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

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A P P E A R A N C E S

PANEL MEMBERS:

Cort Anastasio, Ph.D., Chairperson

Ahmad Besaratinia, Ph.D.

Paul D. Blanc, M.D.

Stanton A. Glantz, Ph.D.

S. Katharine Hammond, Ph.D.

Michael T. Kleinman, Ph.D.

Joseph R. Landolph, Jr., Ph.D.

Lisa A. Miller, Ph.D.

Beate R. Ritz, M.D., Ph.D., M.P.H.

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Jim Behrmann, Panel Liaison

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Lori Miyasato, Ph.D., Panel Liaison

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Beth Schwehr, Staff Air Pollution Specialist, Air Quality Planning & Science Division

Melissa Traverso, Air Pollution Specialist, Air Quality Planning & Science Division

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 Budroe, Ph.D., Chief, Air Toxicology and Risk Assessment Section

I N D E X

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

P R O C E E D I N G S

PANEL LIAISON BEHRMANN: Good morning. This is Jim Behrmann, Panel Liaison. Cort -- are you on the line, Cort?

CHAIRPERSON ANASTASIO: When everyone is ready and then we'll start.

Oh, Jim, is that you?

PANEL LIAISON BEHRMANN: Yes.

CHAIRPERSON ANASTASIO: Okay. Are we ready to go?

PANEL LIAISON BEHRMANN: Let's begin just to see who we have in terms of Panel members on the line. I'll just read down the roster.

Dr. Hammond?

PANEL MEMBER HAMMOND: Present.

PANEL LIAISON BEHRMANN: Cort, you're on the line, yes?

CHAIRPERSON ANASTASIO: Yes.

PANEL LIAISON BEHRMANN: Dr. Landolph?

Dr. Landolph will probably be joining us.

Dr. Glantz?

PANEL MEMBER BLANC: He's just outside the room. I just told him he has to come in.

PANEL LIAISON BEHRMANN: Dr. Ritz?

PANEL MEMBER RITZ: Yes, I'm here.

PANEL LIAISON BEHRMANN: Dr. Blanc?

PANEL MEMBER BLANC: Yeah. Here's Dr. Glantz. Will you say you're present?

PANEL MEMBER GLANTZ: I'm present.

(Laughter.)

PANEL LIAISON BEHRMANN: He is. Dr. Glantz is present.

Dr. Besaratinia?

PANEL MEMBER BESARATINIA: Here. Good morning.

PANEL LIAISON BEHRMANN: Dr. Miller?

PANEL MEMBER MILLER: I'm here. Good morning.

PANEL LIAISON BEHRMANN: Good morning.

Dr. Kleinman?

PANEL MEMBER KLEINMAN: I'm here.

PANEL LIAISON BEHRMANN: Excellent. And do we have Dr. Landolph?

Okay. Hopefully, he will be joining us. As I said, this is Jim Behrmann. Here in Sacramento we have?

AQPSD ASSISTANT DIVISION CHIEF EDWARDS: Dave Edwards.

AIR POLLUTION SPECIALIST TRAVERSO: Melissa Traverso.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Beth Schwehr.

AQPSD TOXICS INVENTORY & SPECIAL PROJECTS MANAGER

RUIZ: Gabe Ruiz.

PANEL LIAISON BEHRMANN: And we also have Claudia Nagy from our Legal Office, John Budroe and Daryn Dodge from OEHHA, Denise -- what was your last name?

MS. ODENWALDER: Odenwalder.

PANEL LIAISON BEHRMANN: Thank you, from ARB.

And let me also, Cort, just take a minute to introduce Lisa -- Lori -- excuse me -- Lori Miyasato, who is going to be replacing me as the Panel Liaison. I've told her she did not have to say anything this morning. But let me just briefly, to introduce her, summarize that she has a Bachelor's degree in Biology, a Master's in zoology, and a Doctorate in animal behavior from UC Davis. She's been with -- including her time as a graduate student, she's been with the Air Resources Board for over 15 years. The last 13 and a half years in the Research Division. She's been a research contract monitor. In fact, some of you may know her from her working with you as principal investigators. She's the lead staff person in reviewing air pollution neurotoxicity. And she's been coordinating the Air Resources Board's comments and reviewing the National Ambient Air Quality Standard documents.

PANEL MEMBER BLANC: Well, Paul Blanc here. I just want to say that her expertise in animal behavior

should be useful in dealing with the Panel.

(Laughter.)

CHAIRPERSON ANASTASIO: Well said. Welcome Lori. We're thrilled to you have join us and we look forward to working with you.

DR. MIYASATO: Thank you very much.

PANEL LIAISON BEHRMANN: And I will be sending out a more complete biography of her for your information. So with that, Cort, let me just Check one more time. Dr. Landolph, are you on the line?

Okay. Hopefully, he will be joining us.

Cort, let me turn -- with that, let me turn the meeting over to you then.

CHAIRPERSON ANASTASIO: Okay. Great. Thank you Jim. So we have one main agenda item today. We're going to really get an up date of --

PANEL MEMBER LANDOLPH: Hi. Joe Landolph joining.

CHAIRPERSON ANASTASIO: Welcome, Joe.

So I was just going over the agenda. So we have one main item today. We're going to continue our review of the proposed updates to the chemical list in Appendix A of AB 2588 Air Toxics Hot Spots Emission Inventory Criteria and Guidelines Regulation.

So we're not there in person to chide you to do

this every time, but please be sure to speak into your microphone when you talk, so that the court recorder can get your words and also so people listening on the webinar can you hear you clearly.

And with that, let's go to Agenda Item number 1. So if you remember, the June 28th meeting of 2019, we received an informational presentation from CARB about the program. And then at our last in-person meeting on October 4th, 2019, CARB staff presented a draft proposed changes to the chemical substance list in appendix A of the regulation, including a description of the selection process used in reviewing over 1,300 substances, which they did in consultation with OEHHA and DPR.

So you will remember we received four different documents at our last meeting. And we discussed those documents at the in-person meeting. What we're going to do today is discuss the summary of the comments drafted by CARB staff about our meeting and then talk very briefly, I believe, about some public comments that we received.

Two days ago, we received comments from the American Chemistry Council. And staff is reviewing the comments. But because we have had not much time since we received the comments, we're just going to get a short response from them. And then at our next meeting, they'll give a more detailed response to the comments. We also

received comments from another group just yesterday, I believe it was. So those comments will also be reviewed at our next in-person meeting.

So, Beth Schwehr, the Staff Air Pollution Specialist, and Melissa Traverso, Air Pollution Specialist, from the Air Quality Planning and Science Division will be leading the staff discussion today.

I believe the Panel received a two-page document labeled continuation of the SRP review of the draft proposed updates. So Melissa and Beth I believe will be going over that document.

So, Beth, I'm going to turn it over to you.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you Cort. I'm going to let Melissa start this and then we'll tag team this.

CHAIRPERSON ANASTASIO: Okay. Sounds great.

AIR POLLUTION SPECIALIST TRAVERSO: Thanks, Cort, for the introduction. We'd like to kick-off the continuation of the Panel's review of the draft proposed updates to the AB 2588 Appendix A list of chemical substance by going over some of the key points that we presented at the June 28th and the October 4th Scientific Review Panel meetings. We'll then present a brief update on the work we have conducted to address the Panel's comments and recommendations, and go over the next steps

and anticipated timeline.

As you may recall at the June 28th SRP meeting --

PANEL MEMBER GLANTZ: So excuse me. This is stan. If there are any slides, we're not seeing them. We're seeing like fog, and deer, and water on the beach.

(Laughter.)

PANEL LIAISON BEHRMANN: Dr. Glantz, this is Jim Behrmann. There are no slides. There are just -- you would have received the two-page --

PANEL MEMBER GLANTZ: Okay.

PANEL LIAISON BEHRMANN: -- the two pages titled Continuation of the SRP review. Do you have that?

PANEL MEMBER GLANTZ: Okay. Yeah, we did -- we did get that. But if there are no slides, I'm going to turn the computer off, because watching these deer walk around is very pretty, but it's kind of distracting.

PANEL LIAISON BEHRMANN: That's fine. And also, let me mention for the benefit of persons watching the webcast, the -- both sets of comments received from the American Chemistry Council and also the two-page handout, the one that we're referring to right now, all of those documents are posted on the Scientific Review Panel webpage. And with that, let me turn it back to Melissa.

AIR POLLUTION SPECIALIST TRAVERSO: Okay. So at the June 28th, SRP meeting, we provided you with a

presentation, in which we informed you about our plans to update the Emission Inventory and Criteria Guidelines Regulation. A key piece of these guidelines is Appendix A, which provides a list of chemical substances that may pose chronic or acute health threats when present in air, and which must be reported as part of a facility's emission inventory.

At the October 4th meeting, we presented the proposed updates to Appendix A chemical list and asked for the Panel's input in the for of three questions about any important chemicals missing from the proposed list, the functional groups being proposed by CARB for the inclusion on the list, and whether any chemicals on the, "Not Proposed for Inclusion" list should be added.

I'd like to refer you to the handout that you received yesterday, as we provide an update on the work we have conducted to address your comments and recommendations.

Our first question was are we missing any important air toxic chemicals from the proposed list?

The Panel suggested that we check American Conference of Governmental Industrial Hygienists, ACGIH, values for chemicals to be included. We reviewed the ACGIH list of substances having TLV values as suggested by the Panel. We confirmed that we had already accounted for

many of the ACGIH chemicals, either on the existing Appendix A list in the Emission Inventory Criteria and Guidelines, or being covered in our proposed updates to the list that we have shared with the Panel.

We identified what additional substances there are on the ACGIH list and we are continuing our evaluation of whether any of these should be included in our proposed updates to Appendix A.

We noted that there are a number of pesticides among the additional ACGIH substances. And for pesticides, we have already been working with the California Department of Pesticide Regulation, DPR, to add the pesticides that are registered for use in California and which have reported usage in the Pesticide Use Reports.

So we aren't anticipating that the ACGIH list would result in many new pesticides. We have found that there are some other substances on the ACGIH list that may warrant being added to our proposed update.

We're still in the process of evaluating these in consultation with OEHHA. As one example, we noted that ACGIH includes another hexavalent chromium-containing compound that had not been previously addressed.

Likewise, the Panel suggested that we check the NIOSH list and the Kent Olson handbook. And the Panel

also suggested that perhaps the recent Environmental Health Perspectives article by Barupal and Fiehn could be helpful as a cross-reference of many chemicals.

We have reviewed the NIOSH list and have found that there may be some substances that I've not yet addressed in our review process. We plan to work with OEHHA to review these substances to determine whether or not they meet our evaluation criteria to add to Appendix A.

The Kent Olson handbook, as well as the Environmental Health Perspectives article, include many oral poisons, specialized chemicals, and pharmaceuticals. Many of these may not be relevant to the AB 2588 type of facility reporting or may not meet our evaluation criteria regarding recognized toxicity and the potential to be airborne in California. So we are continuing to consult with OEHHA to evaluate both the NIOSH and Olson lists.

The Panel suggested that all IARC group 1 and group 2, 2A, and 2B chemicals should be on our list. So staff confirmed that all IARC group 1 substances have been included on our lists either under Appendix A1, A2, or A3.

In addition, we have reviewed all the IARC 2A and 2B substances and they have been included on our list, if they meet our selection criteria as mentioned earlier.

The Panel also asked that we expand cobalt to

consider both insoluble and soluble forms. The answer to that is yes. Our plan is to align with OEHHA's new structure of the cobalt health values, including both insoluble and soluble forms.

In addition, the Panel asked us to consider adding rare earth metals and metals using -- used in catalytic converters. Based on the SRP suggestion, we will likely propose to add a number of rare earth metals and metals associated with catalytic converters. However, we don't anticipate that there are likely to be many cases of facilities subject to the AB 2588 Hot Spots Program, who would need to report them.

The Panel suggested we reach or check the E REACH chemical list regarding restricted chemicals or that achieve a certain status. We had previously considered some chemicals from the E REACH list. And based on the Panel's suggestion, we have reviewed the E REACH chemical list more thoroughly. We have identified and added all the persistent and bioaccumulative toxicants that we think would be of concern in California and we are in the process of evaluating some of the other substances of concern on the restricted chemical list.

Moving forward, the Panel suggested we consider adding carbonyl compounds that are used as flavoring -- flavorings for vaping. In our review, we found that many

of the substances associated with vaping are aldehydes. Many aldehydes are already on the existing list and we have further reviewed many additional aldehydes, and have evaluated a number of individual ones to be added to our list.

However, based on our review of the available literature, in our consultation with OEHHA, it appears that not all aldehydes, or related carbonyls, can be considered to be necessarily toxic. So we are not anticipating we would want to add a broad general group for aldehydes, but rather continue to address individual chemicals of concern. And, of course, we are open to any further guidance that the Panel may have.

The Panel also suggested we consider carbon nanoparticles, nanotubes, and nanofibers. We are aware that this is an emerging field that we will need to continue to track. For our current proposal, we have focused primarily on established authorities like IARC in order to decide which nanoparticle-related substances to include.

We have added multi-walled carbon nanotubes, other than multi-walled carbon nanotube 7 as listed by IARC to our proposed update to Appendix A1, which is the list for which emissions must be quantified. And we are open to any further guidance that the Panel may have.

At this point, we could pause for any further Panel discussion on this question number one and then Beth will continue with discussion of question number two.

PANEL MEMBER HAMMOND: This is Kathy Hammond. Thank you very much. This is very, very informative. I would very much appreciate what you've just said in writing, because there's a lot of information there and I won't remember it for later. And I was not able to keep up taking notes, as you were going through it. So that's the first thing.

And then the second thing is, and maybe you'll have this later, I would like to know the chemicals. Like, if you go back to the ACGIH is one example, I'd like to actually see the listing of the chemicals that you decided were not on the list that you're considering, and then which of those that weren't on the list that you're considering you decided were not -- you were not going to put on the list in which you were.

So in other words, more of the details. So both what you've said so far and more details by chemicals. The same with the EU REACH chemicals through all of that, if that's possible.

So that's my first comment. And do you want to say anything, and then I have a second.

AIR POLLUTION SPECIALIST TRAVERSO: Sure. That

would -- I think that would be possible for us to provide you with what I just went over in more detail and then also the list -- the ACGIH list of substances that we are considering to add.

PANEL MEMBER HAMMOND: Okay. Great. And then the second thing is you commented that not all carbonyl compounds are toxic. I'd be very interested in knowing what carbonyl compounds are not toxic. Because I think, as a functional group, it is in and of itself a reactive compound, and on what basis you decided a carbonyl compound was not toxic. So if you have some of those compounds, I'd like to know them.

AIR POLLUTION SPECIALIST TRAVERSO: Okay. I'm turning to Beth to see if she knows any particular chemicals

STAFF AIR POLLUTION SPECIALIST SCHWEHR: We'll gather some of our references together. There's a couple of papers that we looked at since sour last meeting. And some of -- one of them is about the molecular mechanisms of aldehyde toxicity, chemical perspective, and we'll look at some other things.

PANEL MEMBER HAMMOND: Well, that sounds very interesting and I'd love to have you share that with me.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Yeah, so we'll -- we'll be consulting --

PANEL MEMBER HAMMOND: So I can be educated. I've always -- all of you always educate me, and I just need to continue to be educated.

Thank you.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Yes. And we'll consult further with our partners at OEHHA and see what we can come up with to give you some information on which ones we're choosing and how we're -- how we're looking at that.

PANEL MEMBER HAMMOND: Thank you.

PANEL MEMBER KLEINMAN: Lori, this is Mike. Two questions. One is when you look at the ACGIH list, did you also look at the list of under-study compounds. These are compounds which are not necessarily in the book yet, but are being considered for a guideline.

And the other question is related to the catalytic metals. Are there facilities in California where they process these catalytic metals, especially to reclaim, you know, the precious metals that are in them.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: This is Beth. We are -- let me address the under studied compounds question. I think we focus primarily on the list from ACGIH that had TLV values. We can go back and take a look at that. I wasn't as aware of the under studied list, but we'll go back and look at that.

On the catalytic converters, one of the things we were thinking would have a concern would be the -- like the metal scrap recycling places, that sort of thing. But our understanding is that because they are pretty valuable, most of the catalytic converters are taken off before cars are crushed and that sort of thing. But whether there are any facilities that are actually doing some of the actual processing of those in California, we'll have to double check.

PANEL MEMBER KLEINMAN: Okay. Because with the lead industry, you know, reclaiming lead batteries and things like that has become an issue. And -- so while we're talking about reclaiming, is there any -- any industry application right now for reclaiming lithium batteries, and alkaline batteries, and that sort of thing in California?

STAFF AIR POLLUTION SPECIALIST SCHWEHR: I understand that there is a growing industry in that. We have some other groups at the Air Board that would be familiar with that and we'll double check with them about whether any of those facilities are looking like they're coming into California.

PANEL MEMBER KLEINMAN: Thank you, Beth.

CHAIRPERSON ANASTASIO: Great. Thank you. Any other comments, Panel?

Okay. If not, Beth, do you want to continue with number two?

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you. Yes.

All right. So the second question was are the functional group characterizations for emerging chemicals appropriate and adequate? Are there other functional groups to add?

The Panel's feedback on this question was that the functional group's approach is a good idea. In addition to this three proposed functional groups, the Panel suggested that staff explore whether to include some possible additional groups. And we'll summarize our thoughts so far on these.

One was suggested that freons and other fluorinated chemicals. We have already included as one of our proposed functional groups many subclasses of the per and polyfluorinated substances. And we also include many individually listed fluorinated substances.

We're continuing to review these types of chemicals, including the freons, HCFCs, and related fluorinated chemicals. It's our understanding that not all freons, or other fluorinated compounds, necessarily have toxicity concerns that would warrant their inclusion. So creating a functional group class for the freons and

other fluorinated chemicals may be too broad and may not be appropriate.

Many CFCs, HCFCs, and HFCs are covered by bans and phase-outs as well, such as the Montreal Protocol. So rather than a functional group approach, we have covered individual freons and fluorinated chemicals. That have recognized toxicity per the source list specified by AB 2588. Going forward, we will continue to explore, and track this topic, and, of course, are open to your suggestions.

Methylating agents were another suggestion. We explored the possibility of adding this class as another functional group. But it appears that the exact chemical structure of each molecule can greatly affect the electrophilic properties, and the availability and strength of the methylating character and enhance its toxicity. It appears it would be very difficult to adequately and clearly define a group to address those with methylating potentials warranting concern.

Instead, we have reviewed additional data for individual known methylating agents, and we do plan to propose adding several of these to our Appendix A update list. Some examples include iodomethane, methyl triflate, diazomethane, methyl fluorosulfonate among others.

Aldehydes were another suggestion. We've talked

a little bit about them just now. Many aldehydes are already individually listed and we explored the possibilities for a functional group approach for the aldehydes. But from what we've seen so far, the available research and structure activity tools indicate that the overall molecular structure strongly affects the toxicity of the aldehyde. And mechanisms are not understood yet well enough to clearly and straightforwardly define a class or subclasses, for those that warrant concern.

So at this time, we've taken a chemical-by-chemical approach for considering aldehydes for proposed inclusion on the Appendix A list. We will continue to track the state of Emerging data and tools.

Epoxides and other reactive chemicals in epoxy mixes were also suggested. We considered a functional group approach, but there appears to be many complications that might not make it feasible. There are many epoxides that are metabolic intermediates. Epoxides may be generated from emissions of things like PAHs, but the epoxide itself is not the emitted substance that's used or released from the facility. At this time, the most feasible approach appears to be inclusion of specific substances or resin systems that are identified as having toxicity concerns per the source list specified in AB 2588. Some examples include

bis(2,3-epoxycyclopentyl)ether and Epikote 1055.

Going forward, we will continue to explore and track this topic, and in particular, we are interested in data on any stable epoxides used in industry. Other categories of PAHs, for example, nitro-PAHs or polycyclic aromatic quinones, were suggested.

We addressed many individual PAHs, as well as various substituted and PAH derivative compounds already on the list, and we are proposing to add others. Simple group headers can also be useful to organize closely related chemicals together for display purposes on the list in order to provide context. For example, it can be helpful to organize the various individual nitro-PAHs together when listing them.

However, from the available data, not all pilot -- polycyclic aromatic chemicals can be presumed to have toxicity warranting their inclusion on the list within a broad functional group type class.

We have proposed one PAH related functional group for inclusion, which covers any polycyclic aromatics containing a halogen atom, chlorine, fluorine, bromine, or iodine, because anything in this class can be reasonably expected to have toxicity concern warranting inclusion. In our review so far, we have not been able to identify any other subclasses that appear feasible for a functional

group approach.

CHAIRPERSON ANASTASIO: Beth, can you say something about strobins?

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Yes. Strobins, which include the fungicides used in purple drywall, were also suggested. We are considering adding individual examples of strobins. However, we have not found adequate data for us to define a broad functional group class at this time.

Do you want to pause here for questions on -- comments on question two?

CHAIRPERSON ANASTASIO: Yes, please.

Panel, comments?

PANEL MEMBER BLANC: So Paul Blanc here. I think your comments point out that there are two ways that you can inform your process by functional groups. And I think one of them is, as you alluded to, is using the functional group as a red flag for you to identify individual chemicals that you're going to list individually. And I think that's -- that's perfectly appropriate, and that's fine to do.

So, for example, if in your review you find that something is a methylating agent, and it's a potent methylating agent, it would be a criterion for you to then consider it for listing, assuming it meets your other --

your other criteria such as it gets into the air and it's used in the state and so forth.

And the other flip side of why you -- when you should think about functional groups is in areas where you anticipate the industrial modification of materials is so rapid and changing that it's not going to be possible for you to get a list, which is going to be sufficiently inclusive. That is to say that you may have a list of what's on -- in use as of December 1st, and March 1st there's going to be a new one you could anticipate.

So in the list as you go through it, I think that's worth thinking about. And of all of the ones that you've just gone through and none of which are feasible in your assessment to use as a functional category, I think the one that I wonder about most would be the freons and other polyfluorinated materials, because those -- I understand your point that they're not all equally hazardous, and that some of them are being phased out.

But that is an area in which things change industrially. And I'm not contradicting your decision not to have it as a functional group, but I'm saying those are the -- to me, the two sides of the question you should think through. I have no problem with doing it chemical by chemical, if it's feasible to do and it's probably cleaner. As long as you don't think that there's such

instability in what's being manufactured that you're going to have problems.

I mean, that's been -- that's your rationale really for the isocyanate functional group, which you are retaining, if I remember, is that correct?

STAFF AIR POLLUTION SPECIALIST SCHWEHR: That's correct.

PANEL MEMBER BLANC: So that's a great example. Isocyanates, you know, every week they come up with some new variant isocyanate. And for a lot of them, in fact, that's been a problem why NIOSH doesn't have recommended levels for many of them, because they just haven't kept up.

And that's a good example where the ACGIH does have criteria for some of them that actually NIOSH doesn't. So I just -- it's just an observation. It's not a directive in any way. It's just what I think would be a useful way of organizing your thinking going forward.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you. That's very helpful and we will continue to really look at that.

CHAIRPERSON ANASTASIO: Other comments?

PANEL MEMBER GLANTZ: Yeah. This is Stan. I have one -- just to tag on to what Paul said. If you're trying to make this list looking forward, you might have a

sort of secondary list of things which are not currently being used in California, but that if somebody starts using them, you want to know it. So you don't go through the whole effort of coming up with risk numbers, but it's something that, you know, could potentially be toxic. If it's introduced then, at that point, it would -- might be a subject of more careful scrutiny.

I mean we're seeing this in looking at how the FDA has been handling toxins and e-cigarettes. They have a list of bad things in cigarettes. So what the tobacco companies are doing is engineering the products to avoid things on that list, and then -- but in the process of doing it, a whole bunch of other bad things are being increased.

So I think since these -- you know, people do look at these lists in terms of making management decisions. And so just to have something with it that might be a potential concern, if they start using it. It might be good thing to at least put industry on notice of. I don't think -- I agree that you don't want to go do a full blown analysis of things that aren't currently in California. But if something is coming, it would be good to know it.

CHAIRPERSON ANASTASIO: Thank you, Stan.

Other comments?

PANEL MEMBER KLEINMAN: This is Mike. Just thinking that -- excuse me -- compounds like the HCFCs were created because they react in the atmosphere and don't each the stratosphere. What do we know about derivatives of some of these compounds? And it may be that even though the parent is not very toxic, a derivative might have more toxicity associated with it.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: We're going to bring John Budroe from OEHHA here.

DR. BUDROE: Good morning, Dr. Kleinman.

One thing you want to remember when talking about this is you're looking at chemicals that are likely to be emitted in California. If you're talking about a derivative, that's something different. Technically speaking, it's not something that's going to be emitted from a facility.

CHAIRPERSON ANASTASIO: That's an interesting question though, John. I mean, if the initial emission is not toxic, but it makes a highly toxic product in the atmosphere, that could not be regulated under 2588?

DR. BUDROE: That could be, but where I'm going to is more without having that kind of information in mind, at what point do you make the list so large. You know, you -- say you have a -- given freon, how many different degradation products can you have and you list

all of them?

CHAIRPERSON ANASTASIO: Yes. Yeah, I mean it definitely makes things more complicated.

PANEL MEMBER BLANC: Isn't that the whole rationale for the functional group approach? Maybe I'm -- maybe I'm missing it. But my understanding was so that they didn't clutter it up with a gazillion variant things. For certain functional groups, they would just say if it's not otherwise listed, but it's got this functional group, you're going to have behave accordingly. But maybe I misunderstood the whole goal of the functional group approach.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: This is Beth Schwehr. No, that's correct, Dr. Blanc. And, yes, I think, to some extent, we would definitely consider that if something is emitted, but it does form something else, we could certainly consider that. We'll talk more with our legal folks about it, but I think that that's something that we've, in the past, thought that would be true.

I think it's a balance here. We have to try to figure out what we can do. And we'll also dig more into some of the data about these particular compounds and just see what we can come up with. And we'll consult with John Budroe further about this.

CHAIRPERSON ANASTASIO: Thank you, Beth.

I have one suggestion for a possible functional group category, which is peroxides. They're used as radical initiators in a lot of industrial processes. And I -- and at least some of them have toxicity. I don't know if there's enough uniform toxicity across the group that you could list them as a functional group. But it's at least worth considering looking to see what is emitted and what the toxicities are of some peroxides.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Great. Thank you for that suggestion.

CHAIRPERSON ANASTASIO: Any other comments on item number two?

PANEL MEMBER KLEINMAN: This is Mike. Just one other thought in terms of aggregating. Sometimes we could look at things, you know, in terms of categorizing them on a specific biological response. For example, compounds that are respiratory sensitizers, if -- you know, which may be sort of the critical endpoint, and, you know, in determining, you know, what would be allowable. And it might be useful to see if things that are -- you know, fall from this category of respiratory sensitizers could somehow be a way of aggregating and coming up with something -- you know, a common level that might be helpful.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you for that suggestion. And I will say that as we've been evaluating chemical by chemical during our review, if we saw any evidence of sensitization as one of the endpoints, we definitely gave that chemical high priority.

CHAIRPERSON ANASTASIO: All right. Thank you, Mike.

Any final comments on number two?

If not, let's move on to number three.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you. Our third question was are there any chemicals on the "Not Proposed for Inclusion" list that should be included in one of the Appendix As?

The Panel suggested we consider a wide vapor pressure range for substances that might partition into the gas phase or otherwise become airborne. We have definitely tried to take this into consideration during our case-by-case review throughout our chemical substance review. We have not limited inclusion based on applying a rigid vapor pressure range.

For example, we have included some solids where there may be a mechanism whereby it could become airborne, such as through fugitive dust releases.

CHAIRPERSON ANASTASIO: Yeah. Sorry. Continue, Beth.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Should we just continue?

CHAIRPERSON ANASTASIO: No, sorry. Anything else on three that you were going to say?

STAFF AIR POLLUTION SPECIALIST SCHWEHR:

That's -- that was all I had for that.

CHAIRPERSON ANASTASIO: Okay. I think this is my comment in the meeting. And it came about because I think you had stilbene listed on the "Not Proposed for Inclusion". And I thought it was because of the vapor pressure was considered to be too low. But I think stilbene is -- probably has sufficient vapor pressure that it's still going to get airborne in a facility and still get emitted potentially, and then maybe it will partition to particles in the colder ambient air. So that would be one specific one I would suggest you look back at.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Thank you. We will.

PANEL MEMBER BLANC: Paul Blanc here. Yes. I was just going to say your general approach I think is wise. And even in addition to that, I would say that aside from solid particles, scenarios that are very likely to generate liquid aerosols would equally be appropriate. I mean, I think that Kathy could comment on this in greater detail than I, but this has been a big issue with

isocyanates, which have been promoted by the industry as being not a big deal because they don't vaporize.

But unfortunately, most of the activities that they're used in very effectively generate aerosols. So the issue, the vapor pressure out of context is almost irrelevant.

PANEL MEMBER KLEINMAN: Yea, this is Mike.

PANEL MEMBER HAMMOND: I think you said -- you said it well, Paul. This is Kathy. You've said it fine.

PANEL MEMBER BLANC: Thanks.

PANEL MEMBER HAMMOND: And I totally agree with you.

PANEL MEMBER KLEINMAN: Yeah, this is Mike. One of the things you might look at when you look at the ACGIH list, they have a category -- you know, when they set a guideline, they also specify how it is to be determined. And they've developed a -- you know, I don't know how good it is, but a rule for determining which compounds will have some appreciable exposure potential as a vapor and as a particle. So if you look at the notations on the ACGIH list, it will have IPV, inhalable particle and vapor. And that may be a good way to flag some of these compounds, you know, that might have a vapor component to it.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Great suggestion. Thank you. And I will add, we also, when we

were reviewing individual chemicals, we would look at the usage that is expected and predominant for those chemicals. And if we saw things like it's used in a hot environment, like a classic one, is something that would be used on a -- sprayed on a hot automobile engine, for example, that kind of thing we know would volatilize. So yes, we're thinking of those things. But these are excellent suggestions for some additional systematic review.

CHAIRPERSON ANASTASIO: Any other comments about three?

Okay. If not, let's move on to four.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Okay. The 4th question was that in addition to providing input on our questions, the Panel also offered other general comments.

So I'll go through some of these. And I'm going to group a couple things here. Why not include cardio and pulmonary toxicants as a separate category? And it would be good to see the existing list broken down into the same categories that we were showing for the proposed list. And we might want to consider including other organics as a category.

In response to these three suggestions, I want to say that it's important to revisit our original reason for

categorizing the substance list. In order to facilitate the review of this rather lengthy list, we heard suggestions to identify some key types of categories. Some were regarding types of health outcomes of particular interest to the Panel members, such as cancer, versus developmental effects, versus neurotoxin effects. Some were regarding types of chemicals, such as metals and other inorganics. And some were regarding types of uses, such as pharmaceuticals versus pesticides.

It was not our intent to try to provide a comprehensive framework of all types of effects and categorization. For example, for health effects, our main focus was on simply tagging the effects that are officially identified by some of these source lists from which they were derived, for example, flagging the Prop 65 cancer and DART categories, which are assigned under Prop 65 itself.

For other types of effects, such as cardio and pulmonary toxicants, none of the source lists provide an authoritative categorization of that. And we ourselves do not have expertise in making those categorizations.

The Panel also suggested that we add columns for the health outcomes, the chemical types, and source lists. And the Panel indicated they would like to see the list combining both the existing and the proposed new entries.

In response to these requests, we are in the process of creating and populating columns that do flag and categorize the health -- key health outcomes and the types of chemicals that we've discussed.

Columns were already included in the source lists -- for the source lists where the chemicals come from, as well as available information regarding the predominant uses of the new substances. So we are working on extending these features to both the existing and proposed new substances.

We're also currently working on combining the existing Appendix A list with our list of proposed new additions. This will facilitate the review process and provide context with the overall list. The process is time-consuming, because careful integration also involves resolution of any seeming duplicates with overlapping substances -- substance names and any seeming duplicate or conflicting CAS numbers.

The Panel also suggested we may want to look into cannabis-related emissions. We learned at the recent CAPCOA symposium that the cannabis extraction processes can be quite large and quite similar to other big industrial processes that use large quantities of certain solvents for extraction.

Any of the toxic solvents used in the extraction

process are generally already reportable on our existing Appendix A. The actual growhouses are considered as agriculture by most air districts and would not generally be anticipated to be subject to AB 2588 applicability provisions.

And while most end uses involving personal smoking or vaping would generally not be subject to AB 2588 facility applicability, we are considering the possible addition of environmental cannabis related smoke and environmental cannabis related vaping vapor analogous to the current Appendix A1 listing of environmental tobacco smoke.

So before I discuss the next steps and timeline, are -- I want to pause here for additional discussion.

PANEL MEMBER BLANC: Paul Blanc here. I think it's fine. I think the reason why there were comments about the categories is that it wasn't entirely clear. Hypothetically suppose something wasn't a carcinogen, and wasn't a metal, and wasn't otherwise listed, but it was -- caused, you know, acute lung injury, would it -- would it not appear at all? In other words, conceptually, was there a category of other not elsewhere classified, which you would only have to use, if you hadn't already -- to be -- to avoid, you know, busy work, if there was something which just didn't fit in very well anywhere

else. Because if you've already -- if it's already a metal, but it causes lung injury, you don't have to create some separate listing for a lung injury.

So just remind me, because I don't have the list open, how are things handled which you want to list, but you can't categorize in one of your existing categories or has there not been such a substance?

STAFF AIR POLLUTION SPECIALIST SCHWEHR: We would have put them into our master list, so you would definitely see it in the combined master list. But for the Panel's review, we had then subdivided them into subfiles that we provided that were just the carcinogens, for example, on request by the Panel. But we had another file that we called other at that point, just to make sure that you would see everything.

PANEL MEMBER BLANC: Okay. So that --

STAFF AIR POLLUTION SPECIALIST SCHWEHR: But the master list definitely had everything.

PANEL MEMBER BLANC: Good. Well, I think that's fine then. And what you might want to do also internally, not to make as part of a document, and not even to share with us necessarily, but just for your own conceptualization, is make for yourself some kind of Venn Diagram, so that you have a sense of how much you think some of these things are overlapping or not overlapping.

Just that -- if it was helpful to you. I don't need to see it, but I think that's where some of these comments came from. We were thinking in Venn Diagram terms and couldn't get our arms around it necessarily.

PANEL MEMBER GLANTZ: Yeah, I mean, I actually think that is a good idea, because, I mean, there are a lot of air pollutants that do have cardiac toxicity, which people don't really appreciate, for example. And you know, probably less so for pulmonary. But I think we want to keep those endpoints visible. I mean, we don't need to have the same thing listed in seven different places.

But taking those endpoints into account in the analysis, I think is -- how you do it is up to you, but I think it's something that you do need to be considering.

PANEL MEMBER BLANC: Well, they have this -- these columns -- this column check, then it will be there.

PANEL MEMBER GLANTZ: Right. I don't remember -- I don't have the whole list in front of me either, but I don't remember columns for cardiac and pulmonary.

PANEL MEMBER BLANC: No. No. They might have to -- you might have to add columns for cardio and pulmonary. And I think that's what you said in the comments. Rather than have a -- not a separate section, but you'd have a column for it.

PANEL MEMBER GLANTZ: Yeah, that would be fine.

PANEL MEMBER BLANC: And bearing in mind that you may -- you know, you may -- it may not be obvious to you that there is cardio pulmonary toxicity. And then somebody from our group or from somewhere else will say, wait a second, you know, you should also check the column on that substance.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Great. Thank you.

CHAIRPERSON ANASTASIO: Any other question four comments?

Okay. If not, Beth, you want to talk about next steps.

STAFF AIR POLLUTION SPECIALIST SCHWEHR: Yes, thanks. So I'd like to address the next steps for the review of the Appendix A list of chemicals. After we have satisfactorily addressed the Panel's comments and recommendations from the October 4th and today's meetings, CARB would like to request a letter of support for a similar document memorializing the Panel's general approval of the proposed updates to the list and any additional directions provided to CARB staff at these meetings.

CARB staff would then initiate the formal rulemaking process to amend the Emission Inventory Criteria and Guidelines Regulation. And we will apprise

the Panel of any additional changes arising from the public process.

CARB staff may request a final letter of support, if there are substantive changes to the Appendix A chemical list. And the anticipated timeline for these next steps would be as follows:

The Panel would provide an initial letter of support by say February of 2020. We expect to start the public workshops on the Emission Inventory Criteria and Guidelines Regulation updates in spring of 2020. We anticipate taking the amended regulation to the Board in late 2020. CARB and the SRP will revisit Appendix A chemical list to draft a final letter of support as needed.

And that -- that concludes what I had wished to present.

Is there any further discussion?

CHAIRPERSON ANASTASIO: Yeah. I think the letter of support is a good idea. And I like Kathy's suggestion of a detailed -- you know, essentially what you said orally today. It would be nice to have that in written form. And then I think based on that and our comments today, we can come up with a letter of support from the Panel.

I don't know, Jim, do you have any thoughts about

that process?

PANEL LIAISON BEHRMANN: I think your suggestion is a good one. We plan to also meet with our legal staff to assure that the form of the Panel's communication is proper.

CHAIRPERSON ANASTASIO: Okay. Good.

PANEL MEMBER BLANC: Yeah. Jim, Paul Blanc here. I think that was what I was going to ask is from a regulatory point of view, since this is different than the task of commenting on a proposed document saying that we've reviewed it scientifically and found it to be appropriate. It's -- which is a regulatory role that's clear for the Scientific Review Panel. The legal input should be just as you indicated, that what is it actually that we're doing, and is it -- how do we make that within the scope of our -- our delineated responsibilities.

SENIOR ATTORNEY NAGY: Good morning, Panel. This is Claudia Nagy. I'm one of the lawyers here.

I can offer some initial thoughts. Because you are a Bagley-Keene, a body, only a subquorum can meet outside of the public forum to draft the letter, if you wish to do so. And then the draft letter could be presented to the full Panel at a public meeting, and the Panel can vote on the -- or decide to approve the letter.

Alternatively, we can -- staff can perhaps draft

a letter and send it to the Panel for review before the public meeting. And that is acceptable under Bagley-Keene, as long as we make that letter available to the public at the public meeting.

So those are some options. But a quorum of the Panel, which would be five members, cannot meet outside of the public forum. That would be prevented by Bagley-Keene.

PANEL MEMBER GLANTZ: Well, this is Stan. I mean what I would suggest is that we follow the protocol we use on a lot of the reports. And that is maybe to designate a couple -- you know, two, maybe three, Panel members as the leads to work with staff to draft the letter, so it's not a quorum. But you -- if you pick like the two or three most knowledgeable people, which for this task would not include me, because I'm not a chemist.

PANEL MEMBER BLANC: But I thought curmudgeon was a talent.

PANEL MEMBER GLANTZ: Well, that too, but I can do that later.

(Laughter.)

PANEL MEMBER GLANTZ: But I think -- I think rather than just leaving the staff to do it all by themselves or, you know, maybe just one Panel member, I think, you know, these are complex issues and there is a

lot of expertise on the Panel. So if the Chair or the Panel were to designate two or three people to work with staff in drafting the letter, that would move the process forward.

SENIOR ATTORNEY NAGY: And that would be acceptable from a Bagley-Keene perspective. Yes, that would be --

PANEL MEMBER GLANTZ: Yeah, and that -- and that's how we've done in things in the past.

PANEL MEMBER BLANC: But I think you skipped what is really my question is that normally what we're doing is not writing letters of support, we are writing an opinion as to whether a document is appropriate scientifically. That's not a letter of support.

PANEL MEMBER GLANTZ: Right. Well, I think that's what we ought -- that's what we ought to do is we should actually say we agree this is appropriate scientifically.

SENIOR ATTORNEY NAGY: When the sub --

PANEL MEMBER GLANTZ: So what I think the letter -- I think the letter ought to be structured the way, you know, we do it --

PANEL MEMBER BLANC: Of findings.

PANEL MEMBER GLANTZ: Of findings. Yeah, it should be modeled I think on our findings letters.

PANEL MEMBER BLANC: But do we actually -- can we presume that we are empowered to have findings for this process. That's -- it's really a very technical question I'm asking. And it's not because I'm opposed to us opining, but I just want to make sure that we're not overstepping in this process what -- or taking upon ourselves a role which falls outside of what we are instructed to do generally empowered to do, delegated to do. And I think for that we need some legal comment.

SENIOR ATTORNEY NAGY: My legal comment would be that findings are not required in this case. I looked at the Health and Safety Code just recently. Findings are only -- formal written findings are only required if the Panel is evaluating the Health Impacts Report.

So in this case, if the Panel wishes to provide a document and call it findings, I don't see any problem with that. However, findings -- formal findings are not required.

PANEL MEMBER BLANC: But they're allowed, you're saying?

SENIOR ATTORNEY NAGY: They are allowed, sure.

PANEL MEMBER BLANC: Okay. That's all I wanted to know.

PANEL MEMBER KLEINMAN: This is Mike. And this seems like it's analogous to the process we use when we

talked about the risk assessment guidelines. We looked at the scientific basis for how those guidelines were established, and then, you know, provided findings on the scientific issue. So I agree with Stan, this is probably, you know, a way that the Panel has been comfortable in operating.

SENIOR ATTORNEY NAGY: And you may wish to --

PANEL MEMBER GLANTZ: Yeah, I think -- I think the point Mike is making that this is very much analogous to the -- I mean, we've done -- you know, processed several reports, where we developed risk assessment guidelines. There's been three or four of them. And this to me -- and we've done a couple of priorities documents too. And so I think this is very much in that spirit. So we should look to that as the model for what we did.

PANEL MEMBER BLANC: I guess I also would appreciate input from the Panel members on the call who haven't spoken yet today.

CHAIRPERSON ANASTASIO: Specifically as to what, Paul, as to the nature of the SRP response to CARB?

PANEL MEMBER BLANC: Well, they haven't commented on the individual things. I'll let that go. But now we're talking more globally about our role in opining on the scientific process used. And that we -- we will give an interim approval of that. And I want to make -- I

personally would want to hear from my fellow panel members who haven't spoken, whether that general direction they're comfortable with. Like Michael, and Stan, and I have, by our comments, generally -- and yours, generally suggested that that's an acceptable way to go. But I think the others, Dr. Ritz, for example, should speak up.

CHAIRPERSON ANASTASIO: Okay. Other Panel members, your thoughts about a findings letter?

PANEL MEMBER BESARATINIA: Yes, this is Ahmad. I'm still a little bit unclear about the purpose of this initial letter of support, what purpose it's going to serve. What is -- is it a requirement at this stage?

CHAIRPERSON ANASTASIO: Dave or Beth, do you want to speak to that.

AQPSD ASSISTANT DIVISION CHIEF EDWARDS: Yeah. This is Dave Edwards from ARB. It's not necessarily a requirement under our Health and Safety Code statute to do this. However, given the sort of lifecycle of how the SRP reviews many of these things, we thought that it would be beneficial to allow you all to weigh in on this list, because it sort of is the beginning of the lifecycle for these -- for the final factors that you do review for the specific chemical compounds.

And so given that, as opposed to doing something more informational, where we just sort of show the list,

we were -- we wanted to have a more broader engagement. And so at the end of the day, this feedback has been very useful that you've given and we would want to memorialize that in some way, so that when we are moving forward, we have something to say for our -- in our public process that we did go through this initial round of improving, and updating, and solidifying this chemical list, so that we can use that throughout our public process.

SENIOR ATTORNEY NAGY: This is Claudia again, if I could just add something. You might wish to maybe call it an initial letter of support in case you make provisions later for an initial, you know, findings. You may --

PANEL MEMBER GLANTZ: Yeah, I think -- I mean, I think though that we should -- we could make preliminary findings. In all the years I've been on this Committee we've never written a letter of support. So I think -- I think we should just -- we could call it preliminary findings, if you want it. But I think, you know, what -- what we've always done is, you know, drawn some specific conclusions.

PANEL MEMBER BLANC: Yeah, or actually interim findings is perhaps more precise.

PANEL MEMBER GLANTZ: Yeah.

PANEL MEMBER BLANC: We're beyond preliminary.

PANEL MEMBER RITZ: So this is Beate, I -- hearing all this, I feel it's not the findings we are adopting or saying they are fine, it's the process.

PANEL MEMBER BLANC: Yes.

PANEL MEMBER RITZ: And the process is fine.

PANEL MEMBER BLANC: Yes. That -- I think the analogy that was raised to the process proposed for --

PANEL MEMBER GLANTZ: Yeah.

PANEL MEMBER BLANC: It's very parallel, I guess.

PANEL MEMBER GLANTZ: Yeah, we've gone through -- I mean, these are things -- in fact, I was the lead on most of them, or one of the leads, where we've developed like guidelines for stochastic risk modeling which is the most recent one. Another -- you know, the process for developing the non-cancer RELs. And so those are -- those are process documents, rather than a specific this chemical is -- you know, has these risks associated with it. But we did issue findings saying that we think the procedures embodied in the document were acceptable.

So I think that -- we should just -- or ARB should just go back and look at that -- those records, and we should just continue through an analogous process. You know, it's -- I mean, as I said, I don't ever remember writing a letter of support.

But my larger point though is I do think we --

that we need to Designate two or three Panel members to actively work with staff in generating -- whatever we call it, in generating that letter, so that we can have at least some preliminary technical, you know, input into the development of the letter before it comes to the Panel's -- to sort of speed the process.

CHAIRPERSON ANASTASIO: Yeah. I think that's a good idea.

Jim, do you think it's good to try to get the leads now over-the-phone or should we do that post meeting over email?

PANEL MEMBER BLANC: I suggest you do it post meeting --

CHAIRPERSON ANASTASIO: Okay.

PANEL MEMBER BLANC: -- so that no one is put on the spot in the group for -- and maybe side-bar conversations that in subquorum ways we might want to have.

PANEL MEMBER GLANTZ: Yeah, I mean, I think the -- I mean, like I -- this is one that I don't feel I would be appropriate, because my areas of expertise are really not, you know, central to these discussions. But I think, you know, the Panel does have people with different specific expertises. And, you know, deciding which of those areas of expertise are most relevant to moving this

process forward, that's how I would try to select the people to do this.

Because, you know, we'll get to the public comments, but the industry was not like wildly excited about what's going on here. So I think -- and we are breaking some new ground, so we want to make sure that we have -- you know, the best -- you know, the most -- the technically most knowledgeable people involved with developing this letter.

CHAIRPERSON ANASTASIO: Okay. Okay. So we'll plan to do it over email. I think that's a good suggestion.

PANEL MEMBER LANDOLPH: Yeah. This is Joe Landolph. I hadn't had a chance to weigh in yet. I'm generally in favor of the letter with findings and, you know, indication that the Panel participated in this process, and is in support of final product, and perhaps any further short recommendations we might have, if we come up with any new ones is a good thing. So I'm in favor of everything that's gone on so far.

CHAIRPERSON ANASTASIO: Thank you, Joe.

PANEL MEMBER KLEINMAN: This is Mike. Do we have -- or, you know, is there a way, you know, or a, you know, some sort of formal way that it is decided which of the compounds or groups off of the shopping list will be

given priority in developing guidelines and other things? You know, and if so, you know, maybe that would be part of the total package.

CHAIRPERSON ANASTASIO: John Budroe, you want to speak to that?

John, are you with us?

DR. BUDROE: Sorry about that. Yes, I could.

CHAIRPERSON ANASTASIO: No problem.

DR. BUDROE: Could you repeat that question?

PANEL MEMBER KLEINMAN: The question is there are, you know, decisions that are made as to which compounds are going to be reviewed and, you know, put up for guidelines. And I'm wondering if there are rec -- you know, a way of putting those down in paper that might be useful, and may be the Panel would have suggestions as to how to kind of tune which are the next candidates off the shopping list.

DR. BUDROE: Well, are you talking about candidates for addition to the emissions inventory or candidates, for example, hot spots, REL, or cancer unit risk development?

PANEL MEMBER KLEINMAN: Well, I'm thinking more in terms of the hot spots, RELs, and unit risks. But -- yeah, you know, I think it would be very useful to have a -- you know, an understanding, and maybe even review the

process of, you know, how we are going to, you know, select, you know, compounds of interest and at what degree we want to go after them.

DR. BUDROE: Well, if you're talking about a priority order for a OEHHA, I mean, there's a lot of judgments that would come in other than, you know, what you've been describing. For example, the air districts has specific interest, and those suggest chemicals. ARB has specific interests also and they'll do the same. So it's trying to say that we're going to take the emissions inventory list and have that be the sole determining factor as far as what -- what chemicals that OEHHA is going to start work on.

And I've mentioned this in the past, we don't have the capability to do dozens of chemicals in a year. So what you're talking about is discussing how you're going to do maybe somewhere between four and eight chemicals at any one given time. So whether it's really useful to have a very formal process to make those kind of determinations is something I think we need to talk about in more detail.

PANEL MEMBER KLEINMAN: Yeah, I wasn't thinking in terms of a formal process. I was thinking more of, you know, even sort of a decision tree, just so we all have an understanding of what goes into picking, you know, where

you're going to be putting your effort. I -- you know, this is just, you know, one of my areas of curiosity. I don't think it's necessary for, you know, this particular process. But at some point, it would be good to, you know, have a real understanding of where do these decisions come from?

PANEL MEMBER GLANTZ: Well, actually -- this is Stan again -- we actually have weighed in on prioritization several times over the years. And, you know, I mean, we don't come down with a do this, then do that, then do that, but, you know, coming up with broad, you know, high, medium, and low priority type lists. And, you know, that -- this process may be ripe for us also, you know, suggesting that. Although, I think we're not quite to the point of doing it.

But that could be something to add to the -- you know, between now and coming up with a more final document that we would sign-off on, to not only be the sort of general classification, but some suggestions of which things ought to be done first.

DR. BUDROE: Okay. Well, one caveat I have with that is the more formal of a process you have, the less flexibility you have in that process. And I know that a number -- several of the chemicals that have been entered either -- have been entered in in the hot spots process

likely. And I'm thinking of parachlorobenzotrifluoride being one, where an air district asked us to look at that.

Trivalent chromium that we essentially generated that ourselves, because looking at the fact that it's become more and more of a strategy for air districts to control hexavalent chromium emissions, but there was no health data available for it.

Cobalt, which was primarily done because of a recent NTP study, it's -- you wind up having to react sometimes to information that wouldn't have necessarily been on a list -- prioritization list that you've generated, especially, like I said, with -- you know, it's not like you're talking you're doing a hundred chemicals a year and you've got some wiggle room. You know, you're doing four to eight tops. And the more formal you make the process of prioritizing what you're going to be doing, the less flexibility you've got when something pops up that you didn't see coming.

PANEL MEMBER GLANTZ: Well, no, I think -- I mean, I understand that and I'm not talking about a rigid list, but, you know, I think the Panel has helpfully, you know, contributed to sort of broad prioritizations. I mean, they're not locked in stone. But in saying, you know, when you look at the apparent toxicity and what we know about the levels of exposure, these things were sort

of the highest priority, and, you know, others are lower priority, but, you know, taking into account the fact that things change.

But I think -- I think -- you know, that's something to kind of put on the side right now to think about getting to later. I think that there's a lot of stuff on the table before we get to that in this process. But I'm just saying we ought to just put it on the agenda to think about later.

CHAIRPERSON ANASTASIO: And I agree with Mike's comment, John. Even if you just give us an informational presentation about these are the ways in which compounds rise to the top of the list, that would be helpful to understand. And then if Panel members have suggestions about specific compounds, you know, that would only be, you know, these are suggestions. It wouldn't be anything binding for OEHHA.

PANEL MEMBER GLANTZ: Well, I don't -- I don't want to beat a dead horse, but, I mean, we've done at least three, that I can remember, prioritization documents over the years. And it might be useful for OEHHA to go back and just take a look at those.

PANEL MEMBER BLANC: And the fact that very little has ever come out of them, I think, underscores --

PANEL MEMBER GLANTZ: Well, no, that's -- well,

no, I don't think that's true. I mean, I think they did have an effect. It was mostly pushing things up, you know, not saying there are things you shouldn't do, but, you know, trying to say for the reasons John said that resources are limited and these are the -- you know, based on the current state of knowledge at the time we did it, these are the things that, you know, warrant the most attention right now.

So, I mean, this isn't -- we're not talking about something that's never been done before. So you could go back and look at what happened before. I mean, if it turns out that it was useless, then we don't need to waste our time doing it. But I recall the first one, you know, which is something I was pushing a long, long time ago was where we seemed to be being driven by what compounds there was a lot of data on, rather than what compounds were of potential public health impact.

PANEL LIAISON BEHRMANN: This is Jim Behrmann. Dr. Anastasio, we can work with John Budroe and his staff and put together an informational item for the Board, in terms of their priorities for future health values that are being looked at. I mainly wanted to come back to a -- just a process question or a process point, that as you were suggesting, I think we'll work with you to designate a couple Panel members -- two or three Panel members to

work on an initial letter, whatever form it takes, after working with our legal staff.

The other point I wanted to make is I do not believe we're prepared to respond today, but I did want to make sure we have acknowledged, as you had -- did earlier, that receipt of two sets of comments that came in just within the last -- the last day and one comment within the last two days for the other comment.

We're not prepared to respond in detail today, but staff will be reviewing those comments and providing some input to you, the Panel, for discussion in your next meeting tentatively in February of next year. But that discussion would be feeding into the initial letter of support then.

CHAIRPERSON ANASTASIO: Yes. Thank you, Jim.

PANEL MEMBER GLANTZ: Stop calling it a letter of support.

PANEL MEMBER BLANC: -- letter of support, Please.

CHAIRPERSON ANASTASIO: Interim findings.

PANEL MEMBER BLANC: Thank you.

CHAIRPERSON ANASTASIO: It will be a letter of interim findings.

PANEL MEMBER GLANTZ: Yeah, on these public comments that I'm perfectly happy to have some

presentation on them. But I think we need to make it clear to the public that if they want their comments discussed in a sensible way, they can't send them in the day before the meeting. I mean, it's not fair to the agency and it's not fair to the Committee. I mean, these are tech -- very complex issues. And, you know, to have, you know, the most expeditious impact, they should have come in early enough for the agency to respond to them and then get the usual package to us, where we had the comments and the responses to discuss.

So bringing these things in at the last possible second, it's -- it's actually not in industry's best interest, I don't think. So I think we want to -- I mean, people can -- are free to send in letters any time they want. But I think, you know, it ought to be made clear that to get on the agenda for a reasonable discussion, they need to come in enough in advance that --

PANEL LIAISON BEHRMANN: This is Jim -- this is Jim --

PANEL MEMBER GLANTZ: -- you know, we could have a discussion.

PANEL LIAISON BEHRMANN: This is Jim Behrmann. I agree with you, Dr. Glantz, it's a balance. I think while we do not prefer comments coming in at the last minute, I think we recognize the complexity of what's being looked

at and what's being considered here. And I think we want to encourage input from the public and from other stakeholders. So rather than designating a specific hard and fast deadline, we've tried to be more flexible. And I think --

PANEL MEMBER BLANC: No, I think it's fine the way you're handling it. It's fine, as long as we don't -- I just don't want to hear anything more about them today, other than, yes, we received them.

So, Cort, are we -- just to get a sense, are we moving towards adjournment?

CHAIRPERSON ANASTASIO: Yes. Just have one other agenda item. But first, we didn't quite finish the question to the other Panel members about the interim findings letter. Are there any Panel members who disagree with that idea?

Okay. If not, then we'll move forward with that and we'll work over email to come up with some leads for that who can work with staff to draft that letter.

So that brings me to consideration of administration matters, Agenda Item number two. Two items here. One is I just want to remind everyone that our next in-person meeting -- well, our next meeting period will be in person on Thursday, February 27th. So please make sure that your calendar reflects that. And Lori and/or Jim

will be polling soon to set up the meeting after that.

And then the last item is something Jim's already done actually. I just want to welcome formally Lori Miyasato as the new Panel Liaison. And we're looking forward to working with you Lori. And you can see how much fun these meetings are. So that will bring a little, you know, spring in your step. No doubt about it.

DR. MIYASATO: Thank you very much, Cort. I look forward to working with the entire Panel. Thanks.

CHAIRPERSON ANASTASIO: That's great. Thank you, Lori. With that, I would be happy to look for a motion to adjourn.

PANEL MEMBER BLANC: So moved. Paul Blanc.

PANEL MEMBER KLEINMAN: Second.

PANEL MEMBER RITZ: All right. Thank you, everyone.

CHAIRPERSON ANASTASIO: All right. Thanks, everyone. And we look forward to seeing you in February.

(Thereupon the California Air Resources Board, Scientific Review Panel adjourned at 11:04 a.m.)

C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board, Scientific Review Panel meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California;

That the said proceedings was taken before me, in shorthand writing, and was thereafter transcribed, under my direction, by computer-assisted transcription.

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

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of December, 2019.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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