIL AND GAS AND GHG MITIGATION BRANCH CHIEF
5 LOZO: Oh, I just -- this is Carolyn Lozo from CARB. I
6 just wanted to add to that, that this is outside the SNAPS
7 Program. But the L.A. County Department of Public Health
8 is in the process of putting together for the -- for the
9 Inglewood Oil Field, Baldwin Hills area something like
10 what you're talking about, a community health survey. And
11 we are hoping to coordinate with them to the point where
12 that will be happening at about the same time as we are
13 monitoring in that area. So we're working with them at
14 the point and hope that that will materialize.

15 PANEL MEMBER RITZ: Great. Thank you.

16 CHAIRPERSON ANASTASIO: Any other comments or
17 questions from the Panel?

18 All right. Seeing none. I open it to public
19 comment. Again, you can either raise your hand and I'll
20 call on you or you can put your comment into the chat and
21 I'll read it out and have someone respond to it. I see a
22 comment from David.

23 David, go ahead.

24 MR. VIVEROS: Hi. Thanks. My question is around
25 the data collection process. I'm just curious about the

1 existing challenges. And, you know, you made measurements
2 for over a year down in the Lost Hills area. What did you
3 learn from it? What are the needs still around the data
4 that you would like to collect?

5 MLD AIR POLLUTION SPECIALIST JAKOBER: Well, I
6 think, you know, we continue to refine the approaches,
7 trying to increase detection limits, increase the number
8 of species that we're able to capture as part of our data
9 acquisition. One of the challenges is always the
10 availability of resources. You know, mobile measurement
11 is incredibly staff intensive. And so that limits the
12 amount of that type of complementary information that we
13 can get that increases our spatial and temporal awareness
14 of how these pollutants are distributed across the
15 community.

16 So I would say that that's probably been the
17 biggest learning process, as well as, you know, continuing
18 to refine quality assurance/quality control aspects to
19 generate as high quality data as possible to hand off for
20 OEHHA's risk assessment.

21 MR. VIVEROS: Okay. Cool. Thanks.

22 MLD AIR RESOURCES SUPERVISOR I HAM: This is
23 Walter from Monitoring and Lab Division as well. I would
24 also just to add on a little bit. How we communicate data
25 is also something that we learned in the process.

1 So you know, when we -- when we first contacted
2 the community one of the things that they first said is
3 you need to provide context for what this -- what these
4 measurements mean. Does this mean that it's health -- you
5 know, what does it mean to our health. And so we --
6 through a community engagement process, we developed a
7 custom website that was catered to the comments that we
8 had heard from the specific community. And obviously
9 every community is different.

10 So as we work with Baldwin Hills in future
11 communities, we'll also go through the same process. So
12 the data portal or data display could be different based
13 on what the needs are of that individual community. So I
14 would say that's definitely something that we picked up
15 during this process as well.

16 MR. VIVEROS: Yeah, and it seems like you might
17 be able to continue that with the future communities you
18 monitor and maybe make it kind of like a standard. It
19 seemed really cool. It would be interesting to see what
20 kind of -- you know, to have that data in a lot more
21 communities.

22 CHAIRPERSON ANASTASIO: All right. Thank you,
23 David for your question, and Walter and Chris for your
24 responses.

25 Beate, did you have a follow-up question?

1 PANEL MEMBER RITZ: Yeah, actually, I do. This
2 is really a big effort with, you know, 120 or 200
3 substances measured. It will not be easily repeatable or
4 too expensive. Since one of the purposes is to evaluate
5 the influence of what comes out of oil fields on
6 communities. Is there a chance to actually generate some
7 kind of tracer -- tracer compound or chemical that could
8 be measured much more widely, much more cheaply and then
9 actually applied to modeling efforts? Is that part of
10 this, and if not, why not?

11 MLD AIR POLLUTION SPECIALIST JAKOBER: That
12 wasn't part of the original scope. As folks who've tried
13 to identify unique tracers for chemical mass balancing
14 modeling work, it's an incredibly intensive process that
15 does not always yield very high results. The other thing
16 that you're challenged with as it relates to oil and gas
17 is the chemical composition of the field changes from one
18 region to the next.

19 You know, the Lost Hills field, for instance, is
20 a sour field with higher sulfur content. Whereas, the
21 Inglewood Oil Field is a sweet field with much less sulfur
22 content. So that is an added complexity here. The scope
23 of this was primarily to provide as much intensive
24 speciation to drive as informed health risk assessment as
25 possible for these communities that are in close proximity

1 to the this type of activity.

2 CHAIRPERSON ANASTASIO: Great. Thank you, Chris
3 and Beate.

4 I believe we have a question on the Spanish
5 channel. So Claudia our Marci, can you ask that question?

6 Okay. Any other comments? And Claudia and Marci
7 if you get on the meantime please go ahead.

8 THE INTERPRETER: There is comment in Spanish.

9 CHAIRPERSON ANASTASIO: Okay. It's currently
10 being translated.

11 While we wait for that, are there any other
12 public comments?

13 All right. We'll just wait a minute then while
14 Claudia translates the comment from Spanish.

15 MS. LOVE-LAZARD: If it's easier, Claudia or
16 Marci, we could also -- or Lori, since you have it, we
17 could also put it in the chat. I think it came in in
18 Spanish, but it would just need to be translated.

19 CHAIRPERSON ANASTASIO: Yeah, you could also
20 speak it. We could have it orally.

21 THE INTERPRETER: I'm sorry. I'm not -- this is
22 Marci. And I'm not finding it. Claudia, if she's seeing
23 it, that's great, but where is it?

24 CHAIRPERSON ANASTASIO: Okay. I see a comment
25 from --

1 MS. LOVE-LAZARD: Lori texted it over to you.
2 Let me drop -- let me see if I can drop it or, Lori, can
3 you drop it in the chat. It came in via email.

4 Perfect. Thanks, Lori.

5 CHAIRPERSON ANASTASIO: Okay. So I see the
6 Spanish version. And I guess Claudia is working on it.
7 In the meantime, I'm going to go to Gustavo who I see has
8 a question.

9 THE INTERPRETER: Okay.

10 CHAIRPERSON ANASTASIO: Gustavo, go ahead.

11 Gustavo, I can't hear you. I don't know if
12 you're muted or if it was an incorrect hand raise.

13 MR. AGUIRRE, JR.: Yeah, I got a question, but
14 I'm not sure if you wanted to address the Spanish one
15 first.

16 CHAIRPERSON ANASTASIO: Okay. I see --

17 THE INTERPRETER: I'm ready to --

18 CHAIRPERSON ANASTASIO: Yeah, go ahead and
19 address the translated question first.

20 It says, "Good, afternoon. My name is Veronica
21 Martinez Ledesma. I'm a Salton City resident, which is
22 part of the Imperial County California. How could the
23 Salton City community participate in AB 617? This is one
24 of the forgotten rural communities and highly polluted
25 areas in the Imperial County. Thank you".

1 Can Kathleen, I don't know, perhaps you could
2 talk about it. It sounds like the question is about how
3 does a community become either part of SNAPS or maybe part
4 of the AB 617 communities.

5 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA:

6 Thanks. Thanks for repeating the question,
7 because I couldn't quite hear when you were asking it.

8 I can't speak to the 617 communities, but for
9 SNAPS, we're always open. So if the commenter wants to
10 contact us or even through this comment here, we can
11 certainly look into the Salton Sea community and add that
12 onto our list. So the SNAPS Program is a continuing
13 program. We're -- even though we're starting with four
14 communities, we plan to add more as time goes on.

15 Now, I guess I'll caveat that by saying that the
16 process -- it's not a fast process, so it's a multi-year
17 process for communities, so it might take a little while.
18 But certainly we're open to any other communities that
19 want to participate or are looking to see if they can in
20 the SNAPS Program. We're completely open to that.

21 CHAIRPERSON ANASTASIO: Great.

22 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: As
23 long as I can get the commenter's name, maybe we can
24 follow up. We can certainly follow up.

25 CHAIRPERSON ANASTASIO: Yeah. Kathleen, in the

1 chat, Veronica has put her name and phone number.

2 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Okay.

3 CHAIRPERSON ANASTASIO: And could you just repeat
4 your SNAPS email for her in case she wants to contact you
5 directly via email.

6 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Sure.
7 And I'll put it in the chat too, but it's just SNAPS -
8 S-N-A-P-S - @arb.ca.gov. And I'll go ahead and put that
9 in the chat when I can figure that out.

10 CHAIRPERSON ANASTASIO: That's great. Thank you.
11 Are all the other ARB programs jealous of your
12 acronym, by the way?

13 (Laughter.)

14 CHAIRPERSON ANASTASIO: You've got a leg up on
15 PTSD. All right. Thank you very much.

16 Gustavo, did you have a question?

17 MR. AGUIRRE, JR.: Yes. Thank you so much.
18 Gustavo at CCEJN.

19 And my question is really just on the timeline.
20 And so from my understanding, currently, Baldwin Hills is
21 a community where SNAPS is ongoing. And I know there was
22 four communities, two in the Central Valley and two in the
23 L.A. basin. On the timeline, when can we foresee the
24 other central -- second Central Valley community come
25 online.

1 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA:

2 That's a -- that's a good question, Gustavo. So
3 Baldwin Hills, if we start monitoring in early 2021, then
4 that means early 2022 would be one year of monitoring in
5 Baldwin Hills. So shortly after that, we would start
6 mobilization -- well, we would start reaching out to the
7 second Central Valley community of McKittrick and Derby
8 Acres. So I would say optimistically 2022, but I -- but
9 don't quote me on that.

10 MR. AGUIRRE, JR.: Okay. And in Baldwin Hills
11 still, you guys are at the development phase or like the
12 start -- the start phase. There hasn't been any actual
13 monitoring that has occurred.

14 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: No.
15 We haven't started monitoring yet.

16 MR. AGUIRRE, JR.: Thank you.

17 CHAIRPERSON ANASTASIO: All right. Thank you
18 Gustavo for your question. I think that's it. I see no
19 other comments, so I'd like to thank Kathleen and Chris
20 again. It was a very interesting presentation and it's a
21 really interesting program that I look forward to seeing
22 your next round of data from.

23 ISD STAFF AIR POLLUTION SPECIALIST KOZAWA: Thank
24 you.

25 CHAIRPERSON ANASTASIO: I am happy to say we are

1 almost back on time. So thanks for everyone for that.

2 So we have earned a full 10-minute break right
3 now. So it is 12:30 by my clock, so we will reassemble at
4 12:40. And John Faust from OEHHA will talk to us about
5 provisional health guidance values.

6 (Off record: 12:30 p.m.)

7 (Thereupon a recess was taken.)

8 (On record: 12:40 p.m.)

9 CHAIRPERSON ANASTASIO: Okay. Welcome back,
10 everyone. Let me just do a quick glance at Panel members.
11 Well, most of them have their camera off. All right.
12 Panel members, we are ready, so if you're back, please
13 turn on your camera so I can see you're in attendance and
14 then we'll continue.

15 Beate, Stan, Mike.

16 PANEL MEMBER RITZ: I'm here.

17 CHAIRPERSON ANASTASIO: Thank you, Beate.

18 Mike, Stan?

19 PANEL MEMBER BLANC: Cort.

20 CHAIRPERSON ANASTASIO: Yes.

21 PANEL MEMBER BLANC: I just want to say that I
22 guess I could cross-compare with the -- the agenda, but I
23 have not found the amount of breaks that we're taking to
24 be sufficient and appropriate.

25 CHAIRPERSON ANASTASIO: Okay. Yeah, we had

1 scheduled a 10-minute break every 90 minutes roughly. I
2 cut short the first break. I cut it to five minutes. If
3 that had been a full ten minutes, would that have worked
4 for you?

5 PANEL MEMBER BLANC: I -- I don't know, because
6 we're over three hour -- we've over the three-hour mark
7 and we've had very little break. And I -- I guess the
8 plan is to go well past the lunch hour as well.

9 CHAIRPERSON ANASTASIO: Yes.

10 PANE MEMBER BLANC: So I think that, in general,
11 I think this agenda could be tweaked.

12 CHAIRPERSON ANASTASIO: Sure. I mean, it's
13 always a balance between taking a break for lunch and
14 trying to get the meeting over more quickly. But if
15 people --

16 PANEL MEMBER BLANC: Yeah, I know. Well, maybe
17 the compromise would be a 20-minute break or something at
18 some point, but I --

19 CHAIRPERSON ANASTASIO: Sure, yeah, I'm happy to
20 do that for the next meeting.

21 PANEL MEMBER BLANC: And I'm only one person, but
22 I just want it to be -- you know, maybe other people
23 should chime in on that.

24 CHAIRPERSON ANASTASIO: Yeah. No, I'm definitely
25 open for input. We'll just

1 PANEL MEMBER BLANC: Especially, you know, in --
2 you know Zoom fatigue is a real phenomenon.

3 PANEL MEMBER GLANTZ: Yeah, three hours is a long
4 time to sit here staring at the computer without a break.

5 CHAIRPERSON ANASTASIO: Okay.

6 PANEL MEMBER BLANC: Without a substantive break,
7 let's just say.

8 PANEL MEMBER GLANTZ: Yeah.

9 CHAIRPERSON ANASTASIO: Yeah. I timed it just to
10 give you enough time to run to the bathroom and back.

11 PANEL MEMBER GLANTZ: Well, it worked.

12 (Laughter.)

13 CHAIRPERSON ANASTASIO: So at least you don't
14 have that problem.

15 All right. So thank you, Paul. I'll take --
16 we'll build that into the next meeting.

17 Let's see, I see Ahmad. Stan is on. Joe is
18 there. All right. I think at least we have quorum and I
19 believe everybody is back from the panel. So our last --

20 PANEL MEMBER BESARATINIA: I'm stretching.

21 CHAIRPERSON ANASTASIO: Okay. Ahmad is
22 stretching.

23 PANEL MEMBER BESARATINIA: I can hear you.

24 CHAIRPERSON ANASTASIO: Sounds good. Thank you,
25 Ahmad.

1 PANEL MEMBER HAMMOND: And Kathie is here too.

2 CHAIRPERSON ANASTASIO: Thank you, Kathie.

3 Okay. So I think we're set to go.

4 The last part of today's meeting, agenda item
5 number 3, is a follow of Kathleen as Chris's presentation.
6 And then it's going to be a presentation from OEHHA. As
7 Chris mentioned, many of the air toxics being monitored in
8 the SNAPS Program don't have OEHHA-approved cancer
9 potencies or non-cancer reference exposure levels. And in
10 order to consider the emissions from chemicals that
11 haven't been assigned these approved health values, the
12 staff are proposing to assign provisional values.

13 And so staff from OEHHA gave us an overview of
14 the proposed methods for assigning health guidance values
15 for chemicals at our last meeting in July. And Dr. John
16 Faust from OEHHA is going to -- and his staff will provide
17 additional information in the next presentation.

18 So John, the floor is yours.

19 (Thereupon an overhead presentation was
20 presented as follows.)

21 DR. FAUST: All right. Thank you. Let me pull
22 up my slides. All right. So you can see the slides,
23 correct?

24 CHAIRPERSON ANASTASIO: Yes, that's correct,
25 John.

1 DR. FAUST: All right. Thank you.

2 Yeah. So good morning. I'm John Faust, Chief of
3 the Community and Environmental Epidemiology Branch, which
4 we have two OEHHA toxicologists, Drs. Heather Bolstad and
5 Rachel Hirani.

6 So our focus today, as you've mentioned, is on
7 work that we're doing to support the SNAPS program. And
8 thank you, Kathleen and Chris, for that very nice
9 presentation with the overview of the program.

10 So as described, OEHHA's role in that program is
11 to prepare the human health risk assessment for each SNAPS
12 community, based upon the air monitoring data collected by
13 CARB.

14 So the assessments will provide information to
15 community members on potential health risks from exposures
16 to air pollution, particularly those that may be
17 associated with the nearby oil and gas production.

18 --o0o--

19 DR. FAUST: So at the July 9th SRP meeting, I
20 made a presentation on unassessed chemicals --

21 PANEL MEMBER GLANTZ: Can you put that into
22 presentation mode, so we can see the slides better.

23 DR. FAUST: Oh, I'm sorry. Sure. Let me see how
24 I can do that.

25 MS. LOVE-LAZARD: So, John, just click slide

1 show.

2 DR. FAUST: Slide show. Here.

3 MS. LOVE-LAZARD: Yeah. And you can start from
4 where you were with present -- like current slide or
5 toggle. Is that in presentation mode yet?

6 MS. LOVE-LAZARD: If you play say from current
7 slide, it will go on the slide you're on and it should
8 make it bigger.

9 DR. FAUST: I have it bigger on a second screen,
10 but not on this -- the main screen.

11 DR. BOLSTAD: You might have to adjust the
12 monitor, John.

13 DR. FAUST: Oh, where is that? Is that in the
14 that --

15 DR. BOLSTAD: Top right within the slide show.
16 Click presenter view maybe. To the right.

17 DR. FAUST: To the right of here?

18 DR. BOLSTAD: Sorry, back -- in your current
19 ribbon use presenter view of the box, under monitors.

20 DR. FAUST: I don't see that box.

21 DR. BOLSTAD: Just below the --

22 PANEL MEMBER GLANTZ: On, never mind. Let's just
23 move on. I mean, this -- we need to get moving here.

24 DR. FAUST: Is that not -- we can minimize --
25 make it small. Does that help?

1 CHAIRPERSON ANASTASIO: Yes, that's better.

2 DR. FAUST: Okay. Well, I'm sorry. Yeah, I'm
3 not sure where I can change this.

4 Yeah. So at the July 9th meeting, I made a
5 presentation on the unassessed chemicals and potential
6 ways to address them. And in this presentation, we'll
7 give some brief background on health guidance values or
8 HGVs, a summary of the problem we're trying to address
9 here, and outline potential methods to approach it.

10 These methods include adopting or adapting
11 existing work from other programs and entities, as well as
12 another approach which we'll talk about shortly. We
13 welcome any comments the Panel may have. We've included
14 some questions at the end of the presentation that might
15 help guide the discussion or comments by the Panel.

16 So to be clear, this work is aimed at identifying
17 new HGVs that we can use provisionally rather than
18 formally adopt for the specific purpose of screening for
19 potential health risks for chemicals that are measured in
20 community air. These may change at a later time as newer
21 or better information is available.

22 The results may also inform more in-depth work we
23 do on specific chemicals in the future, as well as other
24 efforts like the effort CARB has undertaken with respect
25 to the new chemicals in the AB 2588 inventory.

1 --o0o--

2 DR. FAUST: So as a -- as a quick reminder, we're
3 using the term HGV to mean the amount of a chemical, like
4 a concentration in air, which is likely to pose little or
5 no appreciable risk to human health. These are determined
6 for both cancer and noncancer endpoints.

7 Noncancer health guidance values are determined
8 for a specific duration of exposure, typically chronic,
9 subchronic, or acute exposure. For example, the OEHHA
10 chronic reference exposure level, or chronic REL,
11 represents the level of exposure in which no adverse
12 health effects are expected to occur, if exposed
13 continuously over a lifetime.

14 And acute REL represents an air concentration
15 without appreciable health risks if exposed for one hour.
16 Non-cancer health guidance values are typically derived
17 using a point of departure, or POD, with -- which is an
18 exposure level in an animal or human study, at which no
19 adverse effects or limited adverse effects are observed.
20 Uncertainty factors are applied to the POD to account for
21 potential differences between the critical study from
22 which the POD was identified and the target human
23 population.

24 These include factors, for example, to account
25 for potential differences between the animal and human

1 toxicokinetics, and -- or factor to account for
2 interindividual variation in the human population.

3 Noncancer health guidance values can be compared
4 to the chemical's exposure levels. And this relationship
5 is expressed as a hazard quotient. For carcinogens, the
6 HGVs represent the excess cancer risk of -- or risk of
7 developing cancer at a specific air concentration. And
8 the increased risk of cancer at a specified exposure level
9 can be calculated using the potency value.

10 The risk of developing cancer for chemical can be
11 summed to give a cumulative lifetime cancer risk.

12 --o0o--

13 DR. FAUST: So at the last SRP meeting, I
14 mentioned some of the places we would encounter unassessed
15 chemicals. Here, the nature of the problem is that only a
16 fraction of the chemicals being measured in this next
17 program have OEHHA health guidance values. For example,
18 there are about 200 chemicals monitored in the SNAPS
19 Program. And of these, only about 30 percent have an
20 OEHHA chronic HGV, and about 12 percent have an acute HGV.

21 Of the approximately 46 of the 200 chemicals that
22 have been identified as carcinogens, OEHHA has cancer
23 potency -- potency factors for 41 of them, so a higher
24 fraction there.

25 Having more values, would allow us to more fully

1 understand the potential health risks to address them. So
2 derivation of an OEHHA REL or other HGV is not possible
3 for all monitored chemicals, due -- primarily due to
4 limited time and resources. Although, in some cases,
5 there may also be a lack of relevant information.

6 So a possible solution is a mechanism to provide
7 information in a more expedited manner on potential health
8 risks. The tradeoff, of course, is that provisional
9 values may carry a greater uncertainty than HGVs derived
10 through traditional procedures. And it's also possible
11 that for some chemicals, the level of uncertainty in
12 developing or adopting a provisional value will be too
13 high to be acceptable.

14 --oOo--

15 DR. FAUST: So in the July 9th meeting, we
16 discussed two broad ways of establishing provision HGVs
17 for chemicals without OEHHA values. The first is to use
18 values from other entities when they exist. Here, we
19 would either adopt these values as they are or adapt them
20 with some modification. For example, a value from the
21 U.S. EPA's IRIS Program may be adopted and used while an
22 occupational exposure limit may be adapted with the
23 application of uncertainty factors.

24 The second is to use an alternative approach,
25 when there are no existing values. One that we'll discuss

1 today shortly will be the use of structural analogs. In
2 this methodology, analogs are identified based upon
3 structural similarity between the target chemical and its
4 more well studied analog or analogs.

5 And there additional options, which we're not
6 going to talk about, but those include producing in-house
7 expedited values or other in silico approaches that may be
8 warranted in some situations or implemented to a degree --
9 in greater degree in future assessments.

10 So based on time frame for this first SNAPS risk
11 assessment, we're focusing on structural analogs for
12 provisional values in general, while considering other
13 approaches going forward.

14 So at this point, I'm going to turn it over to
15 Heather who will describe in greater detail the process
16 for identifying and selecting health guidance values.

17 Heather.

18 --o0o--

19 DR. BOLSTAD: Great. Thanks, John. So this
20 slide presents a decision tree outlining our processes to
21 select, adjust, or develop provisional HGVs. So every
22 chemical detected in the communities will go through this
23 decision tree to develop a provisional HGV. However,
24 there may be some chemicals where the development of a
25 provisional HGV is not possible through this method.

1 The first question at the top of the tree is does
2 this compound have a ranked HGV? I'll discuss which
3 specific HGVs we have ranked in a few slides. If the
4 compound has a ranked HGV, that HGV will be used as is or
5 adjusted.

6 On the other side of the decision tree is the
7 process for when a compound does not have a ranked HGV.
8 In this case, HGVs from a non-ranked source, that is a
9 source we haven't ranked in our methods, may be selected
10 add may require further refinement. For example, in
11 certain cases, we proposed taking the POD from the
12 existing non-ranked HGV and adjusting it with OEHHA
13 uncertainty factors. We'll discuss this in more detail
14 later.

15 If a chemical does not have an HGV, a structural
16 analog approach, as John mentioned, can be used to
17 identify a structurally similar surrogate with an HGV as
18 shown in the lower right box.

19 Next -- in summary, the decision tree includes
20 three main processes. The first the selection of an
21 existing HGV with potential adjustment. Second is
22 development of a provisional HGV based on the POD from an
23 existing HGV. Third is selection of a surrogate HGV using
24 structural analogs.

25 Other processes for establishing HGVs, such as

1 expedited derivation of HGVs or full derivation may be
2 more suitable depending on the chemical or the goals, time
3 or resources available. And these processes will be
4 considered in the future.

5 Next slide please.

6 --o0o--

7 DR. BOLSTAD: So the first process under our
8 decision tree is select and possibly adjust HGVs from
9 ranked sources. When several HGVs are available for a
10 specific chemical or substance, a hierarchy can be used to
11 consistently select HGVs that are of the highest quality
12 or are the most relevant to the risk assessment. To
13 create a hierarchy, each HGV type was evaluated based on
14 the parameters laid out in this slide.

15 These include the level of external review and
16 public comment an HGV receives, whether an HGV was based
17 on or developed for inhalation exposures, whether the
18 source program is still active and thus able to update
19 their HGVs, whether the value was intended to protect the
20 general population including sensitive subgroups and
21 whether the values are developed following an established
22 methodology.

23 Lastly, the evaluation favored OEHHA values over
24 those from other entities, because OEHHA values were
25 developing to meet California health standards.

1 Next slide, please.

2 --o0o--

3 DR. BOLSTAD: This table illustrates the
4 evaluation of HGVs using these criteria in the context of
5 an inhalation risk assessment for the general population.
6 The top row lists the evaluation criteria that were on the
7 last slide.

8 The first column lists the source entities and
9 HGV types. The check marks in green boxes indicate the
10 entity or HGV satisfies the criteria. The check minus in
11 yellow boxes indicates that the criteria is somewhat
12 satisfied or satisfied in some cases. And the minus signs
13 in the red boxes indicate the criteria is not satisfied.

14 Based on this evaluation, as well as professional
15 judgment, we created a ranking of HGVs be used in SNAPS
16 risk assessment. You can see the sources of the HGVs
17 include various programs at OEHHA, three different
18 reprograms at the U.S. EPA, as well as ATSDR, the Texas
19 Commission on Environmental Quality, or TCEQ, and ACGIH.
20 You can see on the able how each type of value held up to
21 your evaluation criteria.

22 Next slide, please.

23 --o0o--

24 DR. BOLSTAD: So this table represents the ranked
25 hierarchy of chronic, non-cancer inhalation HGVs. The

1 OEHHA RELs are our preferred values followed by OEHHA
2 public health goals that were based on inhalation studies
3 followed by the U.S. EPA IRIS reference concentrations and
4 so on. For each chemical, the highest ranked HGV from
5 this table will be used.

6 For example, trimethylbenzenes do not currently
7 have an OEHHA chronic REL or public health goal based on
8 an inhalation study, but they do have a U.S. EPA IRIS RfC.
9 Thus the EPA IRIS RfC would be the highest ranked value
10 and could be adopted as a provisional HGV.

11 For some HGVs, Adjustment for route of exposure
12 or duration will be performed. So chronic-to-chronic
13 adjustments will be made as noted in the table using
14 uncertainty factors. Specifically, HGVs intended for
15 subchronic exposure will be adjusted for chronic exposure
16 using an uncertainty factor selected, based on the
17 duration of the underlying study as detailed in OEHHA's
18 REL guidance.

19 Route-to-route extrapolation will be performed on
20 oral HGVs in order to use them in an inhalation risk
21 assessment. We expect to use this --

22 PANEL MEMBER GLANTZ: This is Stan Glantz. I'd
23 just like to raise a point on this. I think that this is
24 a generally reasonable approach, but I do worry a lot
25 about using oral exposure data to try to get an inhalation

1 reference, because oral -- you know, oral consumption,
2 ingestion of chemicals, I mean, it's totally, totally
3 different than inhalation. And there are lots of things
4 which, you know, if you -- if you eat them are fine, but
5 if you aerosolize them and breath them in are really
6 problematic.

7 So, I mean, I think that's one area in this,
8 which if you're going to do it, it really needs a very
9 strong justification based on the compound you're
10 specifically talking about.

11 And I think if the -- if the internal dose, which
12 is delivered is the -- you know, is the dominant
13 toxicologic factor, then you could probably get away with
14 it. But if the -- if you're talking about something
15 that's acting on the respiratory system itself, I think
16 that these ingested extrapolations for inhalation
17 exposures are just terrible.

18 So I mean, I think the over approach and
19 prioritization you have is quite reasonable, but that, I
20 think, is a very, very serious problem with what you're
21 proposing.

22 DR. BOLSTAD: So I was going to get into, in the
23 next section, the fact that adjustments for absorption
24 would be made, like for metals, because that is a critical
25 issue between -- you know, differences between the routes.

1 But one thing I want to point out is that the second
2 ranked OEHHA public health goals, we wouldn't be using the
3 public health goal itself. We would be using the point of
4 departure, which is based on an inhalation study, because
5 many of the public health goals are derived from
6 inhalation studies.

7 So we wanted to build upon the extensive
8 literature review that's conducted for PHG derivation.
9 And so that subcategory of PHGs is ranked fairly high on
10 the table. Those based on oral studies or dermal studies,
11 are relevant -- are arranged much lower. I think they're
12 eighth on the table.

13 PANEL MEMBER GLANTZ: And I agree with that, but
14 what I'm saying is that if you're going to use them at
15 all, they -- you need a very specific justification that
16 the -- that the thing that's driving the toxicologic
17 effect is the internal dose delivered, you know, to some
18 end organ rather than effects that you're having directly
19 on the respiratory system, you know, where the effects are
20 much more proximate. So I think that's an area where -- I
21 mean, it's a real -- I'm not saying you should never try
22 to extrapolate from an oral exposure, but I think that
23 it's very, very risky thing to do.

24 I mean, I'd be interested in what -- you know
25 what Paul Blanc and some of the other people who, you

1 know, think about pulmonary exposures, have to say about
2 this. But that was the one thing that really bothered me
3 in reading the report that you guys gave us.

4 DR. BOLSTAD: I don't know --

5 PANEL MEMBER BLANC: Since Stan asked me to
6 comment -- Paul Blanc here -- I think the point is well
7 taken and I think what he -- I interpreted his comments as
8 saying when that is the source of your derivation, it will
9 require particular attention to the issue that's been
10 raised, so that you don't end up having a falsely
11 unprotective guidance value.

12 A good concrete example, we see this in -- more
13 clearly in animal studies. For example, the -- the
14 association between severe lung injury and the use of
15 biocides in humidifiers in Korea was driven by the use of
16 seemingly not very toxic chemicals based on oral
17 administration studies, which then clearly was not the
18 case when inhaled. And similarly, the diacetyl story from
19 artificial butter flavoring is exactly parallel to that.

20 DR. BOLSTAD: Well, thank you for your feedback.
21 I do want to note that in our REL guidance, I believe,
22 there are some comparisons between toxicity values and
23 cancer potency between the oral and inhalation routes for
24 certain chemicals and how they differ in magnitude. And
25 in general, they are quite similar, but again the metals

1 are an issue. And we'll be sure to keep in mind the port
2 of entry issues that you raise.

3 PANEL MEMBER BLANC: Yeah, I mean, again for --
4 assuming you weren't talking -- one wasn't talking about
5 site-specific cancer in the respiratory tract. I think
6 Stan already indicated that, you know, this would be far
7 less of an issue and you'd really be concerned about how
8 much can be bio -- bioavailable for target organs that
9 were not the lung.

10 DR. BOLSTAD: Yeah, and maybe we should add to
11 the table that this -- the route-to-route would be done
12 where it's a systemic effect.

13 PANEL MEMBER BLANC: Yeah. And can I -- since
14 I'm on anyway, can I also ask, it seem like all the
15 sources that you're using to potentially draw from, are
16 they all U.S. based?

17 DR. BOLSTAD: Yes.

18 PANEL MEMBER BLANC: And is that a conscious --

19 DR. BOLSTAD: Well, although international
20 entities would be considered unranked sources or data
21 sources for us.

22 PANEL MEMBER BLANC: Yeah, because I would
23 imagine that now the European Union might have data that
24 you couldn't get from somewhere else since -- since their
25 policies now have changed. So as long as it wasn't -- as

1 long as you were willing to consider those, that's
2 all I -- because everything you mentioned so far was
3 domestic.

4 DR. BOLSTAD: Yeah, so I actually have a question
5 for you, because our understanding is that the information
6 in the REACH dossiers is just summaries of available
7 toxicity -- toxicology studies and that those summaries
8 are submitted by the registrants. Are you aware of places
9 where the full studies can be found?

10 PANEL MEMBER BLANC: I guess it would depend on
11 what was submitted, but it might at least give you a lead
12 as to a material where you were lacking domestic data and
13 the REACH data suggested that there could be a problem.
14 So, yeah, I -- that's why I bring it up.

15 CHAIRPERSON ANASTASIO: Mike, did you also have a
16 comment?

17 PANEL MEMBER KLEINMAN: Yes. Thank you. One of
18 the ways that these -- these things are adjusted are
19 through uncertainty factors. And I'm wondering whether
20 there's some way to develop some rules or guidance for
21 using -- you know, for example, an uncertainty factor
22 because the route is different, when you're stuck for
23 developing a guideline and you don't have any other data
24 to go with.

25 DR. BOLSTAD: That is a possibility. That's not

1 currently done in REL development, but that is a
2 possibility that we could consider.

3 PANEL MEMBER GLANTZ: Yeah. I actually think
4 that's not a good idea, because if you look at the other
5 uncertainty factors that have been developed over the
6 years, they -- they have some kind of reasonable tie into
7 the underlying biology. And the concern that I have of
8 this oral versus inhalation thing is when the target
9 organs are different. And I just -- I mean, the diacetyl
10 example that Paul mentioned is important. And, in fact,
11 this has been a very hot area of investigation in looking
12 at flavoring agents in e-cigarettes, because a lot of
13 them -- I mean, most of them are generally recognized as
14 safe for ingestion. And they really tear up the lungs
15 when you aerosolize them and inhale them.

16 So I think that -- that's the one area in the
17 document. I just think you -- you've really got to be
18 very careful in looking at non-inha -- non-inhalation --
19 you know data -- you know, data derived from
20 non-inhalation sources.

21 I'm not saying you could never use it, but I
22 think you need to be very, very careful, and it needs to
23 be justified very explicitly when you are doing it.
24 That's my contribution to the meeting. I've been sitting
25 had quietly waiting to jump on this.

1 CHAIRPERSON ANASTASIO: Thank you, Stan. That
2 was an excellent contribution.

3 PANEL MEMBER GLANTZ: Yeah, I think this is a
4 really important point.

5 CHAIRPERSON ANASTASIO: Yeah, I agree. All
6 right. Heather, can you continue.

7 DR. BOLSTAD: Yes, thank you. So back to the
8 route-to-route extrapolation. I'll just finish that by
9 saying we expect to use simple methodology, again I should
10 add for the systemic end points, assuming that the dose
11 delivered to the target organ is the same for oral and
12 inhalation routes for most chemicals.

13 Additional, adjustments for absorption would be
14 included for metals or other chemicals as appropriate. I
15 want to note that the lowest ranked source in value in
16 this table is an occupational exposure limit from ACGIH,
17 and I'll discuss its adjustment in a couple slides. So
18 overall a ranked table of HGVs, like this shown in this
19 slide, including those from other entities will allow us
20 to quickly select a reliable value for each chemical and
21 enable the completion of future risk assessments.

22 We chose to include the ACGIH values while
23 omitting other occupational limits, such as those from
24 OSHA or NIOSH, because the derivation of the ACGIH values
25 is health based and documented.

1 Next slide, please.

2 --o0o--

3 DR. BOLSTAD: This table presents the ranked
4 hierarchy of acute noncancer inhalation HGVs, as well as
5 how they could be adjusted. As you can see, fewer
6 author -- fewer authoritative entities produce acute
7 inhalation and GHGs. The OEHHA acute RELs are preferred
8 values followed by ATSDR, MRLs; TCEQ, REVs; and so on.

9 Notably, again, the load -- the lowest ranked
10 value is an occupational exposure limit from ACGIH.

11 Next slide, please.

12 --o0o--

13 DR. BOLSTAD: So this slide provides a little
14 more detail about how we will adjust the ACGIH
15 occupational a HGV. As you saw in our hierarchy, it is
16 not our preference to use occupation values. However,
17 they can be informative when other HGVs are not available.
18 The ACGIH HGVs are occupational exposure limits for
19 working adults. They will be adjusted for duration, since
20 they are meant to be protective only over a work shed.

21 So for the chronic values, the value will be
22 adjusted for continuous exposure, seven days per week
23 instead of five days per week and will also be adjusted
24 for the air intake during the workday, which is commonly
25 considered to be ten meters cubed, whereas intake for the

1 whole day is considered to be 20 meters cubed.

2 For the acute values, the ACGIH values are
3 intended for a 15-minute exposure duration and will be
4 adjusted to breathe protective over an hour duration.

5 Finally, the ACGIH values are not intended to
6 protect the general population. And thus, an additional
7 default uncertainty factor will be applied. A factor of
8 300 will be used if the POD was based on a human study,
9 and 3,000 if it was based on an animal study.

10 This uncertainty factor is comprised of an
11 intraspecies uncertainty factor of 30 to protect sensitive
12 populations and interspecies uncertainty factor of 10, if
13 based on an animal study, and an additional 10 to account
14 for other potential uncertainties, such as study duration,
15 database efficiency, and the potential for additional
16 susceptibility of children.

17 We expect that these adjustments within produce
18 provisional HGVs that are health protective for the
19 general public and informative to the community.

20 Next slide, please.

21 --o0o--

22 CHAIRPERSON ANASTASIO: Heather we have a
23 questions from Kathie.

24 DR. BOLSTAD: Oh, yeah. Sorry. I'm not looking
25 at --

1 PANEL MEMBER HAMMOND: Thank you. Yeah, just
2 this was fine. But one quick comment is that the ACGIH
3 TLVs can include ceiling values, in addition to the STELs.
4 So the ceiling values are concentrations which should
5 never be exceeded in for any time period. So just you
6 might want to include those within the possible things,
7 since for some compounds, there are no STELs just
8 ceilings.

9 DR. BOLSTAD: Yes, we did consider those, and we
10 have a -- placed them in the category of data sources, so
11 unranked. We were a bit concerned because they're really
12 designed for only a couple minutes in peak exposure, and
13 we're really trying to be protective of the general
14 population over an hour period for acute exposure, but we
15 will definitely consider those.

16 PANEL MEMBER HAMMOND: All I'm saying is that
17 the -- I mean, I think what you've done here makes sense,
18 but the point of a ceiling is that you should not be
19 exposed to that for five minutes and then zero exposure
20 for 55 minutes and have it average out okay. That's not
21 acceptable, so it's a different --

22 DR. BOLSTAD: Right.

23 PANEL MEMBER HAMMOND: And that would relate to
24 perhaps if you had a -- an industrial release someplace
25 that had a short-term exposure or an accident of some

1 sort. So it -- I'm just saying I think that it has value.
2 It definitely is not your one-hour value, but one would
3 want to be cognizant of it where they exist.

4 DR. BOLSTAD: Okay. Thank you.

5 PANEL MEMBER HAMMOND: Um-hmm.

6 DR. BOLSTAD: Okay. Next slide, please.

7 So the previous few slides have followed one
8 process in the decision tree, wherein we have discussed
9 the ranked HGVs, how they were evaluated and ranked, and
10 what adjustments we expect to make.

11 The next process in the decision tree is followed
12 when there is an HGV from an unranked data source. In
13 this case, the available HGV may require further
14 refinement and it may be appropriate to use the POD from
15 that value and adjust it with uncertainty factors per
16 OEHHA's REL guidance.

17 Next slide, please.

18 --o0o--

19 DR. BOLSTAD: In this process, the provisional
20 HGV will be the POD from the existing HGV divided by
21 uncertainty factors. And the types of uncertainty factors
22 used are listed on this slide, and they include
23 uncertainty factors for LOAEL to NOAEL extrapolation,
24 subchronic to chronic extrapolation, animal to human
25 extrapolation, human variability and database deficiency.

1 The database deficiency factor is applied to
2 account for potential deficiencies in the database. For
3 example, when key studies, such as developmental studies,
4 are not available for consideration, a database factor is
5 applied to account for the possibility that developmental
6 endpoints might be more sensitive than the critical
7 endpoint.

8 REL guidance gives a detailed description
9 regarding how to apply these factors. And we will
10 generally follow this guidance. If an unranked HGV does
11 not have a documented point of departure, we will not use
12 that value, and we'll select another value or use an
13 alternative approach.

14 So I will now hand it over to Rachel who will
15 discuss our structural analog approach.

16 --o0o--

17 DR. HIRANI: Thank you, Heather. Next slide.

18 So we have discussed two process in this decision
19 tree, one using an (inaudible) value of (inaudible)
20 uncertainty factors.

21 The third process is there's no (inaudible)
22 identified or the values are not well documented. In
23 these cases, an alternative approach can be used. We are
24 proposing to use a structural analog approach, but in some
25 cases when there are available data, this may also include

1 in-house expedited development of a provisional health
2 guidance value.

3 SO next slide, please.

4 --o0o--

5 DR. HIRANI: The structural analog approach is
6 based on the basic principle that, in general,
7 structurally similar chemicals can share metabolites, act
8 through the same modes of action at the same target site,
9 and exhibit similar toxicity. However, (inaudible)

10 So in this methodology, the first is step
11 identify the structural analogs to the target chemical,
12 that is the chemical of concern without a health guidance
13 value. We propose using the U.S. EPA analog
14 identification methodology, or AIM tool, and/or the U.S.
15 EPA CompTox Chemistry Dashboard similar compounds feature.

16 Once the structural analogs have been determined,
17 the analogs' health guidance values will be identified
18 using the same sources that we discussed previously in
19 this presentation. The analog with the highest structural
20 similarity score, that is the one that's most structurally
21 similar to the chemical with one or more ranked health
22 guidance values will be selected. The selected analogs
23 values will be determined and adjusted per the ranked
24 table as previously described. The selected analog and
25 health guidance value will be used as a surrogate in the

1 assessment.

2 Next slide, please.

3 --o0o--

4 DR. HIRANI: An example of this approach is shown
5 for m-diethylbenzene with chronic non-cancer health
6 guidance values. So m-diethylbenzene does not have a
7 ranked health guidance value that CARB has used to
8 identify structural analogs.

9 Ethylbenzene is the structural analog with the
10 highest similarity score and one or more ranked health
11 guidance values. Per the ranked table, the OEHHA chronic
12 REL for ethylbenzene would be selected as a surrogate
13 value and used in the risk assessment.

14 So compared to other methodologies using
15 empirical data for a specific chemical using chemical
16 surrogates solely based on structure produces a
17 provisional health guidance value with lower confidence.
18 However, we believe this approach is likely to provide
19 some understanding of the potential toxicity for otherwise
20 data-poor chemicals.

21 Next slide, please.

22 --o0o--

23 DR. HIRANI: In summary, we expect that this
24 methodology will allow for the efficient selection of
25 health protective values for many chemicals, so that they

1 can be included in our assessment of the air monitoring
2 data in the SNAPS communities. Although, other entity's
3 values or structural analogs is not as ideal as having a
4 REL adopted through our traditional processes, it will
5 provide useful information on the potential health risks
6 from airborne chemicals.

7 Further, this evaluation is likely to identify
8 higher priority chemicals for poor traditional health
9 guidance value development at OEHHA. Thank you for
10 listening to our presentation on this methodology and I'm
11 going to turn the slide show back to John.

12 CHAIRPERSON ANASTASIO: Great.

13 DR. FAUST: Thank you to -- thank your Rachel and
14 thank you, Heather for the -- for the overview.

15 --o0o--

16 DR. FAUST: So just this final slide includes
17 some areas that we thought might prompt discussion by the
18 panel. I mean, obviously we've heard discussion already
19 about long the certain concerns along the way. But let me
20 go ahead and describe the slide.

21 So some of the areas that input would be welcome
22 is in the identification and selection of health guidance
23 values.

24 Do the sources of potential HGVs where the acute
25 and chronic non-cancer endpoints appear complete? Are the

1 criteria described appropriate for selection of selection
2 of useful HGVs? Is it reasonable to use these HG -- HGVs
3 for risk -- risk screening purposes with the limited
4 adjustments described? And are there alternative
5 approaches to adjusting HGVs that we should consider?

6 On the topic of adjustment of occupational HGVs,
7 we propose to adjust with a factor of 300 when the
8 underlying point of departure is from a human study and
9 3,000 when it's from an animal study. Is this reasonable?

10 And then in the area of using surrogates and
11 structural analogs, what factors should we considering in
12 using a surrogate approach in the context of a
13 screening-level, multi-pollutant risk assessment? Is it
14 reasonable to identify analogs based on structural
15 similarity? Are there other platforms for analog
16 identification that we could consider? And then for this
17 risk screening context, is it reasonable to select the
18 highest ranked HGV for the analog with the highest
19 Similarity score.

20 So at this point, I will turn it back to the
21 Chair.

22 CHAIRPERSON ANASTASIO: Great. Thank you, John
23 and also Heather and Rachel for the presentation. I think
24 this is a very important task that you guys are working
25 on. You know, if we're ever going to catch up with the

1 number of additional chemicals added every year, we're
2 going to need a broader approach like this. So I think
3 it's great that you're working on this.

4 I'm going to open it up first to the Panel. And
5 I see that Mike has a question. Mike, go ahead.

6 PANEL MEMBER KLEINMAN: Yeah. On this adjustment
7 of the occupational HGVs, could you go back over how you
8 come up with the 300? What are the uncertainty factors
9 you're throwing in there?

10 DR. BOLSTAD: Yeah, I could answer that. I
11 believe it's probably around -- yeah, there. So 30 for
12 interspecies -- or sorry, intraspecies variability, so
13 human variability to protect sensitive populations, and
14 then 10 for interspecies, and then 10 to address any
15 remaining uncertainties.

16 So if the POD was from an animal study, it's
17 10-fold higher than our factor for the human study,
18 because of the interspecies factor, so 30, 10 and 10.

19 PANEL MEMBER KLEINMAN: Do you think that's
20 adequate to cover, for example, children versus adults?

21 DR. BOLSTAD: Well, we have done kind of a
22 proof-of-principle analysis that indicated this approach
23 would be protective based on compounds for which we have
24 OEHHA RELs and comparing them to ACGIH values with
25 adjustments. So we are confident that this would be

1 protective.

2 PANEL MEMBER KLEINMAN: Okay. Thank you.

3 CHAIRPERSON ANASTASIO: Other questions from the
4 panel or comments?

5 If so, please raised your hand.

6 PANEL MEMBER GLANTZ: So this is Stan.

7 CHAIRPERSON ANASTASIO: Yeah, Stan, go ahead.

8 PANEL MEMBER GLANTZ: I -- you know, I'd be
9 interested in what people who know more about chemistry
10 than I do think about the structure activity approach
11 they're proposing, you know, at the end of the process. I
12 mean, overall, it seemed reasonable to me, but I really
13 don't know what I'm talking about. So I'd be curious what
14 some of the Panel members who do know what they're talking
15 about think about this approach.

16 CHAIRPERSON ANASTASIO: I can say from a chemical
17 reactivity point of view, it's a very powerful tool that
18 was used very frequently to try to understand the
19 reactivity of species and how it might vary among a
20 family. I can't say how this approach works in
21 toxicology. So I don't know if someone else on the Panel
22 can address that.

23 PANEL MEMBER KLEINMAN: You know, in general, you
24 know, structural analogs can work quite well. There are a
25 couple of places where certain compounds have unique

1 toxicity in various organ system. So for example, heptane
2 can be much more neurotoxic than you would expect from
3 looking at pentane. So there are some things that this
4 won't work, but it's a -- it's a good first approach.

5 CHAIRPERSON ANASTASIO: All right. Thank you,
6 Mike. Thank you, Stan.

7 Ahmad, go ahead.

8 PANEL MEMBER BESARATINIA: Yeah. I just want to
9 also add that structurally-similar compound do not
10 necessarily exhibit similar properties. Example of those
11 are like enantiomers or isomers of the same compound that
12 have vastly different, you know, biological effects. The
13 best example of them are from polycyclic aromatic
14 hydrocarbon group.

15 DR. HIRANI: Yeah. I think we know that there
16 are limitations to this analysis and that's why it's sort
17 of our -- our last -- the last thing we do in this
18 process. And I think we'll try to move forward with it
19 and acknowledge the limitations that you guys have brought
20 up.

21 DR. BOLSTAD: And I think with our experience
22 thus far, the structural analog approach would largely be
23 used for simple hydrocarbons and some aromatic. And in
24 terms of the programs identifying structural analogs, so
25 far they do seem to distinguish between like on one hand

1 the ortho- and meta-isomers versus para -- or sorry,
2 sorry, meta and para versus ortho, which is a
3 little different than an enantiomers, but that is another
4 thing we'll keep in mind.

5 PANEL MEMBER ANASTASIO: Thank you, Heather.
6 Thanks, Mike.

7 Joe, you have a question?

8 PANEL MEMBER LANDOLPH: No, just a comment.
9 Yeah. It's a -- it's tricky area. But I would say for
10 polycyclic hydrocarbons, you know, you can count --
11 calculate the resident stabilization of the carbonium ion
12 and using a bay-region theory by Don Jerina with that
13 calculation, you get pretty good results. So I wouldn't
14 be afraid to use that -- those calculations for that. I
15 wouldn't be afraid to use them for aromatic amines and
16 nitrosamines.

17 So you can get some reasonable correlation. It's
18 not to say you shouldn't keep checking things and make
19 sure things don't go off the rails later on, but there are
20 for certain groups of compounds, they work pretty -- those
21 calculations work pretty well for carcinogenesis.

22 CHAIRPERSON ANASTASIO: Thank you, Joe.
23 Paul.

24 PANEL MEMBER BLANC: Yeah. I'm glad Joe threw in
25 that thing. So this whole process can you just clarify

1 again, this is for cancer endpoints or non-cancer
2 endpoints?

3 DR. HIRANI: It think it will likely be for
4 non-cancer endpoints.

5 PANEL MEMBER BLANC: Okay.

6 DR. HIRANI: For the cancer endpoints, most of
7 the monitored chemicals appear to have a potency value.

8 PANEL MEMBER BLANC: Okay. So if we're talking
9 about noncancer endpoints, because I thought that's what
10 we were talking about, at least one -- one thing you're
11 going to be very interested in is potential sensitizers, I
12 would assume. And for that, there is a -- there has been
13 a body of work on structural analogs and the -- the author
14 of that work is a guy named Aegius in Britain,
15 A-e-g-i-u-s. And he actually has an online algorithm that
16 you can plug structures into and get an assess -- an
17 assessment of their likelihood to be sensitizing agents.

18 DR. BOLSTAD: Yeah, we are aware of some programs
19 the predict sensitizers. And thankfully, it's because
20 it's fairly easy to protect based on, you know --

21 PANEL MEMBER BLANC: Right.

22 DR. BOLSTAD: -- nucleophilic reaction with
23 proteins, so --

24 PANEL MEMBER BLANC: So you might want to -- you
25 know, as you sort of pilot of the pilot focus on that,

1 since that's where the -- you know, the -- the strongest
2 argument could be made. Because if you start to say I'm
3 going to predict what's going to be an -- a hepatotoxic
4 agent, it's not going to be so easy.

5 DR. HIRANI: Yeah, that's a -- that's a good
6 point, the endpoint, that we're thinking about important.
7 And here we're trying to almost just borrow the -- an
8 already established health guidance value, inhalation
9 health guidance value --

10 PANEL MEMBER BLANC: Yeah.

11 DR. HIRANI: -- rather than focus endpoint by
12 endpoint, which as you point out, can be very difficult
13 for reproductive and other effects.

14 PANEL MEMBER BLANC: And since -- and since
15 sensitization is particularly an issue for inhaled route
16 of administration, it would make sense to, you know, put
17 particular energy there, I suppose, and this would be your
18 sort of backup to -- you have no other data that you can
19 base -- base your thoughts on. Although I would -- coming
20 back to Stan's trepidations, I would say that if all you
21 have is oral, and what you're thinking about is
22 sensitization, you might want to think about an -- ana --
23 an analog approach rather than oral data --

24 DR. BOLSTAD: Yeah.

25 PANEL MEMBER BLANC: -- as example.

1 DR. HIRANI: We could screen all of these
2 chemicals for predicted sensitization in some of the
3 programs that you mentioned.

4 DR. BOLSTAD: Yeah, I actually wanted to ask the
5 Panel about that. If we had to use an oral value or a
6 value based on oral data, would you prefer route-to-route,
7 versus analog, versus not using a value?

8 CHAIRPERSON ANASTASIO: The one thing you could
9 do is calculate it both ways and see which one ends up
10 being more health protective. That's one initial
11 approach. But then, as people have mentioned already, you
12 know, you do have to be careful with either approach.

13 Paul, did you want to speak on that?

14 PANEL MEMBER BLANC: Yes, I wasn't completely
15 clear how that would work out. So you have an oral value
16 for something and you're going to extrapolate to an
17 inhalation value, and then you're saying but if I had --
18 if it was an analog of something that I do have an
19 inhalation value for --

20 DR. BOLSTAD: (Nods head.)

21 PANEL MEMBER BLANC: -- I would look at that as
22 well. I wasn't sure mechanistically what the -- what --
23 what the analog would be to.

24 DR. BOLSTAD: Well, it would be using an HGV from
25 an analog for inhalation like you just mentioned versus --

1 well, the difference is route and whether the data comes
2 from the compound itself, so just weighing that.

3 So on one hand, you'd have inhalation data from
4 an analog versus oral data from your target compound.

5 PANEL MEMBER BLANC: Okay. Now, I do understand
6 and I would say that, first of all, pragmatically, Cort's
7 idea is relevant, you know, if you -- they were wildly
8 disparate, that would be give you pause. And I would say
9 that, in general, I would prefer ana -- a strong analog
10 with something you do have inhalation data for.

11 Let's circle back to diacetyl, right? For some
12 of the diacetyl analogs, which are being promoted for
13 substitution, you know, the pentane analog, we also don't
14 have -- we don't have inhalation data for those. So if I
15 had an analog of diacetyl, which we do now have inhalation
16 data for, I would treat it like diacetyl not like some
17 oral version, if that makes sense. I mean maybe Stan
18 should comment on that, but...

19 DR. BOLSTAD: Well and diacetyl is one of those
20 cases where the effects are in the lung, so I think --

21 DR. HIRANI: Yeah, I think --

22 DR. BOLSTAD: -- we'd be less likely to perceive
23 route-to-route in that case, if the most sensitive effect
24 was in the lung.

25 PANEL MEMBER BLANC: Yeah.

1 DR. HIRANI: I think the thing is the chemicals
2 will have -- will be data poor. We won't know if they
3 have some lung effect, but they might have a systemic
4 effect that we'll use the oral value for. So it might
5 just have to be a caveat in our report that if those
6 particular chemicals have a local effect in the lung, that
7 is just an unknown at this time.

8 PANEL MEMBER BLANC: Yeah, that would be -- that
9 would be reasonable. And again, as Cort said, check the
10 analogs too, in case there is -- you, of course, feel much
11 more secure if the analogs had been tested by inhalation
12 and there was no target organ toxicity to the lung, right?

13 DR. HIRANI: Yep.

14 PANEL MEMBER BLANC: And I think --

15 CHAIRPERSON ANASTASIO: Okay. Thank you. Sorry.
16 Go ahead, Paul but Beate has got a question. She's been
17 waiting.

18 PANEL MEMBER BLANC: No. And you do have also
19 examples of things where when they're ingested they have
20 targeted lung toxicity.

21 DR. BOLSTAD: Right, but that would still be
22 consider a systemic effect, right?

23 PANEL MEMBER BLANC: Well, you know, I just -- I
24 just point it out. It's not very common, so it's not -- I
25 don't think that's going to -- you know, but if you add

1 some paraquat analog, you'd have to think about that.

2 CHAIRPERSON ANASTASIO: All right. Thank you,
3 Paul.

4 Beate.

5 PANEL MEMBER RITZ: Yeah. I was just thinking
6 when you said systemic effects, how are you going to deal
7 with endocrine disruption. Would structural analogs
8 really be the right way to go?

9 DR. BOLSTAD: Well, that's an interesting
10 question. I can see how relative potency would be very
11 useful for endocrine disruption, because the in vitro
12 receptor binding or activation transactivation assays
13 would be more available than in vitro, or than in vivo
14 inhalation studies. Rachel, do you want to comment on
15 that?

16 DR. HIRANI: I'm not sure. You're saying the
17 structural analog approach might not identify endocrine
18 disruptors. Is that --

19 PANEL MEMBER RITZ: No, it might not be
20 appropriate when it comes to toxicity. That's what I was
21 thinking about.

22 DR. HIRANI: Yeah, I think that might be a
23 limitation of this method. Most of the chemicals -- I'm
24 trying to think of any are likely to be.

25 DR. BOLSTAD: Well, DEHP is, but we do have a

1 MADL for that.

2 DR. HIRANI: Right. I mean, we -- we could
3 incorporate a separate screening to look at them through
4 some of the online programs that give whether or not
5 they're likely to interact with like estrogen receptors.
6 We could do a separate screening, but I don't know that
7 we've focused on that endpoint. We're trying to look at,
8 you know, all endpoints at one time.

9 PANEL MEMBER RITZ: Well, given that these
10 substances are really important and we have quite a few
11 air contaminants that might be endocrine disruptors, I
12 would really recommend that you think about this a little
13 bit more.

14 DR. BOLSTAD: Do you have an example of an air
15 contaminant that endocrine disruption is its most
16 sensitive endpoint?

17 PANEL MEMBER RITZ: I'm not sure that it's the
18 most sensitive, but I mean PAHs are endocrine disruptors,
19 right, so --

20 DR. BOLSTAD: Yes.

21 PANEL MEMBER RITZ: -- it's probably more of a
22 question of at different levels they may be doing
23 different things, but that doesn't mean that just the
24 highest level is what we should be concerned about health
25 protection. So even at lower levels, if we're going

1 towards health protectiveness, you should be worried about
2 what are they still doing at lower levels, right?

3 DR. BOLSTAD: Yes. Yes.

4 PANEL MEMBER RITZ: And in that sense, it would
5 be relevant.

6 DR. BOLSTAD: Well, and thankfully for the PAHs,
7 there's more in vitro data on comparative potency that
8 informs the toxic equivalency factors and -- but for other
9 compounds, it's an interesting question how well
10 structural similarity will predict endocrine disruption.

11 PANEL MEMBER BLANC: You might look -- look up
12 triclosan and its congeners.

13 DR. BOLSTAD: Yes. Is triclosan volatile?

14 PANEL MEMBER BLANC: No.

15 DR. HIRANI: I don't believe it's been monitored
16 in the community.

17 PANEL MEMBER BLANC: No, but just as a -- just as
18 a -- you know, if you're asking that question.

19 DR. BOLSTAD: Yeah.

20 PANEL MEMBER BLANC: But no, it's not volatile,
21 at least it has one thing going for that.

22 DR. BOLSTAD: Right.

23 (Laughter.)

24 CHAIRPERSON ANASTASIO: All right.

25 PANEL MEMBER BLANC: Beate.

1 CHAIRPERSON ANASTASIO: Go ahead, Paul.

2 PANEL MEMBER BLANC: For Beate, I -- you really
3 threw me off guard asking about endocrine disruption. I
4 was almost sure the question was about to be about central
5 nervous system degenerative disease.

6 PANEL MEMBER RITZ: Well, yes, that's another
7 issue, but I don't know how to -- how to formulate that
8 yet with respect to the structural analogs. I think we
9 know so little about it, that it's almost scary,
10 especially when it comes to neurodevelopmental effects.
11 But also long-term neurodegeneration, right? There so
12 much involved in a human.

13 CHAIRPERSON ANASTASIO: Okay. Thank you, Paul
14 and Beate.

15 Last call for Panel comments or questions?

16 All right. I don't see any, so I'm going to move
17 it over to public comment. A couple notes first. If
18 anyone is on a phone and you would like to ask a question,
19 please press star nine and that will appear in Zoom for us
20 as a raised hand and I'll know to call on you.

21 And then to mute and unmute yourself on the
22 phone, it's star six. So if I call on you, please unmute
23 star six. And then when you're done, mute again.

24 Also for people who are on the Spanish conference
25 line, apparently they're not able to interface with Zoom.

1 So Marci and Claudia, if you could facilitate people who
2 are on the Spanish line asking questions, that would be
3 great.

4 Okay. And I see Claudia said thank you -- will
5 do, so thank you Claudia.

6 Okay. So I open it up then to the public. Any
7 comments about this topic, presentation?

8 Let's just wait a minute, since I know some of
9 these technologies are slow.

10 And, actually, while we're waiting, John, Rachel,
11 and Heather, it seems like in this process, one of the
12 things you may be able to identify are compounds where we
13 really do need an animal study or we really do need a
14 specific fully addressed REL. So I imagine that's part of
15 your thinking, as you go through this, but it does seem
16 like a great way to help identify compounds where we
17 really need data and we really need to potentially develop
18 a very specific and quantitative REL or cancer potency
19 factor.

20 DR. BOLSTAD: Definitely. And whether they're
21 detected or not in staff's communities will help inform
22 that too.

23 CHAIRPERSON ANASTASIO: Yeah, that's a good
24 point.

25 That's the end of my filler.

1 Oh, wait. Here go. We've got a -- we've got a
2 question in chat from Amy. She says Given -- or sorry,
3 Amy Kyle. "Given the grave deficiencies of the databases,
4 I'm wondering if the Panel has any ideas about what the
5 State could do to remedy that, especially given the
6 collapse at EPA -- federal EPA"?

7 So, Amy, I'm not entirely sure if the Panel has
8 any ideas about what the State can do in terms of filling
9 outfit a databases, getting additional data. Maybe you
10 could clarify your question in the chat.

11 I mean, one of the things that we've discussed
12 several times with OEHHA on this topic is, you know, us
13 trying to help them identify other sources of data. So
14 that's something we've definitely touched on.

15 PANEL MEMBER GLANTZ: Well, this is Stan. I
16 mean, I think subject to all of the caveats and issues
17 that were brought up in this, I think, very excellent
18 discussion, I mean, I think what they're trying to --
19 exercise they're going through is trying to do exactly
20 that. I mean, the State doesn't have the resources to
21 duplicate the National Toxicology Program.

22 But I think -- I think this is -- you know, the
23 general approach outline here is good. I think we've
24 raised a bunch of deep issues that need some further
25 attention and polishing. But overall, I think this is a

1 good systematic beginning to try to deal with things,
2 where you don't have total data.

3 So I mean, I -- I'm impressed actually, having
4 given you a hard time about part of this. But I think the
5 overall effort is quite impressive. And I think you
6 should be taking the comments that came in from the Panel
7 and use it to generate the next iteration of this
8 document.

9 CHAIRPERSON ANASTASIO: Yeah. Thank you, Stan.
10 I second what you're saying about how this is a really
11 important effort and it's going in a very good direction.
12 So congrats to OEHHA on that.

13 So I see Amy has clarified her question a little
14 bit for me. She's talking about how do we get data for
15 things that haven't been tested or assessed. I don't --
16 yeah, and I don't know. I don't know if anybody on the
17 Panel or anybody at OEHHA has thoughts about, you know,
18 how do we get more data?

19 DR. BOLSTAD: Oh, one good thing is that the
20 development of in vitro methods or ex vivo methods for
21 inhalation toxicants is progressing. You know, it's kind
22 of been behind hepatotoxicity tests in vitro. And the
23 ToxCast data isn't really useful for inhalation toxicants,
24 because they only test things that aren't volatile. So
25 hopefully as those methods become more available and go

1 through validation and whatnot, it will be much cheaper to
2 do, you know, at least some screening of those compounds.

3 CHAIRPERSON ANASTASIO: Well, that's an
4 interesting point, right, because right now OEHHA only
5 develops guidance values based on either animal or human
6 data, right? So do you see a point where OEHHA starts
7 using in vitro approaches?

8 DR. BOLSTAD: Potentially.

9 CHAIRPERSON ANASTASIO: Wow, that would be great.
10 Yeah. It sounds like another uncertainty factor. I know
11 you guys love your uncertainty factors, so I vote for two
12 square roots of 10 on that one.

13 I don't see any other public comments. So --
14 woop, sorry -- with that, I'm going to move to the final
15 item, which is just a note about our next meeting. So the
16 next SRP meeting will be on Thursday, January 14th, 2021
17 and 9:30 a.m. And we expect to go again until the
18 mid-afternoon like today. I'm guessing it will be remote,
19 because we love Zoom so much. But if there's some
20 fantastic improvement in public health, then I would love
21 to see you all in person.

22 With that, I would love to entertain a motion to
23 adjourn.

24 PANEL MEMBER GLANTZ: So moved.

25 CHAIRPERSON ANASTASIO: Can I get a second?

1 PANEL MEMBER KLEINMAN: Second.

2 CHAIRPERSON ANASTASIO: Can I get some ayes?

3 (Ayes.)

4 CHAIRPERSON ANASTASIO: All right. Fantastic.

5 Well, thank you, everyone. I appreciate all the speakers.

6 I'd like to thank Christal again for her technical

7 wizardry, which if it's not yet should be a CARB job

8 classification. And I appreciate the Panel and all your

9 input. I think this was a very productive meeting. And I

10 look forward to seeing you in January.

11 PANEL MEMBER KLEINMAN: Okay. Thank you, Cort.

12 CHAIRPERSON ANASTASIO: All right. Take care,

13 everyone.

14 (Thereupon the California Air Resources Board,

15 Scientific Review Panel adjourned at 1:51 p.m.)

16

17

18

19

20

21

22

23

24

25

1 C E R T I F I C A T E O F R E P O R T E R

2 I, JAMES F. PETERS, a Certified Shorthand
3 Reporter of the State of California, do hereby certify:

4 That I am a disinterested person herein; that the
5 foregoing California Air Resources Board, Scientific
6 Review Panel meeting was reported in shorthand by me,
7 James F. Peters, a Certified Shorthand Reporter of the
8 State of California;

9 That the said proceedings was taken before me, in
10 shorthand writing, and was thereafter transcribed, under
11 my direction, by computer-assisted transcription.

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

15 IN WITNESS WHEREOF, I have hereunto set my hand
16 this 19th day of October, 2020.

17
18
19
20 

21
22
23 JAMES F. PETERS, CSR
24 Certified Shorthand Reporter
25 License No. 10063