

1 MEETING
2 OF THE
3 SCIENTIFIC REVIEW PANEL ON TOXIC AIR CONTAMINANTS
4 CALIFORNIA AIR RESOURCES BOARD
5
6
7
8
9

10 EXTENSION CENTER
11 UNIVERSITY OF CALIFORNIA, RIVERSIDE
12 1200 UNIVERSITY AVENUE
13 RIVERSIDE, CALIFORNIA
14
15
16

17 THURSDAY, APRIL 13, 2000
18 9:00 A.M.
19
20
21
22

23 REPORTED BY:
24 Susan M. Kline,
25 CSR 4617
Our File No. 1-63045

1 APPEARANCES:

2 MEMBERS PRESENT:

3 Dr. John Froines, Chairman
4 Dr. Roger Atkinson
5 Dr. Paul Blanc
6 Dr. Craig Byus
7 Dr. Gary Friedman
8 Dr. Hanspeter Witschi

9 MEMBERS PRESENT BY TELEPHONE:

10 Dr. Standon Glantz
11

12 REPRESENTING THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD
13 ASSESSMENT:

14 Dr. George Alexeef, Deputy Director for Scientific
15 Affairs
16 Dr. Bob Blaisdell, Staff Toxicologist
17 Dr. James Collins, Staff Toxicologist
18 Dr. Melany Marty, Senior Toxicologist
19 Dr. Andrew Salmon, Chief, Air Toxicology and Risk
20 Assessment

21 REPRESENTING THE DEPARTMENT OF PESTICIDE REGULATION:
22

23

18 Mr. Paul Gosselin, Assistant Director
Dr. Andrew Rubin, Staff Toxicologist
19 REPRESENTING THE CALIFORNIA AIR RESOURCES BOARD:
20 Peter Venturini, Chief, Stationary Source Division
21
22 ALSO PRESENT:
23
24 Dr. Elinor Fanning, Associate Toxicologist
25

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 I N D E X

2	AGENDA ITEMS:	PAGE
3	1 Closed Session - Litigation	1
4	2 Review of Draft Report: Air Toxics Hot Spots Program Risk Assessment Guidelines, Part IV: "Technical Support Document for Exposure Assessment and Stochastic Analysis"	6
5		
6	3 Review of addendum to Appendix A of the Air Toxics Hot Spots Program Risk Assessment Guidelines, Part III: "Technical Support Document for Noncancer Chronic Reference Exposure Levels"	26
7		
8	4 Consideration of findings based on the report: "The Evaluation of Methyl Isothiocyanate (MITC) as a Toxic Air Contaminant"	46
9		
10	5 Toxic Air Contaminant Program Update	72
11		
12	Adjournment	116
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

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

2 CHAIRMAN FROINES: So we will officially open

3 the meeting of the Scientific Review Panel.

4 Stan, can you hear me?

5 DR. GLANTZ: It would be nice if they could

6 make it a little louder.

7 CHAIRMAN FROINES: We can hear you fine.

8 DR. GLANTZ: Now I can hear a lot of feedback,
9 but I can't hear you any better. So maybe they should
10 try again.

11 CHAIRMAN FROINES: What I was saying for the
12 purpose of the record is that we will formally open the
13 public meeting of the Scientific Review Panel for
14 April 13, 2000.

15 And we are going to go immediately into a
16 closed session in order to discuss with counsel the
17 litigation entitled California Trucking Association,
18 et al. versus California Air Resources Board, et al.
19 So that we've asked everyone, all the public, to leave
20 the room.

21 So this is a closed meeting, and the only
22 person here is the -- only persons here are the
23 Scientific Review Panel members, the court reporter and
24 Mr. Kirk Oliver, who is representing the Attorney
25 General's office with respect to the litigation.

4

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BLANC: I move that we go into closed
2 session.

3 CHAIRMAN FROINES: So moved.

4 DR. BLANC: Is there a second?

5 DR. FRIEDMAN: Second.

6 CHAIRMAN FROINES: All in favor?

7 (Show of hands.)

8 (Whereupon a recess was taken.)

9 CHAIRMAN FROINES: We will officially reopen
10 the meeting. I should say that during the discussion
11 with the attorney from the Air Resources Board, Kirk
12 Oliver, that the panel members who were present were
13 Craig Byus, Roger Atkinson, Hanspeter Witschi, Paul
14 Blanc, Gary Friedman and John Froines, and Stan Glantz
15 was on the telephone. There were no other persons
16 present in the room during those discussions.

17 So, Melanie, we're going to start with the next
18 -- with the Exposure Assessment and Stochastic
19 Guidelines. Stan has about 20 minutes before he has to
20 go off. Because he is leaving, he asks that we take
21 this up because he has been the lead for the panel on
22 this topic area.

23 We know that in terms of discussing the issues,
24 any issues that might arise is going to take longer than
25 we're going to take up today. So I think we see this as

5

1 an introduction, any comments from Stan, and then we'll
2 basically move on.

3 DR. MARTY: Okay. Thanks.

4 Melanie Marty from OEHHA.

5 Today we're just going to give an overview of
6 the document --

7 CHAIRMAN FROINES: Pull your microphone closer.

8 DR. GLANTZ: Yeah, and shout.

9 DR. MARTY: Is that better, Stan?

10 DR. GLANTZ: That's better.

11 DR. MARTY: Today we're going to talk about an
12 overview of the Air Toxics Hot Spots Program Risk
13 Assessment Guidelines, Part IV. It's the Technical
14 Support Document for Exposure Assessment and Stochastic
15 Analysis. And the presentation is going to be given by
16 Robert Blaisdell of my staff.

17 And essentially what we just wanted -- you guys
18 have actually already heard parts of this presentation,
19 but it's been a few years. It was prior to our response
20 to the public comments. So we gave the panel the latest
21 revisions, which include revisions made via the public
22 comment process and also some revisions made by
23 preliminary comments from the panel.

24 So, Bob, can you come on up?

25 CHAIRMAN FROINES: Stan, do you want to say

6

1 anything before this starts?

2 DR. GLANTZ: Yeah, just because I may have to
3 leave before they're done.

4 As Melanie said, this document has been
5 gestating for quite a long time. I have reviewed the
6 draft that's being -- was distributed to the panel, and
7 I think it's quite good now. And I've also reviewed all
8 of the public comments and the response to the comments,
9 and I think the staff did a good job.

10 There were many changes made to the document in
11 response to the comments that I thought were in part
12 responsive. There were other comments that I thought
13 were either not germane or not correct, and I think the
14 staff did a good job of explaining why.

15 So, I mean, I'm sure as we get into the
16 document other members of the panel and maybe even

17 myself will find more things to pick at, because, you
18 know, different people have different areas of
19 expertise.

20 But overall, I think it's come quite a long
21 way, and this is actually one of the more impressive
22 things that's come out of the process now that I've been
23 on the panel. I think it's really going to be a seminal
24 document that's going to affect the way that people look
25 at the stochastic model.

7

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 So at least as of right now I'm quite happy
2 with it. I mean, maybe Melanie has snuck something by
3 me that I missed. I guess I shouldn't say that. I was
4 joking. For the record, I was joking. But I'm quite
5 happy with it.

6 CHAIRMAN FROINES: I had one comment just to
7 mention before we start that really relates more to
8 George than the document. I think that at some point,
9 both with respect to the risk assessment and the
10 exposure documents, that one of the issues will be as a
11 discussion of policy on how one takes stochastic
12 modeling and actually makes use of it beyond the risk
13 assessment process in terms of decision making on
14 management. And I think OEHHA and ARB should hold a
15 workshop or conference on that issue.

16 And it goes beyond the scope of this panel, but
17 I think that one can generate thousands of numbers using
18 Monte Carlo modeling. And when you're all finished, you
19 may say we don't want to use a bright line, but somebody
20 has to make decisions about what are the criteria you
21 use to then make decisions and using the data that's
22 generated.

23 And so I think you should consider, George,
24 that at some point you hold a small meeting or workshop
25 to talk about the implications of this. We'll deal with

8

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 the science, but let's look and see where does it go
2 from here once you've got it.

3 DR. GLANTZ: If I could just chime in on that,
4 I mean, I think that in the end, as part of the
5 regulatory process, you know, there is going to be a
6 number that somebody's going to have to come up with.

7 There will be a lot of hand ringing and concern and this
8 and that. But as a practical matter, there will be a
9 bright line.

10 I think that the thing which the stochastic
11 modeling approach does, though, is it's going to give us
12 a much better idea of not just the uncertainties in --
13 which I think we've already been dealing with reasonably
14 well, but the effect of population variability on where
15 that line should be.

16 And instead of just simply dealing with average
17 numbers, we're going to be able to take into account the
18 fact that there are some more and some less sensitive
19 people. So I think it will give rise to bright lines
20 that have a much more thorough rationale than, you know,
21 some of the older approaches to take.

22 I mean, I think that your suggestion is a good
23 idea, John, but the way that I look at this is that it's
24 just giving us, you know, a much more quantitative
25 approach to realizing, when you do draw that line, who's

9

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 being left out and who's being covered on a population
2 basis.

3 So, I mean, I think it's a very useful process
4 actually.

5 CHAIRMAN FROINES: Well, I was trying to be
6 very careful on what I said. That's why I said that the
7 issue for our a meeting or a workshop would be on
8 criteria of how you end up selecting what you end up
9 selecting.

10 DR. GLANTZ: Yeah, I agree.

11 CHAIRMAN FROINES: Okay. Sorry, Melanie.

12 DR. MARTY: Okay. Bob Blaisdell is --

13 DR. GLANTZ: I'm going to disappear in like
14 seven minutes.

15 CHAIRMAN FROINES: We'll note by your silence.

16 DR. GLANTZ: Okay.

17 DR. BLAISDELL: I'm going to give a brief
18 overview of our Technical Support Document for Exposure
19 Assessment and Stochastic Analysis.

20 May I have the next slide, please?

21 OEHHA was mandated under SB-1731 to establish a
22 "likelihood of risk" approach to risk assessment and "to
23 estimate the maximum actual exposure."

24 May I have the next slide?

25 This outlines our general approach for

1 stochastic analysis. Stochastic analysis in our
2 document is confined to variability rather than
3 uncertainty. The distributions recommended in the
4 document are derived by OEHHA from the raw data of
5 existing studies or obtained from the literature.

6 The distributions are for major exposure
7 parameters and not for dose response.

8 The stochastic approach is recommended for
9 cancer risk only.

10 May I have the next slide?

11 Okay. In general, our General Approach to
12 Exposure Assessment is outlined on this slide. Risks
13 from airborne emissions from stationary facilities are
14 evaluated.

15 We mostly do the inhalation pathway for the --
16 we mostly do the inhalation pathway because most of the
17 chemicals we're dealing with are volatile.

18 Noninhalation pathways are also evaluated for a
19 few semi-volatile chemicals and metals.

20 The pathways that we evaluate include dermal,
21 breast milk, and ingestion of water, produce, soil,
22 meat, milk and eggs.

23 May I have the next slide, please?

24 These are some of the general limitations of
25 Stochastic Risk Assessment that we've run into as we've

1 prepared our document.

2 Data are available for estimating variability
3 for some parameters.

4 Data that are available are short-term studies
5 that do not necessarily capture individual average
6 intake over long periods of time.

7 Future research may provide more information to
8 develop distributions from longer-term studies.

9 May I have the next slide?

10 Okay. We released our Exposure Assessment and
11 Stochastic Analysis document for a 90-day comment period
12 in December of 1996. We presented an overview to the
13 Scientific Review Panel in March of 1997. We have
14 responded to public comments and incorporated changes
15 into the document.

16 Next slide?

17 The 1996 Draft recommended evaluating three
18 exposure duration scenarios, 9, 30 and 70 years.
19 We have generated exposure distributions
20 corresponding to ages 0 to 9 and ages 0 to 70 in our new
21 draft.
22 We recommend the use of the 0-to-70-year
23 distribution for evaluating the 30-year exposure
24 duration.
25 May I have the next slide?

12

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. FRIEDMAN: Could you explain why that is,
2 why you're doing that?
3 DR. BLAISDELL: Well, it was essentially in the
4 interest of simplifying the document. It's a slight
5 underestimation of the 30-year exposure, but it doesn't
6 underestimate it by much.
7 DR. GLANTZ: This is Stan. I actually have to
8 go now. So have fun, guys. And I apologize, but I'm
9 getting a call now.
10 DR. BLAISDELL: I think you'll get a better
11 picture of that as we proceed.
12 DR. GLANTZ: Bye-bye.
13 DR. BLANC: Bye.
14 DR. BLAISDELL: The nine-year exposure duration
15 is for the first nine years of life and is therefore
16 protective of children. Children receive a higher dose
17 in terms of milligrams per kilogram body weight than do
18 adults.
19 May I have the next slide?
20 OEHHA recommends a tiered approach in which a
21 point estimate approach is used before the stochastic
22 approach.
23 The 1996 draft used USEPA RCCRA/CERCLA values
24 that reflect "central tendency" and "high end" for
25 exposure point estimates.

13

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 Our revised draft recommends using point
2 estimate exposure parameters that are the mean and 95th
3 percentiles from the available distributions.
4 These values reflect more recent studies than
5 the USEPA defaults and create an internally consistent
6 approach within our document.

7 Okay. I'm going to run through briefly the
8 derivation of our breathing rate distributions. This is
9 the Dose Algorithm for Inhalation, simply dose times
10 breathing rate times the concentration in the air times
11 the unit conversion factor.

12 May I have the next slide?

13 The California Air Resources Board sponsored a
14 study of breathing rates at various lab and field
15 activities in children and adults.

16 Minute ventilation, heart rate and breathing
17 frequency were measured during various activities.

18 Okay. These minute ventilation rates were
19 divided by each subject's body weight to give us
20 liters-per-minute per kilogram body weight.

21 We selected a mean breathing rate for specific
22 activities to represent breathing rate at resting,
23 light, moderate, moderately heavy, and heavy activities.

24 Next slide?

25 The California Air Resources Board also did two

14

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 studies of activity patterns in adults, and we used
2 these to evaluate our activity patterns. That gave us
3 the minutes that we spent on various self-reported
4 activities.

5 Individual reported activities are assigned a
6 resting, light, moderate, et cetera, breathing rate.

7 Next slide?

8 A distribution of breathing rates, daily
9 breathing rates, are constructed from the sum of the
10 products of the liters-per-minute per kilogram body
11 weight times the minutes at that activity over a 24-hour
12 period for each individual in the activity patterns
13 study.

14 We did separate distributions for adults and
15 children.

16 And we simulated a 70-year distribution using
17 Monte Carlo technique with crystal ball by
18 proportionately combining the children and adult
19 distributions.

20 Okay. This is the children's breathing rate
21 distribution that we came up with. You'll notice that
22 the 95th percentile is around twice the 5th percentile,
23 indicating this is a fairly narrow distribution.

24 For those of you that are used to thinking in
25 terms of meters per day, we have that on the right.

1 This is for an 18-kilogram person, which is the average
2 body weight over ages 0 to 9.
3 Next slide, please?
4 DR. BLANC: Average kilogram -- go back to that
5 one second. Average, you mean the mean body weight over
6 that time?
7 DR. BLAISDELL: That's the average of the mean
8 body weights over the nine-year period.
9 DR. WITSCHI: Zero to one, two to three, three
10 to four.
11 DR. BLANC: And how linear would that weight be
12 by year? Is it appropriate to use the mean? Or is
13 there a lot of time when the weight is most of the time
14 -- it's been a long time since I did pediatrics. And
15 I'm trying to think about the growth curve, but it's not
16 linear, is it?
17 DR. BLAISDELL: No, it curves off.
18 DR. MARTY: I think what we've done here is
19 just, for an example, to see how it works, if you
20 weighed 18 kilograms and you breathed at the mean of our
21 distribution, you would be breathing about 8.1 cubic
22 meters per day.
23 DR. BLANC: Okay. So it's not for -- okay.
24 I'm just trying to get a sense of whether it throws
25 things off in any other larger way.

1 DR. MARTY: Well, yeah, I think your point's
2 well taken. What we see for some future work is to look
3 at infants more closely. The activity pattern study and
4 the breathing rate studies -- the activity pattern study
5 had information for everybody from zero to I think 97
6 was the oldest person. But the breathing rate studies
7 which formed the basis for the breathing rates assigned
8 to the activities, the youngest child was three.
9 And what we've done is assumed that before the
10 age of three the breathing rates for light, moderate
11 heavy, et cetera, would be the same. It's probably not
12 true for infants because they do breathe very rapidly
13 relative to an older child. So it's an area for future
14 study.
15 DR. BLANC: Okay.

16 DR. BLAISDELL: May I have the next slide,
17 please?
18 This is our adult breathing rate distribution.
19 Again, a fairly narrow distribution. The 5th and 95th
20 percentile vary by a factor of two. We have the meters
21 per day for a 70-kilogram person, corresponding to an
22 adult. So you can get some sense of where that fits in.
23 May I have the next slide, please?
24 Okay. This is the distribution that we
25 simulated from the two distributions, proportionately

17

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 combining the time spent as a child and the time spent
2 as an adult. And as you can see, in terms of
3 liters-per-kilogram body weight, it falls in between the
4 adult and the children's breathing rate.
5 And we've done the meters per day for a
6 63-kilogram person, which is the average body weight
7 over a 70-year lifetime.
8 May I have the next slide?
9 We've received some comments on the use of
10 short-term data for breathing rate distribution.
11 Short-term surveys are all that are available right now.
12 So we were curious to see if that -- if our breathing
13 rate distribution corresponded to the energy expenditure
14 literature, and we found in general that the energy
15 expenditure literature supported the range of our
16 breathing rate distribution. The details of that
17 analysis are in Appendix K.
18 I'm going to talk just briefly about the Food
19 Consumption Distributions. We used raw data from the
20 "Continuing Survey of Food Intakes of Individuals" that
21 the USDA did. We developed distributions for chicken,
22 beef, pork, dairy and eggs; also, leafy, root,
23 protected, and exposed produce, all in terms of
24 grams-per-kilogram body weight per day.
25 May I have the next slide, please?

18

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 For the breast milk pathway, we developed data
2 on the first year of life, and we developed a
3 distribution of breast milk consumption for the first
4 year of life.
5 We combined data from the Dewey study and also

6 the Hofvander study to generate that distribution.
7 DR. BYUS: How do you determine how much breast
8 milk an infant consumes a day?
9 DR. BLAISDELL: Well, they actually weigh
10 them --
11 DR. BYUS: Oh, they weigh them?
12 DR. BLAISDELL: -- before and after feeding and
13 take into account --
14 DR. MARTY: There's a little flow meter that
15 you attach.
16 DR. BYUS: Yeah.
17 Do they really?
18 DR. BLAISDELL: Yes.
19 DR. BYUS: Okay.
20 DR. BLAISDELL: For our Water Consumption
21 Distribution, we utilized distributions generated by
22 Ershow and Cantor from the '77-78 National Food
23 Consumption Survey also conducted by the USDA.
24 We simulated the tap water consumption
25 distribution for ages 0 to 9 from the published

19

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 distributions of Ershow and Cantor.
2 Next slide?
3 For Fish Consumption, we used raw data from a
4 study conducted in the Santa Monica Bay to further
5 characterize a fish consumption distribution.
6 The Fish Consumption Distribution accounts for
7 fish caught and consumed by fishers at a contaminated
8 water body, not commercially caught fish.
9 Data were not available for children so we used
10 the same distribution in terms of
11 milligrams-per-kilogram body weight per day for ages 0
12 to 9, 0 to 30 and 0 to 70.
13 Oops, you're right. Next slide?
14 In summary, we have developed a stochastic
15 approach using the best available distributions either
16 developed from data or already published in the
17 literature.
18 We've developed a point estimate approach based
19 on the mean and a high-end, the 95th percentile, from
20 our distributions.
21 We used a point estimate for exposure
22 parameters where inadequate data for characterizing data
23 for variability were available, such as for the soil
24 ingestion pathway.
25 Any questions?

1 CHAIRMAN FROINES: Is it fair to assume that
2 most of the panel haven't spent a good amount of time
3 reading the actual document?

4 If that's the case, I think what we would do,
5 unless people have specific questions that they've
6 developed either from your presentation or from looking
7 at the document, that we would defer further discussion
8 until the panel's actually had a chance to look at the
9 document in a little bit greater detail.

10 DR. BLANC: John, just as a process question,
11 would we have the benefit of some draft written comments
12 from Stan in advance of the meeting, the next meeting,
13 that would allow us to look at the document ourselves in
14 light of his comments?

15 CHAIRMAN FROINES: We could ask him to do that.

16 DR. BLANC: Rather than coming to the meeting
17 and having him at the meeting raise the points that he
18 might raise. And I guess my follow-up technical
19 question is are we then as a panel, is OEHHA looking to
20 us for a brief resolution, saying that we have read and
21 accepted the document in the same way that we -- they're
22 not looking -- you're not looking for findings, per se,
23 simply a brief statement that we've read it and on the
24 model that we used I think for the last one we had; is
25 that right?

1 DR. MARTY: Yes.

2 CHAIRMAN FROINES: So we would take a vote to
3 -- with some language we'd have to craft but basically
4 saying we've read it, we think it represents sound
5 scientific approach, and that would be pretty much it.
6 Is that --

7 DR. MARTY: Yes.

8 DR. ALEXEEF: George Alexeef from OEHHA.

9 And also any suggestions you have for improving
10 the document, that would be pretty much what we'd
11 request.

12 CHAIRMAN FROINES: As a procedural matter,
13 Paul, we actually have in here -- if you'll notice,
14 there are responses to comments that they've received.
15 So there is some information that would be useful.

16 We actually could divide the document into
17 pieces and have people look at individual pieces of it
18 and come in so that everybody doesn't have to read
19 everything. My sense is that's a little cumbersome and
20 it would be better if people took a look at the entire
21 document. But I think that's another option.

22 Comments on that?

23 DR. MARTY: Dr. Froines, I have one additional
24 piece of information. We had a 30-day public comment
25 period on this draft. We received one comment letter,

22

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 and it was from one of the air pollution control
2 districts, with questions, clarification-type questions,
3 on the air dispersion modeling piece. And we received
4 no other comments on this draft.

5 CHAIRMAN FROINES: Well, the point here
6 procedurally is that there are eleven chapters in this
7 document. Now, does the panel want to have everybody
8 read eleven chapters or go over eleven chapters, or do
9 you want to divide them up in some form?

10 DR. FRIEDMAN: I'd rather divide them up if it
11 makes sense to do that. In other words, can you -- can
12 each chapter be evaluated independently of having
13 carefully read other chapters?

14 DR. MARTY: I think everyone needs to read
15 Chapter 1. Otherwise, the rest of -- you won't know why
16 we did what we did.

17 DR. FRIEDMAN: But after you've read 1, then
18 each --

19 DR. MARTY: Yes.

20 DR. FRIEDMAN: -- chapter can be looked at
21 independently?

22 DR. MARTY: Yes. And there are appendices that
23 are cited within a chapter that go with that chapter so
24 you'd want to read those appendices too.

25 CHAIRMAN FROINES: And the chapters -- one

23

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 chapter is on air dispersion modeling, and so Roger and
2 Tony would be clearly the two people who would read
3 that. After that, the -- there is no epidemiology
4 chapter. It's not by discipline.

5 So that we would -- using Gary as a foil here,

6 Gary might end up looking at water intake, fish
7 consumption and body weight. But that doesn't
8 necessarily bring his expertise to bear. And so once
9 you get past the first chapter on air dispersion, then
10 it's -- since it's not disciplinary driven, it's
11 basically taking responsibility for some of the other
12 chapters. And I think we could almost do that randomly.

13 What do you think?

14 DR. BYUS: Okay.

15 CHAIRMAN FROINES: Do you want me just to sit
16 down and send out some assignment with no prejudice
17 involved?

18 DR. ATKINSON: Surely.

19 CHAIRMAN FROINES: And if there's any area of
20 particular expertise that we can identify, we'll do
21 that.

22 DR. MARTY: Dr. Froines, Appendix E would
23 probably benefit from review by Dr. Atkinson.

24 CHAIRMAN FROINES: So we'll get that to the
25 panel and -- is that reasonable?

24

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 It's also useful -- even if people look at
2 individual chapters, it's useful to skim everything to
3 get a sense of the overall document. But I think
4 that --

5 Melanie, do you agree that the individual
6 chapters in a sense can be read as a complete piece?

7 DR. MARTY: Yes, they can be individually read
8 as a complete piece. But I also agree with the last
9 thing you said. To get really an overview of what it is
10 we're doing, everybody has to read Chapter 1, and it
11 would be nice to skim through a few other chapters just
12 to see what else went on for those pathways.

13 CHAIRMAN FROINES: Our hope would be to move
14 this one through pretty quickly. So as long as you're
15 still sitting there --

16 DR. MARTY: Shall we do the chronic RELs?

17 CHAIRMAN FROINES: It's either that or --

18 DR. MARTY: Yeah.

19 CHAIRMAN FROINES: -- bring up Paul Gosselin.
20 You might as well grab the spot when you've got it.

21 And as far as I know, while they're getting
22 here, Paul has to leave at 2:00.

23 Is that correct?

24 DR. BLANC: Earlier than that. I would say

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 CHAIRMAN FROINES: One, two, three, four, five.
2 Go ahead.
3 DR. MARTY: Okay. We have a short
4 presentation, just going over the changes that were made
5 for the 16 Chronic Reference Exposure Levels that the
6 panel was sent for review. These are chemicals that
7 everyone's already seen. We had suggestions from the
8 panel for changes to make. We've incorporated those
9 suggestions, and we'd just like to briefly run those
10 through a presentation.
11 The presentation today is going to be given by
12 Dr. Andy Salmon.
13 DR. SALMON: Thank you.
14 Well, I'll just start by reminding you what the
15 document that you have in front of you is. I think
16 you've got a --
17 CHAIRMAN FROINES: Excuse me, Andy. Do you
18 have the handouts from --
19 DR. SALMON: I'm afraid I don't have it. I've
20 only got a few slides, and we --
21 CHAIRMAN FROINES: Okay. Can we -- Jim or
22 Peter, can we make sure that we get the -- thank you.
23 DR. SALMON: What you I hope do have is the
24 stack of toxicity summaries and the table of the
25 numbers.

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 Anyway, so this is a -- in fact a part and an
2 addition to the Appendix to the Technical Support
3 Document for Chronic Reference Exposure Levels.
4 If I could have the next slide, please.
5 And this is the Part III determination. And
6 you saw the methodology section and the previous group
7 of chemicals just previously.
8 If I could have the next slide.
9 And just for reference, I've included a
10 reminder of the definition of Reference Exposure Level.
11 Key point here is that it's meant to protect most
12 people, including sensitive individuals, although we're
13 unable to account for idiosyncratic responses.
14 Therefore, exceedence of the REL does not

15 necessarily result in the appearance of adverse health
16 consequences, although it may increase the probability
17 that such consequences might be seen.

18 If I could have the next slide, please. Could
19 you pull that down just a shade? Thank you.

20 The modifications which we've made basically in
21 response to your previous comments, and the first thing
22 that we have done is in fact reevaluated several of the
23 proposed RELs, which were based on USEPA RfCs. And to
24 -- rather than simply following the USEPA
25 recommendation, we've reevaluated these levels in

27

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 accordance with our methodological guidelines.

2 And the first group of chemicals, the change
3 was essentially to drop the modifying factor from the
4 uncertainty factors which USEPA uses on a number of
5 occasions but without particularly consistent rationale.
6 And it's not in fact included in our guidelines.

7 And so for the four compounds listed here,
8 ethyl chloride, hydrogen cyanide, hydrogen sulfide,
9 manganese, this was the substantial change.

10 In the case of hydrogen sulfide, the other
11 uncertainty factors were slightly different than those
12 used by USEPA. But apart from the dropping the
13 modifying factor, the other changes are not -- don't in
14 fact result in a substantial difference in the final
15 number.

16 If I could have the next slide, please.

17 Some other changes which I will describe more
18 specifically, for hexane, we reevaluated the data, and
19 rather than using the earlier RfC result, which was
20 criticized by the panel on the grounds that the results
21 in the key human study were somewhat questionable and
22 involved potentiating co-exposures, we in fact developed
23 a new REL, which is substantially higher, which was
24 based on a one-year animal study with multiple exposure
25 levels and which clearly avoids the problem of the

28

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 potentiating co-exposures.

2 In addition to the change I mentioned earlier
3 for hydrogen sulfide --

4 CHAIRMAN FROINES: I'm not sure I'd like to be

5 exposed to 7,000 micrograms per cubic meter of hexane.
6 It seems like going from 207,000 is a big jump.
7 DR. SALMON: It is a substantial change, yes.
8 DR. COLLINS: You're the key reviewer.
9 CHAIRMAN FROINES: I understand.
10 DR. SALMON: Essentially, we were following the
11 recommendation to look at the animal studies in
12 reference to the human study. And this is --
13 DR. BLANC: In that particular case?
14 DR. SALMON: In this specific instance, because
15 of the problems with the human study. I -- and this is
16 the number that going with the animal studies comes out
17 with. If you have further specific direction on how we
18 should address this, then obviously we will --
19 DR. BLANC: Can you just translate that into
20 parts per million? I'm going through the document.
21 DR. MARTY: It's 2 ppm.
22 DR. SALMON: Yeah, 2 parts per million.
23 DR. BLANC: Okay. And the current -- just for
24 order of magnitude, the current OSHA --
25 DR. COLLINS: I think it's 50 ppm.

29

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 CHAIRMAN FROINES: 2 ppm?
2 DR. SALMON: 7,000 is 2 ppm, which is
3 standard --
4 DR. BLANC: It's 7 milligrams per cubic meter.
5 CHAIRMAN FROINES: I stand corrected.
6 DR. BLANC: It just sounds worse when it's in
7 micrograms.
8 CHAIRMAN FROINES: No, that's exactly right.
9 I'm wrong. I'm wrong. It's okay.
10 DR. SALMON: Okay. Should I proceed with
11 hydrogen sulfide now?
12 Okay. If I could have the next slide, please.
13 One of the concerns which the panel directed us
14 to address at the previous consideration of hydrogen
15 sulfide was --
16 Bob, could you pull that one up a bit so people
17 can see it? Thank you.
18 -- was the question of odor thresholds.
19 And what I have here actually is a summary of
20 some data from a paper which was published a while ago
21 which considered the issue not only of odor thresholds
22 in laboratory measurements but also what would be likely
23 to be detected and identified in a practical situation.
24 The odor threshold reported here for hydrogen

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 laboratory odor thresholds which have been reported in
2 the literature, some of which are significantly below
3 this level but others significantly above.

4 The authors also made the point that although
5 these thresholds represent levels which could be
6 distinguished and isolated in a controlled laboratory
7 situation that such evidence as they were able to find
8 on the issue suggested that in a practical situation in
9 the outside world that odors which would be noticed
10 and/or found objectionable would be occurring at a
11 rather substantially higher level, something around
12 about 50 times higher, I think, isn't it? But at least
13 in order of magnitude higher as possible.

14 But even taking a, you know, somewhat
15 statistical approach and looking at a lower bound on it,
16 you would probably expect not to find people noticing
17 levels lower than about five times this
18 laboratory-determined threshold. Their report was about
19 40 parts per million as producing reports in the field
20 of noticeable and identifiable hydrogen sulfide odors.

21 Anyway, the conclusion which we drew from this
22 specifically as regards hydrogen sulfide was that our
23 health-based reference exposure level was likely to
24 exclude all but the most extreme tail of the
25 distribution of practical nuisance finding in exposures

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 outside in the general environment as opposed to
2 laboratory based detection.

3 However, it was also pointed out in this paper
4 that one of the key problems with nuisance complaints
5 involving hydrogen sulfide is that typically emissions
6 of hydrogen sulfide are associated with emissions of
7 other chemicals, including several of the mercaptans,
8 which are similar in their objectionability from the
9 odor point of view but have a considerably lower odor
10 threshold.

11 And it has been pointed out that many of the
12 complaints about odors associated with hydrogen sulfide
13 emission may well be complicated by the co-exposure to
14 other mercaptans, which are -- which have considerably

15 lower odor threshold. And this is something that is,
16 you know, a factor in this consideration of this issue.

17 If I could have the next slide, please.

18 DR. BLANC: Could we just close the loop on
19 that one?

20 DR. SALMON: By all means.

21 DR. BLANC: Therefore, just remind us therefore
22 we're not likely to have a REL which is so high that
23 people are going to be complaining of the odor and we
24 won't have achieved the REL? Was that the point?

25 DR. SALMON: The point was -- the point with

32

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 regard to hydrogen sulfide is that it's unlikely that --
2 if the REL is observed, it's unlikely that there will be
3 hydrogen sulfide related odor complaints. However,
4 we're not able to exclude by that mechanism the
5 possibility that there might be odor complaints
6 associated with co-exposure to some of these mercaptans
7 which often appear in the same emission stream.

8 DR. BLANC: But the reason why anyone would
9 care would be because if people were being irritated by
10 the odor, you wouldn't want to be then turning around
11 and saying, well, yeah, but we have -- but it's not even
12 high enough to be the REL. That's the point of that
13 exercise; right?

14 DR. SALMON: Yes.

15 DR. BLANC: Okay. I just wanted to make sure I
16 followed that.

17 DR. SALMON: And I think Dr. Witschi pointed
18 out at the previous meeting that adverse odor experience
19 is itself of deleterious impact and so that we would not
20 be comfortable with --

21 DR. BLANC: Yes, yes. No, I think it's a
22 reasonable point. That's why I was trying to clarify
23 that.

24 DR. SALMON: Okay. If I -- well, I'll proceed
25 to methanol.

33

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 The methanol was basically a revision of the
2 methodology. We have made some comparisons of the
3 benchmark dose methodology, and our preference as
4 specified in the current version of the guidelines is

5 that the benchmark concentration BMC 05 is a better
6 basis for calculating the REL than the BMC 10, which was
7 used by USEPA RFC.

8 So we're proposing that the REL be reduced to
9 4,000 micrograms per liter cubed, which is based on the
10 benchmark. This is the lower confidence found on the
11 five-percent effective benchmark concentration plus the
12 appropriate uncertainty factors.

13 The fenol, the reexamination of the study led
14 to a recommendation of that subchronic uncertainty
15 factor should be three and not one in this case. This
16 results in a change in the REL to 200 micrograms per
17 meter cubed.

18 Next slide, please, Bob.

19 CHAIRMAN FROINES: Before you go ahead, on the
20 sheet that I'm looking at, you have naphthalene, and
21 you're at nine micrograms per cubic meter for your REL.
22 Can you give me an estimate of the parts per billion?

23 DR. SALMON: Yes, certainly.

24 DR. MARTY: It's two parts per billion.

25 DR. SALMON: Thank you.

34

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 CHAIRMAN FROINES: It's two parts per billion?
2 What's the ambient level, Roger?

3 DR. ATKINSON: Oh, it used to make it up to
4 about one. We've seen lower values than that but
5 certainly fairly close to a ppb would be expected or
6 anticipated.

7 CHAIRMAN FROINES: In --

8 DR. ATKINSON: Maximum.

9 CHAIRMAN FROINES: If you have the basis, how
10 about over here?

11 DR. ATKINSON: The times when we had the
12 highest -- well, it was in summer about ten years ago
13 when we were measuring consistently about one ppb in
14 Azusa area. Here recently it's been lower by maybe up
15 to a factor of 10. But that's -- you know, and so much
16 depends on meteorology and just when you're doing the
17 measurements.

18 CHAIRMAN FROINES: And if you added in the one
19 methyl, two methyl naphthalene --

20 DR. ATKINSON: They would only kick it up by
21 maybe 20 percent, so not very much. Naphthalene totally
22 dominates over -- oh, not totally but dominates fairly
23 well over one and two methyl naphthalenes.

24 CHAIRMAN FROINES: So we're --
25 DR. ATKINSON: But you're getting close to --

35

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 you know, you could reach that in the atmosphere and
2 rotate inversion and close to an emission source.

3 DR. BLANC: Well, maybe that's appropriate
4 then.

5 CHAIRMAN FROINES: Well, it shows you this
6 number, this naphthalene number, is actually quite
7 important --

8 DR. ATKINSON: Yeah.

9 CHAIRMAN FROINES: -- because you're right on
10 the border here with it. And for people like me who
11 think these things then become quinones and start all
12 surgent things --

13 DR. BLANC: Can you leave your obsession for
14 just a few minutes and go on?

15 DR. ATKINSON: People who used to live in the
16 entomology museum here have been exposed to much higher
17 concentrations than that for a full lifetime.

18 DR. BYUS: Well, that's no recommendation.

19 DR. ATKINSON: No, I know. Maybe they were a
20 bit --

21 CHAIRMAN FROINES: They were a survivor
22 population.

23 DR. ATKINSON: The few of them that were left.

24 DR. SALMON: Well, I think I could also
25 reemphasize the point I made at the beginning, that the

36

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 REL is designed to be a concentration of which is a
2 reasonable expectation that there would be no adverse
3 health consequences. It's not -- you know, it's
4 deliberately designed to be below the effect level
5 except in case of idiosyncratic responses. And
6 obviously that's -- in the interest of protecting the
7 public health, that's the way we would want it to be.

8 CHAIRMAN FROINES: But later today, which I
9 don't think we'll get to, but if we talk about -- if we
10 talk about priorities, one of the issues becomes the
11 two- and three-member ring pH's.

12 Let's go ahead.

13 DR. SALMON: Styrene, the -- we in fact

14 originally had a USEPA RFC for styrene, which was based
15 on the NOAEL and uncertainty factor method.

16 There was some recent work on benchmark dose
17 analysis of this study done by OEHHA which enabled us to
18 propose a revised REL using the BMC 05 method which I've
19 just referred to. And this in fact resulted in a very
20 minor change in the proposed REL. But we feel it's a
21 methodologically sound derivation.

22 The toluene proposal is significantly modified
23 from where it was before, primarily in methodological
24 terms. The original proposal was the USEPA RFC based on
25 an epidemiological study with a LOAEL derivable and

37

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 somewhat fully quantified exposure.

2 The revised proposal actually uses as the
3 primary key study an animal experiment. However, there
4 are a number of other supporting studies based on other
5 animal studies and also some supporting human studies.
6 And when we examined this set of data in its totality,
7 we concluded firstly that all these studies were
8 indicating effect levels which, after correction for
9 exposure durations and inter-species comparisons and
10 things like that, were basically pointing at a somewhat
11 similar level.

12 And secondly, we felt that the availability of
13 the supporting human studies actually reduced the
14 overall uncertainty with which we were having to deal in
15 using the animal study as the primary basis.

16 So taking all these factors into consideration,
17 we came up with a revised REL of 300 micrograms per
18 meter cubed, which we feel represents a level expected
19 to be protective of the adverse effects, which are
20 primarily central nervous system based, of course, on
21 the basis of both the animal and the human studies.

22 May I have the next slide, please?

23 CHAIRMAN FROINES: Andy, just one quick
24 question.

25 DR. SALMON: Yeah.

38

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 CHAIRMAN FROINES: Have you gone through and
2 looked at how the numbers that you are developing here
3 -- how they may compare with any regulatory numbers

4 under Prop 65, and are --

5 DR. SALMON: We --

6 CHAIRMAN FROINES: -- they consistent?

7 DR. SALMON: Are they consistent? Yeah, one of
8 the things that we actually do and which is described in
9 the text for toluene, we do review the toluene
10 reproductive and developmental toxicity data. And this
11 REL as proposed would be protective of those effects
12 according to our methodology and --

13 DR. COLLINS: The NSRL for toluene is 7,000
14 micrograms per day, and at 300 micrograms per cubic
15 meters times 400 liters out to 6,000. So quite similar.

16 CHAIRMAN FROINES: So would you -- based on
17 this, would you then change that number to be
18 consistent?

19 DR. SALMON: No, I think the Proposition 65
20 process is relatively inflexible in terms of its -- the
21 way it calculates the numbers. So I don't know that we
22 have any discretion to change the way that they
23 calculated their number.

24 CHAIRMAN FROINES: Oh, that's right. Because
25 in the past --

39

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. SALMON: But I think what they're saying,
2 as far as any practical consideration is concerned, we
3 are consistent with that. And we're not -- that was a
4 point which we were at pains to establish when we were
5 considering the overall toxicity situation here.

6 Well, that's the end of the individual
7 compounds discussions. I'll finish at this point unless
8 you need to ask me any further questions.

9 CHAIRMAN FROINES: Does the panel have further
10 questions or queries on these chemicals?

11 DR. BLANC: Just a process question. Did you
12 find that the way we did it was as useful as it could
13 have been for you, or did we just make your life
14 miserable or --

15 DR. COLLINS: Do we have counsel here?

16 DR. BLANC: Yeah, because if we're going to go
17 forward and then reiterate this work in progress with
18 this next batch --

19 DR. COLLINS: I'd like to speak to that because
20 I do the crunch work, and I found it very helpful. It
21 made us put in more comparisons, to put actual data in,
22 to go check federal references for some of the physical
23 chemical stuff. So I think it was helpful.

24 DR. MARTY: I think I'd agree with Jim that the
25 comments we got were really good and improved the

40

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 document tremendously. I think some of the pain was
2 more coming here to the panel and not knowing yet what
3 your concerns were, making it difficult to address them
4 on the spot. That's a little painful sometimes.

5 But the only other way to do it that I see is
6 to have the panel members who are assigned to chemicals
7 write out comments and submit them to OEHHA. I don't
8 know if that's something that you would be willing to do
9 or had the time to do or if it makes sense to do it that
10 way. That's --

11 DR. SALMON: We're very happy to accept any
12 comments on that basis.

13 CHAIRMAN FROINES: Well, we have assigned - and
14 everybody in the room has forgotten what they've been
15 assigned to - the next group of 40 chemicals, if that's
16 the right number.

17 DR. BLANC: Have we?

18 CHAIRMAN FROINES: Yup.

19 DR. BLANC: Well, I don't -- not only do I not
20 remember which ones they were, but I don't remember the
21 next group.

22 CHAIRMAN FROINES: Have they got them?

23 Oh, no. The good news is you haven't got them.
24 The bad news is we've done it.

25 DR. BLANC: You know, in the ideal world, what

41

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 you say is correct, that it would probably be useful if
2 we supplied written comments.

3 But I can tell you that from a practical point
4 of view, as long as you feel comfortable enough with
5 sort of doing, you know, the live-TV version rather than
6 the pretaped broadcast, it's easier, I think -- at least
7 for me, speaking personally, it's easier to do it the
8 way we did it.

9 And I'll always sort of give you my scribbled
10 notes, but I would actual -- to provide something
11 coherent, I would have to sit down and word process
12 something and --

13 DR. MARTY: Right.

14 DR. SALMON: I think if there were any, you
15 know, specific major concerns that the panel member had,
16 obviously, we'd be very pleased to hear about them as
17 soon as possible, even by -- you know, even verbally, if
18 that's permissible.

19 DR. BLANC: Well, what I would say is that if
20 -- if reviewing chemicals, I say, you know, there's --
21 you know, John Smith studies cited here, rather than
22 just come here and say John Smith study, I'll at least
23 bring you the abstract citation that I can hand to you
24 at the time.

25 And similarly, I would suggest that if people

42

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 -- and people have done this already, is that -- you
2 know, this doesn't sound right for the boiling
3 temperature for, you know, whatever, that if you have a
4 Merck manual, you can just bring it in at the time. So
5 we're not talking off the top of our heads, but if we
6 don't have to prepare formal written reviews, I would --

7 CHAIRMAN FROINES: Well, is the compromise in
8 this that the panel members know which chemicals they
9 have; they receive the information on the chemical; if
10 they were -- Paul may not do it, but Gary may or what
11 have you. Some may submit written comments or
12 communicate with you somehow. Otherwise, we'll continue
13 it. I think that's the compromise.

14 I think that the -- I think it's nice of you to
15 say that the process worked well. But as we all know,
16 without making it too explicit, this has been a very
17 slow process too. And so that if there's a way in which
18 we could speed it up, I think we would all benefit.
19 Because, you know, you're in this position about saying,
20 oh, my God, here come those 40 chemicals again and again
21 and again. But we want to do a thorough
22 job too. So any suggestions that would work.

23 I frankly think it would be better if people
24 did take the time to send you comments, but practical
25 limitations may prevent it.

43

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. ATKINSON: I have some minor comments just
2 on the chemical properties and the usage stuff. I've
3 got them written down so I'll just hand them to you.

4 DR. SALMON: Thank you.
5 CHAIRMAN FROINES: Do we need a motion then to
6 formally accept?
7 DR. COLLINS: We did last time.
8 CHAIRMAN FROINES: We did? So we've done it.
9 Jim, do you -- we have -- Jim says that we had
10 an acceptance resolution at the last meeting. So we
11 don't need to do anything because we're really cleaning
12 up loose ends at this one.
13 DR. MARTY: I think the last meeting, though,
14 it was the methodology plus the first 22 chemicals, and
15 this meeting it's 16 more. So we may want to make that
16 clear.
17 DR. BLANC: That does confuse me. The 16 more
18 ones that we did discuss?
19 DR. MARTY: Correct.
20 DR. BLANC: But there were 20 or so that we
21 already grandfathered in or were done?
22 DR. MARTY: We couldn't keep up with getting
23 all of them to you the last meeting in February.
24 DR. BLANC: Right.
25 DR. MARTY: So we just brought some of them

44

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 back to you, and the rest of them that you've already
2 looked at, these are the rest of the ones you've already
3 looked at.
4 DR. BLANC: Okay.
5 CHAIRMAN FROINES: So we need a motion to
6 accept these chemicals.
7 DR. BLANC: I move that we accept the modified
8 document as presented.
9 DR. ATKINSON: Second.
10 CHAIRMAN FROINES: All in favor?
11 DR. BLANC: Aye.
12 DR. BYUS: Aye.
13 (Show of hands.)
14 CHAIRMAN FROINES: Unanimous. Thank you.
15 DR. MARTY: Thank you.
16 DR. COLLINS: Thank you.
17 CHAIRMAN FROINES: It's quarter to 12:00. We
18 have a couple of constraints. One, we have Paul leaving
19 at 1:30. We can go on now to the issue of MITC, or we
20 can break for lunch.
21 DR. BLANC: How about if we took a ten-minute
22 break and then started with MITC and, if it seems as if

23 it's going to drag on forever, then we took a lunch
24 break?

25 CHAIRMAN FROINES: The panel -- members of the

45

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 panel should think, because if we want to run through
2 and go as far as we can go until 1:30 without taking a
3 lunch break and then stop the meeting and then have a
4 lunch break after that --

5 DR. FRIEDMAN: Is there food here that we could
6 bring back and eat while we're meeting?

7 CHAIRMAN FROINES: I think so. He says there's
8 a cafe.

9 DR. BYUS: There's a cafe.

10 CHAIRMAN FROINES: So if we took a break and
11 brought food back, we could be meeting while we --

12 DR. BLANC: How about a 15-minute break right
13 now?

14 CHAIRMAN FROINES: Fifteen-minute break right
15 now with a potential to bring some food back, is that
16 acceptable to everybody?

17 (Whereupon a lunch recess was taken.)

18 CHAIRMAN FROINES: Paul, you want to -- Elinor?
19 Andy?

20 Let me review for the panel where we are as I
21 understand it. At the last meeting, the panel voted for
22 a resolution that Paul Blanc presented which approved
23 the documents for MITC. The title of that resolution
24 was that, "The Panel Approves the Documents for
25 Metam-Sodium and Breakdown Products." And that was a

46

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 point of departure because the document had been labeled
2 as MITC. But the discussion during the day focused on
3 the role of metam -- MITC vis-a-vis MI -- MITC.

4 So then, as we normally do, we went off to
5 develop the Scientific Review Panel's findings. And as
6 we've done in the past, the lead agency develops a draft
7 for the panel, which we then modify as we so choose and
8 then take it to the panel for final approval.

9 So Andy was nice enough to put together a draft
10 document for us. And then Elinor and I took a look at
11 it, and Roger Atkinson and Peter Witschi looked at it.

12 And one of the things to say at the outset is

13 that I think that the only prior panel findings that DPR
14 really had to work from in terms of drafting something
15 may have been diesel or lead or some documents from the
16 past which were unique more or less unto themselves.
17 They weren't our usual, pardon the expression,
18 run-of-the-mill findings.

19 So what Andy did was to prepare what is
20 essentially a very long document. And that's okay
21 because you can always take a long document and tighten
22 it up. It became -- it looked a little bit too much
23 like another executive summary of the overall document.
24 I don't mean that as a criticism. I mean it's just that
25 it needed to be tightened up.

47

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 So having gotten a draft from them, what we did
2 was to ask Elinor to then develop a draft for us that
3 could go to the panel. And she did that.

4 So what you have before you, what you received,
5 is Elinor's preliminary draft. And she did it in a very
6 short period of time. So she and I recognized that it
7 wasn't going to be a final document for the panel to
8 approve today. But it was a first step, and we will
9 approve a document that will be completed at the next
10 meeting.

11 And so that's a little bit of the history.
12 During the course of all this, I went back and looked
13 over the exposure assessment in the original report
14 based on what I read from Andy, because in Andy's
15 document I had some trouble figuring out what was --
16 what actually had happened in terms of some of the
17 averaging relative to the exposure.

18 And so it was clear to me from the draft
19 findings that there were some exposure issues that were
20 problematic. I then went back and looked at the
21 original document and realized that there are some --
22 some issues of consequence.

23 So at this point what I'd like to do is to
24 propose that we discuss this document to the degree that
25 people have had a chance to read it; that Elinor and I

48

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 and the leads, Peter and Roger, can go back and develop
2 a more complete document that will sort out some of the

3 exposure issues and try and bring a more final document
4 to the panel and so that we can improve the metam-sodium
5 MITC document at the next meeting. So that's my
6 proposal for the procedure.

7 I think that there are issues about exposure
8 that we will not take up when we take up the findings
9 but we'll take up in a subsequent meeting, we hope maybe
10 in July, which begins to look -- take the findings from
11 our workshop and discuss some issues of exposure
12 assessment more thoroughly further.

13 And my view is that there are issues -- in
14 looking at exposure assessment, I would say there are
15 three issues that we need to focus some effort on. One
16 is the issue of the representativeness of the samples
17 that are collected. Often we find ourselves drawing
18 major conclusions about a document from samples but in
19 which we haven't had any -- we haven't had discussions
20 in the document about the representativeness of those
21 samples.

22 Secondly, we haven't looked very effectively, I
23 think, at distributional issues, that is, issues of
24 variability, and we haven't addressed as fully as we
25 might issues of uncertainty.

49

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 And so representativeness, variability and
2 uncertainty are sort of the key words that seem to me to
3 be issues that we can take up. And this has to do not
4 with MITC, this has to do with all the things that we
5 are talking about in the future.

6 So those are the issues I think that we need to
7 take up at a meeting. So that we're talking about two
8 meetings, one in which we finalize the MITC document and
9 a subsequent meeting in which we talk about some of the
10 -- which is basically a follow-up discussion to our
11 workshop and findings on exposure.

12 Now, having said that, we've created a slight
13 contradiction. We're saying that there are some issues
14 that are not adequately dealt with in the document.
15 However, I do think that Paul's motion was correct and
16 we shouldn't go back on it because I think what happened
17 is we recognized that the exposure data that was in the
18 document does indicate that the exposures that occur are
19 sufficient to meet the criteria to recommend the
20 compounds as toxic air contaminants.

21 So that the fundamental decision hasn't been
22 called into question. It's more how we look at exposure

23 issues rather than that there's any fundamental problem.
24 So that, as far as I'm concerned, we can go
25 forward with the documents as they are because we have

50

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 met the basic criteria that we would normally use to
2 make a resolution and bring it to closure.
3 And so I think that what Paul suggested last
4 time, the resolution that we voted on, is still
5 consistent and we can go forward and correct these
6 problems. And some of them -- some of the things are
7 not problems. They're larger issues which I think will
8 have implications well beyond MITC and will be a matter
9 of some interest intellectually and scientifically.

10 So that's where we are. Is that all clear?
11 Did I say that clearly?

12 DR. BLANC: Well, the only thing that was
13 slightly confusing in what you said was when you used
14 the word "document," you were referring to the findings,
15 not "the document" referring to the -- whatever the
16 correct technical term is for the original report.
17 We've already approved the report, but what we still
18 have not yet approved is the language of the findings.

19 CHAIRMAN FROINES: Findings.

20 DR. BLANC: So when you say we'll approve the
21 document at our next meeting, we'll approve the written
22 form of the findings; is that correct?

23 CHAIRMAN FROINES: That's correct.

24 DR. BLANC: Just to clarify.

25 CHAIRMAN FROINES: We have -- what I'm saying

51

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 is we have approved the report, and I don't propose that
2 we go back to that issue.

3 DR. BLANC: Right, right.

4 CHAIRMAN FROINES: We haven't approved the
5 findings.

6 DR. BLANC: Right.

7 CHAIRMAN FROINES: And I'm saying at the next
8 meeting we will go back to that issue.

9 DR. BLANC: Right.

10 DR. FRIEDMAN: Do you want us to comment on it?

11 CHAIRMAN FROINES: Yes. Yes, so that the --
12 what I think we should do is to get as many comments as

13 we can right now and then -- because that will be very
14 valuable in terms of completing the thing.

15 And I think the one -- as you notice, the part
16 that's most missing in here is the exposure so --

17 DR. FRIEDMAN: Well, I had a few suggestions.

18 Item 22, you go into the carcinogenicity
19 studies toward the end, and then you say, "When
20 combined, the incidence rate at the high dose achieved
21 statistical significance with respect to
22 controls DPR concluded that these findings do
23 not provide sufficient evidence to conclude that MITC is
24 an animal carcinogen"

25 And I just -- in reading this, when I read

52

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 this, it sounded like there was evidence it was a
2 carcinogen, and it seemed like some of the reasons why
3 you might not have concluded that is because you didn't
4 take the overall data as the criterion but you
5 subdivided it. And maybe it's in the subdividing that
6 you lost statistical significance.

7 So I think maybe there's nothing wrong with --
8 as I read this, it doesn't quite jibe. You know, the
9 conclusion doesn't fit with the findings. I think maybe
10 it needs some changes or more said there, Elinor.

11 DR. FANNING: Yes. That finding is a little
12 bit problematic. I was trying to work with the
13 discussion that we had at UCSF in February where we
14 spent quite a bit of time going through the data. You
15 know, I would definitely be interested in
16 recommendations for changing the language.

17 I don't know if Dr. Witschi would like to
18 comment on this. I have -- in front of me I actually
19 have a version that has a slightly modified finding
20 number 22 based on language that he's recommended. I
21 don't know if you'd like to read and discuss that.

22 DR. WITSCHI: Yeah, why don't you go ahead and
23 read it?

24 DR. FANNING: Okay.

25 DR. WITSCHI: I don't have it with me.

53

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. FANNING: Okay. Shall I read it?

2 DR. BLANC: Just the last part as it touches on

3 -- or whatever part you've modified as it touches on it.
4 DR. FANNING: Okay. It modifies slightly the
5 description of the studies and the results. The final
6 concluding sentence is somewhat similar. The sentence
7 says -- it reads now -- with Dr. Witschi's suggestions,
8 says, "The data do not allow to conclude that MITC is an
9 animal carcinogen." So --

10 DR. FRIEDMAN: Well, the stuff you show here
11 does sound like it is.

12 DR. BLANC: Well, let me -- maybe I could
13 expand on it, just a more generic point in terms of the
14 structure of the findings consistent with what John
15 said, that this is not an executive summary of their
16 document, this is our findings based on reading their
17 document and touches on the extent to which we feel that
18 scientific -- scientifically appropriate approaches were
19 used or whatever limitations there may be. And
20 therefore I actually think the last sentence is
21 superfluous.

22 I don't really actually care whether DPR wrote
23 in their document whether it was or it wasn't a
24 carcinogen. These are the descriptive data that they
25 used in assessing its carcinogenicity, and they in fact

54

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 are open to interpretation.

2 But the important feature is that the data were
3 looked at. And since the carcinogenicity is not driving
4 the risk assessment here, I don't think we're -- we
5 don't -- our requirement is not -- I don't find it
6 helpful simply to repeat what DPR's conclusions were. I
7 would rather if we -- if we differ or we have our own
8 conclusions to say what those are. But then that takes
9 us down a different slope.

10 DR. WITSCHI: That was my own conclusion. In
11 the last sentence, that's what in fact DPR concluded or
12 thought there. What I did in this rewrite was writing
13 it as if this was the panel's conclusion.

14 Why don't you read the sentence once more?

15 DR. FANNING: The --

16 DR. WITSCHI: Why don't you read the whole
17 thing?

18 DR. FANNING: Shall we go through the whole
19 thing?

20 CHAIRMAN FROINES: Well, don't go through all
21 the data part.

22 DR. WITSCHI: It's much shorter.
23 DR. FANNING: Okay.
24 DR. BYUS: Read it.
25 DR. FANNING: Okay.

55

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BYUS: If you wouldn't mind.
2 DR. FANNING: Okay. We'll read it.
3 "Long-term oral toxicity studies of MITC have
4 been conducted in dogs, rats and mice. No bioassays of
5 inhalation exposure were identified. A suggestion of
6 oncogenic potential was noted in rats and mice exposed
7 to MITC in drinking water. In female rats given 2, 10
8 or 50 ppm of MITC in drinking water for 104 weeks, the
9 incidence of benign and malignant mammary gland tumors
10 was significantly higher in the 10 ppm but not the 2 or
11 50 ppm groups. Comparison of controls versus all
12 exposed animals did not show a statistically significant
13 increase in overall tumor incidence."
14 So that's that study. And then, "In the mouse
15 drinking water study, a small increase in cutaneous
16 fibrosarcomas was observed in the highest dose group of
17 males and females. When the data from both sexes were
18 combined, the increase in tumor incidence was
19 statistically significant." And the "p" value is given.
20 Then the final sentence once again, "The data
21 do not allow to conclude that MITC is an animal
22 carcinogen."
23 DR. FRIEDMAN: What would it take to allow you
24 to conclude that?
25 DR. WITSCHI: Well, the rat study is -- as I

56

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 said, if you lump all the groups together and do a 50
2 squared, then there's no significant increase in
3 incidence. As a matter of fact, the instance was from
4 50 percent controls to 62 percent in the treated ones.
5 In the mouse study, it's even worse because
6 there the incidence goes from zero percent in the
7 controls to .46 percent if you use all the treated ones.
8 And I think this is a significance only. If there had
9 been one animal in the control group, it would not be
10 significant.
11 DR. FRIEDMAN: But there wasn't.

12 DR. WITSCHI: There wasn't, yes.
13 DR. BLANC: Well, wouldn't -- I think that the
14 consensus view when we discussed it would -- the fairest
15 way to summarize what the consensus was was that we all
16 agreed that the data were not conclusive --
17 DR. WITSCHI: Yeah.
18 DR. BLANC: -- in regards to carcinogenicity.
19 DR. WITSCHI: To address Gary's question, there
20 wasn't. You know, this is also somewhat -- you can't
21 draw necessarily this conclusion because when we're
22 dealing with 30 controls about the total of 120 treated
23 ones. And if you have 120 controls, your chances of
24 finding one there would be bigger.
25 DR. BYUS: Right.

57

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BLANC: But would people feel more
2 comfortable with that wording? It's a nuance issue.
3 DR. WITSCHI: Yeah, I mean --
4 DR. BLANC: Because the issue is not -- some
5 people will look at those data and say -- if one uses
6 the words, "This does not indicate carcinogenicity,"
7 well, there are some indications, but it's certainly not
8 something that's it's conclusive that it's carcinogenic,
9 and I think that's the thrust of it.
10 CHAIRMAN FROINES: So you're suggesting that
11 the data are --
12 DR. BLANC: That the final sentence should be
13 that, "These data are not conclusive in regards to
14 carcinogenicity."
15 DR. FRIEDMAN: I would feel better about that
16 than to say they don't show it.
17 CHAIRMAN FROINES: "These data are not
18 conclusive with respect to carcinogenicity."
19 However, I'm going to write another paragraph
20 to go with this. And you can just throw it out or agree
21 with it. Because I think that there needs to be a brief
22 discussion in which we look at the fact that there's
23 evidence of carcinogenicity for metam-sodium, MITC and
24 MIC.
25 There is some consistency across the primary

58

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 and two breakdown products, and that's an issue which

2 cannot be ignored in my view. And so we may end up with
3 the conclusion that it's all -- it is not conclusionary,
4 but I think we also need to signal that this is an area
5 that requires further evaluation.

6 DR. BLANC: Well, I think you're sort of
7 segueing into the uncertainties and other relevant
8 findings section. I mean, that's where you're saying
9 you would put something like that.

10 CHAIRMAN FROINES: Right.

11 DR. FANNING: Yeah, you might want to look at
12 the language that's currently there for point 47, which
13 is an attempt to address that point.

14 DR. BLANC: But you still have other points to
15 make, don't you?

16 DR. FRIEDMAN: I have a couple. This is
17 probably -- this may not even be appropriate, but under
18 number 34, the benchmark of at least 10 is considered by
19 DPR to be protective, is there any definition in here of
20 benchmark? That seems to -- I don't work in this field
21 very much. I know we've heard it and I've heard it
22 defined before, but shouldn't that definition be in the
23 document?

24 DR. FANNING: Perhaps it would be clearer to
25 say a benchmark MOE, Paul?

59

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BLANC: In the document?

2 DR. FANNING: Yeah. It's essentially a number
3 to which the MOE is compared. So I don't believe
4 there's a formal -- the word benchmark is sort of just
5 chosen to indicate that. That's the comparison point.

6 DR. FRIEDMAN: I just think a few more words
7 there to explain --

8 DR. FANNING: Okay.

9 DR. FRIEDMAN: -- explain what you mean, if you
10 could.

11 And then in number 47, you talk about drinking
12 water studies. I think it would be worth adding the
13 words "in animals." Because when I think of drinking
14 water, I always think of people.

15 DR. FANNING: Good point.

16 DR. FRIEDMAN: That's all.

17 CHAIRMAN FROINES: Paul?

18 DR. BLANC: Well, returning to the theme of
19 executive summary versus findings, we very intentionally
20 approached the document, the report, as addressing
21 metam-sodium and its breakdown products. The actual

22 organization of the report was weighted as an evaluation
23 by and large of MITC. And some of that has -- has
24 hampered, I think, the structure of the findings in a
25 way that makes the findings less logical in their

60

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 progression than they might otherwise be.
2 And therefore I would suggest that -- and I'll
3 give you my written notes afterwards, but I would
4 suggest that in the initial health effects section of
5 metam-sodium that you take the -- any human reports, and
6 most specifically the Dunsmuir spill, and place it under
7 that section.

8 Because the assumptions have been made and the
9 publications people focused on MITC because they
10 realized after the fact that that was the most salient
11 breakdown product of metam-sodium. But in fact we have
12 no way of knowing how much of the Dunsmuir symptoms were
13 not related to MIC. It was never measured, nor was MITC
14 measured really in any realtime way.

15 So I think it's logical to have your health
16 effects of metam-sodium, the first part be animal
17 studies where you say these are mostly -- these are not
18 inhalation studies because metam-sodium isn't -- isn't
19 vol -- isn't in itself volatile. But the human studies
20 would be any human outbreak or case report that was from
21 metam-sodium.

22 So that would just be one logical outline. I
23 think that there are a number of ways in which the text
24 has to be carefully edited for being more cautious or
25 specific in language. And I'll just give you notes. I

61

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 don't want to go over that here.
2 But in terms of the more generic issues, to me
3 the issue with exposure in exposure assessment in the
4 original document is from a public health point of view,
5 that all of the errors, omissions and uncertainties, and
6 the fragmentary and limited nature of the exposure
7 assessment data would all drive towards underestimation
8 of exposure.

9 Therefore, if our finding is that this is a
10 toxic air contaminant, even given the limited nature of
11 the exposure data that there is, if you had better

12 exposure data, it could only drive it in the other way.
13 There is no -- we have no scientific basis upon which to
14 assume that the error would be in the other direction of
15 overestimation. And I think that's a point that needs
16 to be made in the uncertainties section.

17 I've drafted a little language, and I'll just
18 read it briefly. I'm not wedded to this, but this is my
19 thought:

20 "The current database assessing ambient
21 exposures to metam-sodium breakdown products is
22 limited in important ways. These limitations may
23 lead to potential underestimation of MITC and, to an
24 even greater extent, to MIC following application of
25 metam-sodium. The limitations of current data do

62

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 not indicate a meaningful likelihood of
2 overestimation of exposure to MITC or MIC. Thus,
3 estimates based on available data that nonetheless
4 identify excess risk are inherently conservative."

5 DR. WITSCHI: Sorry. I don't understand the
6 last --

7 DR. BLANC: In other words --

8 DR. WITSCHI: Can you reread the last sentence?

9 DR. BLANC: "Thus, estimates based on available
10 data that nonetheless identify excess risk are
11 inherently conservative." In other words, I missed 90
12 percent of the exposure. Even with the 10 percent of
13 the exposure, when I do all my little risk calculations,
14 the ratio is greater than ten to one or less than ten to
15 one or whatever it has to be.

16 DR. FRIEDMAN: Paul, again, I think the problem
17 is the use of the word "conservative." Because I know
18 exactly what you mean --

19 DR. BLANC: I'm not wedded to the language.

20 DR. FRIEDMAN: -- but they often use the word
21 in health conservative --

22 DR. BLANC: That's right.

23 DR. FRIEDMAN: -- meaning you want to go the
24 other way.

25 DR. BLANC: Well, I'm not wedded to the

63

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 language, but as long as you understand what I'm talking

2 about.

3 DR. WITSCHI: No, that's what threw me off,

4 because --

5 DR. BLANC: Right.

6 DR. WITSCHI: -- you say what we are doing --

7 DR. BLANC: Right.

8 DR. WITSCHI: -- is very health conservative,

9 but it is not because we do not have the data. We --

10 DR. BLANC: Yeah, okay. That's fine. Whatever

11 you want.

12 CHAIRMAN FROINES: I'm not sure you are

13 agreeing right now.

14 DR. BLANC: All I'm saying is if they found an

15 effect with the lousy data that they have, we have a

16 real -- enough to say qualitatively, not quantitatively,

17 that this is a toxic air contaminant. If you had even

18 better data, then you would say it five times over that

19 it is a toxic air contaminant.

20 DR. WITSCHI: But you want to say if we had

21 better data what we have might actually be

22 underestimating the risk because of the lousy data.

23 CHAIRMAN FROINES: That's what he's saying.

24 DR. WITSCHI: Well, that's not what I --

25 CHAIRMAN FROINES: He's saying the opposite of

64

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 the bias towards the null with exposure

2 misclassification. He's saying with the limitations

3 with the exposure, of the bias -- we have enough to find

4 an increase to -- we have -- MOE just means the

5 criteria.

6 DR. BLANC: I can even word it better. If it

7 confused you, it will confuse somebody else. So it

8 should definitely be worded differently as long as you

9 find that I think there should be some kind of finding.

10 DR. WITSCHI: It's the conservative versus not

11 conservative that confuses me.

12 DR. BLANC: Right. Now, the other thing is I

13 think in the of final -- the other sort of policy issue,

14 I think that the very final finding should also allude

15 to MIC. I think that -- you're saying that -- what you

16 say is that we want to list MITC as a toxic air

17 contaminant, we want to list metam-sodium as a toxic air

18 contaminant and dazomet as a toxic air contaminant, but

19 unless MIC is already a toxic air contaminant -- which

20 it may be. I don't know.

21 DR. FANNING: Yeah, MIC is a HAP. So --
22 DR. BLANC: Right.
23 DR. FANNING: -- as a hazardous air
24 pollutant --
25 DR. BLANC: So we don't have to. Then forget

65

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 it.
2 DR. FANNING: -- it would be listed.
3 CHAIRMAN FROINES: Is that right?
4 DR. FANNING: That's my understanding. We
5 looked at --
6 CHAIRMAN FROINES: But it's listed from the
7 standpoint of George. It's not necessarily listed from
8 Paul's standpoint.
9 DR. RUBIN: If anything's listed as a HAP, if
10 it's a pesticide, we also list it.
11 CHAIRMAN FROINES: You do?
12 DR. BLANC: Well, then we should just make a
13 separate point that we're not going to -- you know, we
14 recognize that MIC has already been listed.
15 Then why are we going through this whole
16 exercise? If you proved that seven percent of
17 metam-sodium breaks down in this thing, don't you have
18 to list metam-sodium as a toxic air contaminant? Why
19 did we go through all this?
20 DR. BYUS: Remember, they couldn't prove that
21 it came from that maybe. I don't know. Forget it.
22 CHAIRMAN FROINES: The --
23 DR. BLANC: Well, never mind.
24 DR. BYUS: Never mind.
25 DR. BLANC: Anyway, you've done it.

66

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BYUS: We've done it. We've done it.
2 DR. BLANC: I mean, I have to say that as a
3 occupational health person, the thing that surprised me
4 the most in the document, in the original document, was
5 the data about MIC. Because in all of this sort of
6 discussion of Dunsmuir among colleagues and, you know,
7 the issue about MITC, we recognized there are structural
8 similarities to MIC and sort of always emphasized, well,
9 it's not MIC, but it's sort of structurally related, not
10 quite as toxic.

11 But nobody every said in all those discussions
12 that, by the way, you know, this breaks down to MIC.
13 So --
14 CHAIRMAN FROINES: Well, there's another issue
15 -- which I don't want to even open the can of worms, but
16 the issue -- this metam-sodium breaks down to carbon
17 disulfide, hydrogen sulfide, MIC, MITC. And there's
18 potential for quite significant toxicity associated with
19 that.
20 DR. BLANC: Yeah, I thought that in the draft
21 findings that that was weighted sufficiently. I thought
22 that -- I didn't see a lot of places where the issue of
23 carbon disulfide and hydrogen sulfide needed to be
24 brought up more than it was. I thought it was
25 appropriately alluded to in the findings.

67

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 I mean, I might feel differently when I see the
2 next version, but just my initial take on it was that it
3 wasn't -- it was --
4 CHAIRMAN FROINES: I'm going to add -- I think
5 I'm going to look and try and design a table in which on
6 the one side you have chemicals and on this side we have
7 end points. And I want to see with all those chemicals
8 where there is commonality in end points to give a sense
9 of where interactions might have some significance.
10 DR. BLANC: Again, for your limitations and
11 uncertainties section?
12 CHAIRMAN FROINES: Somewhere in there, yeah.
13 DR. BLANC: Because, you know, it seems to me
14 that the uncertainties section is where you talk about
15 things that the document didn't talk about, but you
16 can't really use the document to infer things that the
17 document didn't say anything about. So you have to be
18 cautious about where you place such findings.
19 I think this is -- has been more or less
20 cautious in that regard, but I'm just saying if you
21 start to -- and it may be of use. I don't know what is
22 more -- of more use to the pesticide, the DPR, and ARB
23 in terms of driving further work, but we could certainly
24 -- I would like to see the findings be a useful tool for
25 you to justify allocation of resources and research

68

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 priorities as well as the obvious regulatory outcomes.
2 DR. RUBIN: Yeah, and if I can answer that, add
3 to that, I think both issues, the narrow issue of
4 viewing and accepting the risk assessment document we
5 have for subsequent regulatory action is important. But
6 also equally a lot of the discussions here and the
7 uncertainty issues and the things that where data may
8 lead us to certain areas that need further scrutiny are
9 also important for us to take a look at for further
10 action, working with ARB on; if we have to do more
11 monitoring designs and other assessments in the future,
12 to keep looking at this. I think both are equally
13 important.

14 DR. BLANC: I mean, isn't there a fundamental
15 disconnect between the DPR and OEHHA in terms of this
16 MOE business?

17 DR. RUBIN: No, I think what we've actually
18 tried to do in our documents is move and incorporate the
19 REL format. And I think we've also internally taken a
20 look that, you know -- and not just this document but
21 all the preceding ones -- is that the exposure data we
22 have are very dated. Use practices have changed by the
23 time the documents reach here. And the MOE calculations
24 may still be relevant if the uses have all stayed the
25 same. And some have. But -- and in most cases the uses

69

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 haven't.
2 And so for our long-term view, the REL
3 calculation is sort of the foundation from which we
4 would take the completion of these documents to continue
5 evaluating different uses, different practices that go
6 forward.

7 So I think we're moving a lot closer in the
8 viewpoint on that so --

9 CHAIRMAN FROINES: So you would be willing to
10 adopt something as a toxic air contaminant without the
11 calculation of an MOE?

12 DR. RUBIN: Well, the way it stands now is we
13 do have that regulatory section that has at least that
14 criteria or threshold for listing materials as toxic air
15 contaminants. And that's one of the things we'll have
16 to go back and take a look at. But that's sort of the
17 guidant principle for listing.

18 But once things get listed, we're going to have
19 to view this as almost a continuous process to keep an
20 eye on the use of these materials, whether they exceed a

21 threshold that causes us to put in additional
22 restrictions, that uses may change and we need to keep
23 an eye on these things through some surveillance
24 monitoring program.

25 CHAIRMAN FROINES: Done?

70

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BLANC: I'll give you my written notes.

2 CHAIRMAN FROINES: Craig, I think not --

3 DR. BYUS: I haven't read it all. I do like
4 the way Hanspeter rewrote that last carcinogenicity
5 paragraph. I think it's much better that way he wrote
6 it. It's much clearer. And I agree with him.

7 CHAIRMAN FROINES: Roger's given his --

8 DR. ATKINSON: On the first part. I'm
9 certainly happy to help any way I can on the exposure
10 part.

11 CHAIRMAN FROINES: So for the moment -- for the
12 moment, unless -- Peter, do you have additional comments
13 for this meeting?

14 DR. WITSCHI: No.

15 CHAIRMAN FROINES: So thank you. I think -- I
16 think this is actually going to turn out to be very
17 useful in the long run. It may be a little slower, but
18 I think it will be better. And I frankly think that
19 metam-sodium is an incredibly important compound, and so
20 we should try and have our findings really be the best
21 that we can be, if you don't mind the -- so thank you.

22 And we should move on before Paul leaves. But
23 all those comments I think from Gary and Paul and
24 Hanspeter were very valuable and useful.

25 We have two items on the agenda.

71

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 DR. BLANC: We do? Can we -- John, can I make
2 a suggestion that we do number 5 before we do number 4,
3 sort of a logical --

4 CHAIRMAN FROINES: Where's my agenda? We can.
5 We can't? Paul? Paul? We're not prepared to
6 do 5.

7 DR. BLANC: So we won't be doing 5 today?

8 CHAIRMAN FROINES: No. We're going to do the
9 Toxic Air Contaminant Program Update. And what Peter
10 Venturini and I talked about is that they're going to

11 make a presentation. And because Peter Witschi would
12 like to make the same plane you're going to make, that
13 what we may do is we'll go as far as we can.

14 Peter will certainly get through his
15 presentation, and then if we want to have subsequent
16 discussion at a future meeting, we can do that. I mean,
17 that's -- well, we'll see where we get to, and then we
18 can decide. We don't need to prejudge.

19 So, Peter, welcome.

20 MR. VENTURINI: Thank you. It's a pleasure
21 being here once again. I'm going to have a few slides
22 to walk us through this. I am Peter Venturini. I am
23 Chief of the Stationary Source Division at the Air
24 Resources Board.

25 And before I begin, I wanted to really express

72

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 my appreciation to the panel that you asked to hear
2 about some of the other things that we're doing at the
3 Air Resources Board with our Air Toxics Program,
4 particularly with our risk management efforts.

5 And today I do want to pretty much focus on
6 some of our risk management activities. I am going to
7 cover quite a bit of territory so my presentation will
8 of necessity be somewhat general to give you an
9 overview. But if I've piqued your interest in any
10 particular area, I'd be more than happy to in the future
11 go into more detail with any of the programs and bring
12 some of the program people that really know a lot more
13 about the details than I certainly do.

14 I also -- while I was looking over my
15 presentation last night, I reflected somewhat that it's
16 been about 15 years that I, my division, and OEHHA have
17 been working with the panel on our air toxic programs.
18 And I just wanted to take a brief moment to express my
19 appreciation and joy at working with the panel over
20 these many years.

21 You've certainly dealt with a large number of
22 issues and compounds, and I know it's been a pleasure
23 for us. And I do know that the results of our
24 collective efforts have significantly improved public
25 health in California, and I think that's the -- our

73

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 collective objective, and appropriate. So I appreciate
2 all of your efforts.

3 My -- Robert, you want to go back one? You got
4 ahead of me a little bit on the overview.

5 These are the areas that I plan to cover very
6 briefly. I will focus primarily on the second two
7 bullets, our current actions and our future directions.

8 Just very, very briefly on the next slide, our
9 Toxics Air Contaminant Program is basically four
10 separate elements. We've got our Criteria Air Pollutant
11 Program. And I mention that because although our formal
12 Air Toxics Program really got started with legislation
13 enacted in the mid 80's, we really were in fact
14 addressing toxic air pollutants with our criteria
15 program even in the early 60's because many of the VLC's
16 that were related in our early vehicle program and some
17 of our fuels programs actually did provide for
18 reductions in some of those toxic air contaminants,
19 particularly, for example, benzene contributed to from
20 motor vehicles.

21 But then we really focused much more with the
22 legislation that created this panel and our formal
23 Toxics Identification and Control Program, followed by
24 the Hot Spots Legislation.

25 Then in 1990 Federal Clean Air Act amendments

74

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 put much more emphasis on air toxics nationwide.

2 So a little bit of background on our program.

3 The next slide basically I want to give you a
4 little perspective of where we've been. And what we did
5 is we took a look at a three year-period, '90 to '92,
6 and then the three-year period '95 to '97 and took a
7 look at those compounds for which we have ambient
8 monitoring data for. And we, based on that information,
9 from a general, overall statewide exposure, we've seen
10 and accomplished about a 30 percent reduction in risk
11 statewide overall.

12 And I want to emphasize that's the general
13 exposure. It doesn't reflect what I believe are much
14 more significant reductions in exposures that are near
15 source, near facilities where we've adopted measures to
16 get 80, 90 percent more reductions in emissions from
17 specific facilities.

18 But overall, general populations exposure have
19 been reduced significantly. And I'll show you another

20 slide a little later why I think that's very important.

21 DR. WITSCHI: Can I ask you a question?

22 MR. VENTURINI: Certainly.

23 DR. WITSCHI: The reduced risk, that's just
24 exposure? This has nothing to do -- you haven't seen
25 fewer health effects or something like this?

75

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 MR. VENTURINI: No.

2 DR. WITSCHI: Okay.

3 MR. VENTURINI: Just in the calculated risk, by
4 looking at the monitoring data, the reduced
5 concentration in the atmosphere.

6 This slide kind of gets at that second point in
7 that we have over the years adopted a number of control
8 measures for some of the more significant toxic air
9 contaminants that have been identified.

10 And the point I'd like to make here is you can
11 see the measures that we adopted have typically resulted
12 in greater than a 90, 90-plus, 95%-plus reduction in
13 emissions of those pollutants. And in one case, with
14 cooling towers, we've basically eliminated the use of
15 hex chrome in cooling towers.

16 So persons that may be exposed or had been
17 exposed to emissions near these facilities are probably
18 seeing much greater reductions in exposures than you
19 would get by just looking at the general trends.

20 DR. BLANC: This is just for chrome, this data,
21 though?

22 MR. VENTURINI: No, the first two are for
23 chrome. The metal melting included some of the metal
24 cadmium, cadmium, lead, and a few of the other metals
25 from metal foundry. The sterilized/aerators is ETO, and

76

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 medical waste incinerators included dioxin and other
2 additional compounds that would be emitted from those
3 types of facilities.

4 CHAIRMAN FROINES: Is there a place in ARB
5 where there is research or activity on the issue of
6 looking into alternatives?

7 MR. VENTURINI: In terms of when we look at a
8 control measure?

9 CHAIRMAN FROINES: Well, you decided to

10 eliminated the chromium VI in the cooling towers.
11 MR. VENTURINI: Yes.
12 CHAIRMAN FROINES: Did that --
13 DR. BLANC: And replaced it with benones.
14 CHAIRMAN FROINES: Pardon?
15 DR. BLANC: They've replaced it with benones.
16 CHAIRMAN FROINES: And they aloud Julia Roberts
17 to make a movie about Erin.
18 MR. VENTURINI: Actually, our direction -- once
19 a compound has been identified, our direction under
20 statute is to basically reduce the emissions to the
21 maximum extent feasible, and it also requires us to take
22 a look at alternatives.
23 In fact, as I go a little further in my
24 presentation, one of the measures we will be taking to
25 our board the end of this month will be actually

77

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 prohibiting the use of halogenated compounds in certain
2 cleaning activities.
3 So to answer your question, yes, we do look at
4 alternatives as we develop and look at control measures.
5 That's part of our program.
6 CHAIRMAN FROINES: Part of the reason I asked
7 the question is that it's very clear that the use of
8 Chromium VI is declining precipitously in the United
9 States, but in California it is still very widely used
10 in all the aerospace industry. Every airframe has got
11 -- is coated with Chromium VI spray paint. And it seems
12 to me that that should represent an area of intense
13 focus because it is so widely used in this state.
14 And the question is what do you use in place of
15 Chromium VI on airframes for corrosion resistance?
16 MR. VENTURINI: Well, good point. No, there's
17 certainly a lot more work for us to do in this area.
18 The next slide is intended to give kind of an
19 overall perspective of the relative risks of the various
20 compounds that we have been dealing with that have been
21 identified. And the point here is that basically, as
22 you can see from the bars, that the diesel PM represents
23 about 65 percent of the total risk associated with these
24 substances. Benzene, 1,3-butadiene, about ten percent.
25 The other thing to point out, those compounds

78

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 are mostly motor vehicle related.

2 Also, I think the 1,3-butadiene and benzene are
3 much also lower relative contributors because we've had
4 significant reductions in emissions of those.

5 But one of the reasons for showing you this as
6 well is where I'll be talking about some of our
7 priorities in terms of risk management efforts as we
8 move along.

9 CHAIRMAN FROINES: Our colleague, Elinor
10 Fanning, is currently interested in -- the thing that's
11 missing from that, you know, Peter --

12 MR. VENTURINI: Yes.

13 CHAIRMAN FROINES: -- is gasoline.

14 MR. VENTURINI: Yes.

15 DR. FROINES: We think gasoline is probably not
16 good for you either.

17 MR. VENTURINI: Well, I would concur with that.
18 There's a lot of warning signs when you go to the pump.
19 Although in our analysis I think the four significant
20 toxics associated with gasoline that comprise well over
21 90 percent of risk would be the 1,3-butadiene, benzene,
22 formaldehyde and acetaldehyde.

23 CHAIRMAN FROINES: But we still don't know the
24 role of particulates?

25 MR. VENTURINI: No.

79

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 CHAIRMAN FROINES: -- absorbed compounds on
2 particulates?

3 MR. VENTURINI: So one of the things why we
4 feel pretty good about the reductions we've achieved,
5 not only in exposure to air toxics but also in a
6 Criteria Pollutant Program, is we've received those --
7 obtained those reductions in the light of very
8 significant growth in population in the state. That's
9 about -- what is it? About 41 percent population growth
10 the last 20 years. And it just keeps going. I think
11 the statistic is well over half a million people a year
12 added to California.

13 Vehicle miles traveled, increasing about
14 double. It has increased about double the rate of
15 population. And of course our gross state product.

16 So despite the significant amount of growth in
17 California, we are making great strides in our air
18 quality program.

19 CHAIRMAN FROINES: One negative comment about

20 that.

21 MR. VENTURINI: Sure.

22 CHAIRMAN FROINES: That does reflect a little
23 bit that the risk reductions have occurred where you're
24 looking for the keys under the streetlight. On air
25 toxics, we still know so little about so many things

80

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 that if you -- if we actually knew what the problem was,
2 we might be more frightened by the answers than we
3 currently know.

4 So what we have done is with a certain number
5 of defined compounds. But Roger Atkinson could talk for
6 five days straight about nitro-PAHs and atmospheric
7 chemistry, and of course we haven't dealt with any of
8 that issue.

9 MR. VENTURINI: And that also is just the
10 compounds that we have data for. And I think your point
11 is well taken. As I go further into some of the other
12 initiatives that we're pursuing, the area of near source
13 or micro scale is becoming something that we know we're
14 going to have to look much closer at.

15 Now, let me go into a little bit some of our
16 current actions. And I just thought I'd mention that
17 here's a couple areas that will be directly affecting
18 the panel.

19 And this year we do intend to proceed with
20 entering crystalline silica into the 1807 process. We
21 have been discussing with OEHHA. We have some work
22 going on internally to try to get a handle on how we're
23 going to do exposure and so forth. So I think that's
24 going to be a very interesting effort.

25 We are talking to OEHHA about taking a look at

81

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 some of the other PAH potency factors, see if there's
2 any further information there. We recognize that could
3 be a very significant effort. And we don't want to
4 overly burden OEHHA on that, but we would like to get a
5 better perspective on some of the other PAHs.

6 And then we're initiating some health work,
7 reviewing some of the health studies on styrene that may
8 result in styrene in the next year or so being entered
9 into the identification process.

10 DR. ATKINSON: When you talk about PAHs, are
11 you limiting yourself just to the hydrocarbons, or is
12 that open to polycyclic aromatic compounds?

13 MR. VENTURINI: From my perspective, I think
14 that's open. I'm not fully aware of all the details on
15 that. My staff is working with OEHHA.

16 Would you suggest we do keep that open?

17 DR. ATKINSON: Yeah, because in the atmosphere
18 the micro compounds and the oxygenated compounds might
19 be quite significant.

20 MR. VENTURINI: Okay.

21 DR. FRIEDMAN: When you talk about crystalline
22 silica, are you referring to chip manufacturing, or are
23 you referring to things that deal with moving earth?

24 MR. VENTURINI: Primarily, I think, moving
25 earth, quarries and so forth. And this is going to be,

82

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 we think, a very difficult one to address. But I
2 understand IARC has identified crystalline silica, and
3 it did come up fairly high on our prioritization
4 process. So there is some merit to taking a look at it.

5 CHAIRMAN FROINES: The PM Center at UCLA and
6 Riverside, Irvine and USC, of course, is going to place
7 a great deal of emphasis in research on what we might
8 call polar PAHs so that there's a lot of activity that's
9 going to be happening in the next few years in Southern
10 California and has already happened with Roger and
11 Janet.

12 MR. VENTURINI: Good.

13 Okay. I wanted to share what some of our
14 priority -- current priorities are for risk management
15 efforts. And number one on our list is particulate
16 matter from diesel fueled engines. In fact, we have as
17 an organization made a major commitment to look at
18 diesel emissions, not only the PM from a toxic
19 perspective but also PM as a criteria pollutant. Also,
20 oxides of nitrogen.

21 So I think you're going to be seeing over the
22 next ten years that our efforts and our goals are to
23 substantially reduce emissions from diesel fueled
24 vehicles.

25 The good news is that the technology is just

83

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 like for gasoline vehicles. The technology to reduce
2 emissions from new diesel fueled engines and even
3 existing engines is just developing rapidly. So that's
4 very encouraging.

5 We recognize cleaner diesel fuels are probably
6 going to have to be a part of that strategy, and EPA is
7 hopefully fairly soon going to be proposing some much
8 lower sulfur diesel fuel standards that will be
9 necessary to enable some of these technologies. So a
10 lot of effort and a lot of commitment from our
11 organization to focus on diesel from a wide range of
12 perspectives.

13 The next item is actually, our board will be
14 hearing this item the end of this month. And what we're
15 looking at is primarily consumer products that are used
16 in the repair, auto repair, and maintenance activities.
17 These are things like brake cleaners, carbon choke
18 cleaners and degreasers.

19 And one of the things that we learned is there
20 are many chlorinated products, particularly brake
21 cleaners, that contain Perc. And what we are going to
22 be recommending to our board is a ban on the use of
23 Perc, methylene chloride and TCE in these automotive and
24 consumer products.

25 We believe there are very viable alternatives

84

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 available, and, even more importantly, there are aqueous
2 cleaning systems that have become available that do very
3 effective jobs.

4 So, Dr. Froines, this is an example where we
5 are looking at just replacement alternatives.

6 We also have another initiative under way that
7 will be going to our board this July, and that's a
8 revisiting of the Air Toxic Control Measure that we
9 adopted about ten years ago for asbestos on unpaved
10 roads.

11 You may be aware that in Eldorado County there
12 has been a great interest in asbestos emissions and
13 exposures to asbestos there. And we have been doing
14 some monitoring up there for the last couple of years
15 and working with the county and the citizens, and we
16 felt it would be appropriate to update our Asbestos
17 Control Measure to basically -- in my view, to take a
18 look at additional reasonable steps that can be taken to

19 reduce individuals' exposure to asbestos.
20 And in this case, the proposal that's out on
21 the street at this point in time is recommending that
22 serpentine containing -- serpentine rock, which contains
23 asbestos or can contain asbestos, be prohibited on
24 unpaved roads. So you wouldn't in the future have this
25 asbestos-containing serpentine on an unpaved road where

85

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 it can be kicked up with vehicle traffic.
2 DR. BLANC: But you can still build a housing
3 project in the midst of a serpentine containing bed?
4 MR. VENTURINI: Yes, although we are working
5 with the Department of Real Estate to look at steps that
6 can be taken for disclosure. We're also looking at
7 preparing some guidance for steps that can be taken to
8 minimize exposures during construction and quarrying
9 activities.

10 And we also would like to develop some guidance
11 that would be directed basically to a homeowner, where
12 they can be aware that they may have asbestos on their
13 property and steps that they could take to minimize the
14 exposure.

15 DR. BLANC: But couldn't you write regulatory
16 language that would essentially make it impossible for
17 such housing projects to be constructed because the
18 construction phase would never be able to meet a
19 realistic standard if you wished as public policy to
20 prevent new housing construction in such areas, rather
21 than having a passive standard which after people were
22 forced to buy the houses because they couldn't afford
23 anything else got a warning that raising their children
24 there would likely result in mesothelioma?

25 MR. VENTURINI: Well, I think, from my

86

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 perspective, you're talking about land use decision
2 making, which is basically going to have to occur at the
3 local level. What we're trying to do is provide
4 measures and steps that would minimize, say, during
5 construction activities and so forth the exposure to
6 people.

7 DR. BLANC: But all I'm saying --

8 MR. VENTURINI: Yes.

9 DR. BLANC: -- is if you seriously had
10 regulations which did indeed limit the generation of
11 asbestos in construction, I mean, if that really had
12 teeth in it, it would actually prevent the construction.
13 Because I don't think that they could use current
14 construction methods in those kinds of asbestos bearing
15 areas and meet any kind of real standard.

16 It would have -- in other words, yes, you could
17 make some kind of a guideline that won't have any effect
18 on this. But if you had a real guideline, wouldn't it
19 tend to have an indirect control on the whole problem,
20 at least insofar as new construction is concerned?

21 MR. VENTURINI: What we're looking at is
22 actually some regulatory language for construction
23 activities that would require, you know, specific
24 management practices occur to minimize dust and
25 hopefully eliminate much exposure to the dust from

87

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 construction activities.

2 And beyond that, I think you start getting into
3 the area, as I say, of planning issues that hopefully
4 the local jurisdictions will need to be addressing.

5 And we've spent a lot of time looking and
6 visiting, looking at different sites up there. And I
7 think there are some things that are reasonable to do.
8 And it would be hard, I think, in order to do a
9 regulation that requires specific action on specific
10 properties.

11 But for a homeowner, I think there's specific
12 things that they can be educated about, particularly
13 existing homeowners, that we think will lead to
14 minimizing the potential exposure.

15 DR. BLANC: Let me go back to the coordinating
16 TACs too.

17 MR. VENTURINI: Yes.

18 DR. BLANC: Because the one emerging problem in
19 the auto product category is the use of hexane, which
20 has increased dramatically. And I wonder if that's
21 something that's going to come up in that discussion.
22 Because if you link the chlorinated TAC phaseout -- if
23 you don't link it more directly to soap and water, it's
24 going to have the tendency to further increase the use
25 of hexane.

88

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 MR. VENTURINI: We are aware of that issue.
2 Our hope is that through this control measure that it
3 will hopefully move and cause many of these shops to
4 switch over to some of the aqueous cleaning systems.
5 Currently, roughly about 40-plus percent of the shops
6 are now using aqueous systems.

7 We are aware of the hexane and end-hexane issue
8 and have been in discussion with OSHA. And so I know
9 they're concerned. Whether that may be more worker
10 exposure issues versus, you know, general population
11 exposure, I'm not clear, but we are aware of that issue.

12 Finally, then, I just wanted to mention part of
13 our risk management is our continuing effort to reduce
14 mobile source emissions and cleaner fuels.

15 This last December we adopted our Phase III
16 Reformulated Gasoline Regulations, which in addition to
17 phasing out MTBE by December 31, 2002, also we also
18 reduced benzene, allowed benzene levels in gasoline
19 about another 20 percent.

20 Let me speak just very briefly, a couple
21 slides, on our diesel risk management efforts.
22 Following the identification of --

23 CHAIRMAN FROINES: Peter?

24 MR. VENTURINI: Yes?

25 CHAIRMAN FROINES: Just a quick question on

89

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 that. Carol Browner, you know, gives a press conference
2 announcing that she's moving away from MTBE.

3 MR. VENTURINI: Yeah.

4 CHAIRMAN FROINES: And then she says, "But
5 we're going to now move towards ethanol," which for some
6 of us is a -- not a perfect decision. What are the
7 implications of what Carol Browner says about ethanol
8 for California?

9 And I know OEHHA is working on a document which
10 is going to say everything's going to be wonderful.
11 Those of us who are skeptics may find that document to
12 be convincing and some not. But the -- what is going to
13 happen? Is ARB going to take a position that ethanol is
14 the oxygenate of choice?

15 MR. VENTURINI: Well, to the extent that the --
16 right now California in about 70 percent of our gasoline
17 is under a federal mandate that that gasoline has to
18 contain about two percent oxygen, which translates to

19 about six percent ethanol or about 11 percent MTBE.
20 One of the things we have been doing with EPA
21 is we've been asked -- we've made a formal request of
22 EPA to waive the oxygen mandate for California. We
23 believe that we can and we've demonstrated that we can
24 achieve the air quality benefits associated with our
25 cleaner burning gasoline program without necessarily the

90

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 use of oxygenates. And we have asked the EPA to provide
2 California with that waiver.

3 If we are successful in getting that waiver,
4 that will allow California refineries to decide what
5 oxygenate to use. And basically with the -- either MTBE
6 not being available and in our regulation that we
7 adopted in December, before anyone could use any other
8 oxygenate, it would have to go through a review. The
9 only other oxygenate that's really available would be
10 the ethanol.

11 And we believe refiners should have the ability
12 to decide which oxygenate and how much.

13 In Southern California, since we have not
14 achieved the ozone standard in Southern California,
15 during the winter months we will still see oxygenate
16 usage, which will probably translate to ethanol usage of
17 around -- rough estimate, a hundred million-plus gallons
18 per year to satisfy by that requirement at the
19 two-percent level.

20 It's uncertain. Browner's announcement would
21 basically replace the oxygen mandate with a renewable
22 fuels requirement at I think it was 1.2 percent by
23 volume. And we don't have too much in the way of
24 details.

25 But we still feel strongly that California

91

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 should be granted this waiver. But even with that
2 waiver, we do expect there will be a significant role
3 for ethanol because it does provide octane, and we will
4 see ethanol being used in California gasoline.

5 Earlier this year you may not aware the
6 Environmental Policy Council, which is made of the heads
7 of the various county EPA agencies, did have a meeting
8 where they reviewed all the information on ethanol and

9 so forth from health, water, air implications. And
10 their finding was that they didn't see any -- I guess in
11 lay terms, any significant effects that would preclude
12 the use of ethanol.

13 So they basically indicated, in essence, it was
14 okay to proceed with ethanol usage. So maybe we'll
15 learn more down the road. So --

16 CHAIRMAN FROINES: I don't want to pursue this,
17 but everybody thought MTBE was going to be just dandy
18 for about ten or 15 years. So the predictions of how
19 wonderful something's going to turn out --

20 DR. BLANC: Well, we do have a longer
21 experience of ethanol.

22 CHAIRMAN FROINES: Yeah, and we know how good
23 that is when we drink it.

24 DR. BLANC: What do you mean we?

25 DR. FRIEDMAN: Would you mind commenting a bit

92

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 on these new hybrid engines? I've heard an opinionated
2 talk show host say not only do they burn less gasoline,
3 but the engine itself, the gasoline engine itself, can
4 be virtually nonpolluting and that this may go a long
5 way to solve the air pollution problem produced by
6 automobiles.

7 MR. VENTURINI: Sure. I'll tell you what I
8 know about the program. As part of your Low Emission
9 Vehicle and now our Low Emission Vehicle II Program is
10 basically a progressive program to bring all vehicles
11 down to basically near zero, even zero, zero emissions.
12 And the hybrid's kind of one path in that direction.

13 One of the nice things about a hybrid is the
14 engine can run at a fairly constant speed, and so you
15 can reduce the emissions to near zero, zero levels. In
16 fact, it's amazing to me that many of the cars that are
17 being -- newer cars that are being certified now, once
18 they get past the startup from the cold startup, the
19 emissions are essentially zero or near zero.

20 So we're seeing very low levels of emissions
21 from new vehicles. So as a fleet turns over, we're
22 going to be seeing much reduced emissions.

23 And the hybrid is a very effective technology,
24 kind of is on the path to the zero emission vehicle.
25 There's a lot of work being done on fuel cells as well.

93

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 So you can get the hybrid engine to very low levels of
2 emissions.

3 A little bit more on the diesel risk
4 management. After we identified diesel PM, we convened
5 an advisory committee that's about 300 strong to guide
6 us in the risk management effort. And there are two
7 main focuses.

8 One is to provide some guidance to the local
9 air districts to help them deal with the permitting,
10 like stationary diesel engines.

11 And then the second effort is to develop a
12 diesel risk management plan to identify what further
13 regulatory actions that we want to take to address
14 diesel PM emissions.

15 On the next slide, this is basically focused on
16 the guidance for the permitting of new sources. We've
17 been at this for about a year. We hope to have a draft
18 out this spring.

19 And one of the things that has come to light
20 is, as I mentioned earlier, the technology that's
21 advancing rapidly to reduce PM emission in terms of trap
22 and catalyst technology and cleaner diesel fuel.

23 So we're working on this guidance, which we
24 think will be focusing largely on identifying
25 performance standards and technology requirements that

94

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 hopefully districts then will be able to use this
2 information when they permit new diesel engines.

3 The next slide focusing more on the overall
4 diesel risk management plan. And this will be taking a
5 broad look at diesel engines from the PM perspective.
6 We'll be looking at both existing stationary, portable
7 engines, mobile sources, and fuels.

8 And basically by this fall when we go to the
9 board, we'll be presenting the board with an overall
10 strategy of steps, additional steps, that we believe
11 should be pursued. And with the board's concurrence in
12 that strategy, we'll go into the rule making process.

13 So it's basically laying out a plan,
14 identifying the priorities, and then executing the plan.

15 Some of the things that we're considering, of
16 course, additional mobile source standards, improvements
17 in fuel, stationary sources, and also incentives.

18 We currently have a -- it's called a Carl Moyer
19 Program. And I believe this year or last year it's \$25
20 million dedicated to that program. And that's money
21 that's being used by districts to provide incentives for
22 individuals to replace dirtier engines with cleaner
23 engines. And that program seems to be very, very
24 successful and I believe may even be expanded this year.
25 I think I already covered the Perc, Perc item

95

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 the board will be considering this month so I'll just
2 move on to the next slide.
3 As I mentioned, on the asbestos we'll be
4 looking at unpaved surfaces, grading, construction
5 activities, and quarries and surface mining operations.
6 And our board will be considering that this July.
7 A little bit about the future. And this first
8 thought I want to mention does have some impacts on you
9 as a panel. And I don't know if this has been discussed
10 with you in the past.
11 This is Senate Bill 25 that was enacted last
12 year. And the focus of this bill is to ensure that our
13 ambient air quality standards and our toxics program are
14 fully protective of infants and children.
15 There are three basic elements to this program.
16 It first requires a review of the ambient air quality
17 standards to assure that they are protective of infants
18 and children. It requires an expansion of our air
19 monitoring efforts to focus specifically on schools and
20 daycares.
21 We're required to do some monitoring in six
22 communities throughout the state, and we're in the
23 process now of taking a look in developing some criteria
24 for that effort.
25 And then finally, there are some significant

96

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 enhancements to the air toxics program.
2 A few key dates here. OEHHA is to by the end
3 of this year conduct an initial review of the ambient
4 standards to determine if they adequately protect
5 children. Then by the end of '02, ARB is to update the
6 highest priority air quality standard and then evaluate
7 the others in one-year time frames.

8 With respect to the monitoring efforts, we'll
9 probably -- we're required to do the monitoring, as I
10 said, in six communities to get an assessment of what
11 exposures there may be for children near -- in daycares
12 and schools, and we're supposed to do an evaluation of
13 that by 2003.

14 Now, with respect to the air toxics program, by
15 July of 2001, OEHHA is to identify up to five TACs for
16 which children may be especially susceptible. And their
17 review will come to this panel, as you do with other
18 reviews, to assure and review the scientific basis for
19 their determinations.

20 DR. BYUS: Peter?

21 MR. VENTURINI: Yes?

22 DR. BYUS: Does that include DPR and pesticides
23 or not?

24 MR. VENTURINI: No, it does not.

25 DR. BYUS: Why is that? I mean, granted --

97

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 MR. VENTURINI: It was not addressed in
2 legislation.

3 DR. BYUS: Okay.

4 MR. VENTURINI: Then by 7 of '04, OEHHA is to
5 identify another 15 TACs that are susceptible for
6 children. And then there's a continuing process for
7 them to take a look at other TACs.

8 For a risk management perspective, when OEHHA
9 identifies up to those first five compounds, we will
10 have basically two years to either review existing
11 control measures that we have in place for those to
12 amend them, if necessary, to ensure the control measure
13 provides adequate protection of children and infants.
14 And then we have an ongoing program then to develop
15 additional measures that are based on the lists that
16 OEHHA develops.

17 So over time what we're going to be seeing here
18 is a look at all the TACs to assure that the risk
19 assessment addressed children and infants, and then
20 based on that assessment, we will have to go back and
21 either update control measures or possibly generate and
22 develop new measures that assure that children and
23 infants are fully protected.

24 The next slide -- these are some of the
25 criteria that will have to be used in some of those

98

1 assessments. I just want to mention that OEHHA on May 1
2 and 2, I believe -- is that Oakland?

3 DR. MARTY: Yeah.

4 MR. VENTURINI: -- in Oakland will be
5 conducting a symposium on children's health to -- I'm
6 going to start giving them some information to help them
7 do their initial assessment.

8 Now, this is an area that we're finding quite
9 interesting, this area that we're moving into of
10 community health issues. And what this slide is, kind
11 of just to give an indication of relative risks in
12 different parts of the state.

13 But it's also a kind of the precursor to what I
14 see our program evolving into is we've been dealing
15 pretty much with some large general population exposures
16 and specific sources. And I think Dr. Froines mentioned
17 earlier kind of a prelude to this.

18 One of the things we're starting to look at
19 much more closely is more of a neighborhood or, say,
20 community health, where we actually started focusing on
21 certain communities to see what particular exposures,
22 risks, and problems there may be at this more of a --
23 say a micro scale.

24 And we do have some initiatives --

25 DR. FRIEDMAN: Could you go back?

99

1 MR. VENTURINI: Sure.

2 DR. FRIEDMAN: I didn't understand what those
3 bars represent.

4 MR. VENTURINI: Oh, those bars represent
5 relative risks for the air toxics that we've monitored
6 for and just to give you a perspective for the different
7 areas of the state.

8 DR. FRIEDMAN: Is any of them low risk? Are
9 they all supposed to be high risk or some higher? I
10 can't quite make it out.

11 MR. VENTURINI: Well, okay. The risk for --
12 let me give you some exact numbers in perspective. For
13 Los Angeles, we're probably looking on the order of
14 about 1,000 per million. When you get to the Sacramento
15 valley, we're around 500.

16 DR. FRIEDMAN: 500 what?

17 MR. VENTURINI: Potential cancers per million

18 risk.

19 DR. FRIEDMAN: Over a lifetime?

20 MR. VENTURINI: Yeah, our standard methodology.

21 But this -- I guess I kind of interpret this
22 that if you live in an urban area in California you're
23 exposed to something on the order of 500 per million
24 risk, just general background as you're living there.
25 On the south coast, it's maybe about double that.

100

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 One of the things we're looking at in our
2 Community Health Initiatives is to assess impacts of air
3 toxics by enhancing our monitoring effort, doing more
4 localized inventory efforts and actually developing
5 protocols and methods to assess these more localized
6 community exposures.

7 And there's effort under way now to kind of
8 develop a program and a plan to try to address some of
9 these community issues. And one of the areas that we
10 are spending some effort in now is the Barrio Logan area
11 in San Diego.

12 This is an area where there's quite a bit of
13 mixed development of residential and small light
14 industrial. And there have been significant community
15 concerns that have been raised.

16 We've initiated some ambient monitoring in that
17 area last fall and are planning to continue monitoring
18 for some time. And this is -- we're kind of looking at
19 this as somewhat of a pilot program to help guide us and
20 develop our plan and our procedures for looking at other
21 areas.

22 So we're working very closely with the district
23 and some community groups on this. And it's getting at
24 looking more at a much more narrow emphasis, this
25 community micro scale type of analysis. And we'll be --

101

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 I think, around the end of the year or so be having our
2 data from this and drawing some inferences.

3 That's a very interesting effort. And as I
4 said, that will be kind of a pilot for other efforts.

5 What I'd like to wrap up on is a little bit
6 about the federal program. We have spent significant
7 amount of our resources over the last five years and

8 continue to put resources into the -- what we call the
9 integration of the Federal Air Toxics Program into
10 California's program.

11 With the Federal Toxics Program in 1990, many
12 of those requirements have put duplicative requirements,
13 particularly for reporting and record keeping, on our
14 sources. Many of those requirements are overlapping
15 some of the regulations which we've already adopted.

16 So we've had considerable effort to work with
17 EPA districts and industry in California to integrate
18 those programs as much as possible so they're
19 complementary rather than getting in the way of each
20 other.

21 And we do have basically a memorandum of
22 understanding that's been developed with California and
23 EPA that hopefully in the near future we'll be able to
24 finalize and then have the districts buy into it, which
25 will assure that California's program can continue with

102

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 integration of the federal program to eliminate
2 duplication and overlap.

3 There are two emerging federal programs that
4 we're spending some time with at this point to assure,
5 once again, that it's merged with our program. These
6 are the Residual Risk Program and the Urban Air Toxics
7 Program. EPA's initial program basically focused on
8 technology standards, and these two programs are moving
9 into a risk-based strategy for EPA.

10 The Residual Risk Program basically is that
11 once they've adopted a mapped standard or a
12 technology-based standard for an air toxic, within eight
13 years they have to take a look at the residual risk
14 associated with that measure.

15 And if they feel they need to enact further
16 reductions, they have to -- from that category, they
17 have to develop such measures. And the first such
18 residual risk standard should be hitting around 2001.

19 The Urban Air Toxics Strategy is a very
20 different program, and under that strategy the goal is
21 to achieve about a 75 percent reduction in cancer - and
22 I think it's incidence in the act - in urban areas from
23 non-mobile sources.

24 And EPA has been putting together -- or they
25 have put together a list of HAPs that would be subject

103

1 to this Urban Air Strategy. And the objective is that
2 over I think it's about a ten -- roughly a ten-year
3 period from when this program is begun that there be
4 demonstrated a 75 percent reduction in the potential
5 cancer incidence associated with these HAPs.

6 We are working with EPA to try to provide some
7 flexibility in that program because the HAPs that EPA
8 may give priority to nationwide may not be a priority
9 here in California. For example, coke oven emissions,
10 we don't have coke ovens in California. But yet coke
11 oven emissions is one of the items on their list.

12 So we've been working to see if we can get a
13 little bit of flexibility to focus -- and states can
14 focus in a little more on their own priorities.

15 One of the things we are concerned about and
16 are discussing with EPA along with OEHHA is, when they
17 go into a risk-based program, how are they going to
18 determine the risk, what unit risk factors. Are they
19 going to recognize the risk factors that you folks have
20 recommended, that OEHHA has, or will everything have to
21 default to the EPA risk factors. And we know there are
22 some differences there.

23 Also, what type of risk assessment methodology
24 will EPA require to be used. And we would like to not
25 be in a situation where we're tied to specific EPA risk

104

1 assessment methodology. And we in California have done
2 an awful lot of work in risk assessing methodology.

3 So these are some of the policy issues we're
4 trying to work with on EPA as we deal with that
5 strategy.

6 So finally, I think, you know, we have taken
7 some significant steps to reduce exposures to air toxics
8 in California. We do have a ways -- we do have more
9 work to do. And as I mentioned, one of the areas we're
10 moving more into is more of the community, the
11 neighborhood efforts; diesel is a very high priority for
12 us; and working with the federal EPA to achieve
13 flexibility in their programs.

14 So that's a very brief and broad overview of a
15 lot of activities. And I hope it gives you a flavor and
16 a perspective of some of the risk management efforts

17 some of the other things we have ongoing in the ARB.
18 And if you're interested in more focused dialogue in any
19 of these, we would be happy to do that in the future.
20 Thank you for the opportunity.
21 DR. BLANC: Thanks.
22 DR. FRIEDMAN: Thank you.
23 Could I ask whether in your work on trying to
24 improve diesel emissions the organizations that are
25 suing us are cooperating, or are they going along with

105

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 this program to reduce emissions? Are they resisting
2 it?
3 MR. VENTURINI: I can tell you that the Western
4 States Petroleum Association and the Engine
5 Manufacturers Association, which are not party to the
6 lawsuit, have been working with us, particularly
7 providing information and data to help us understand
8 what the technology is today and what technology is
9 available in the future.
10 So we've been -- I feel we've been having very
11 good technical dialogue.
12 DR. FRIEDMAN: How about the truckers? Are
13 they --
14 MR. VENTURINI: They are participating. You
15 know, they certainly have their issue and their
16 perspective with regard to the risk assessment. And
17 really, from our perspective, what we're trying to do is
18 focus on what steps can we take to reduce the exposure.
19 So a lot of our discussions that we have are
20 focused on what can we do in terms of control measures
21 and so forth because the risk assessment has already
22 been conducted.
23 DR. FRIEDMAN: Would these control measures
24 have a big impact on them economically? I mean, would
25 people who own trucks have to spend a lot of money to

106

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 upgrade their engines or get new engines?
2 MR. VENTURINI: A lot of the technology, some
3 of the trap technology -- and a lot of it would be on
4 new engines. And I don't have specific numbers of what
5 that would be. We're looking at, say, for stationary
6 engines, the technology for traps can vary from, you

7 know, several hundred dollars all the way up to several
8 thousands of dollars.

9 So one of the things we'll be doing as part of
10 our assessment in looking at these measures is also what
11 is the impact on individuals and so forth, the cost
12 impact.

13 CHAIRMAN FROINES: Okay?

14 DR. ATKINSON: Yeah, I'd like to point out that
15 laboratory studies would indicate there are many
16 chemicals in the atmosphere for which we have
17 degradation products, atmospheric degradation products,
18 directly from chemicals for which we have essentially no
19 ambient data for, no health effects data.

20 So this potential is a whole host of the
21 compounds out there which may not be good for one which
22 we don't know anything about. What's the prognosis for
23 research in that area?

24 MR. VENTURINI: Well, I guess the best way I
25 can respond to that is that we need to probably take a

107

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 look at some of that. I obviously don't know a lot of
2 the specifics, but I think what my view, being
3 associated with this for 15 some years, is we're making
4 progressions to our program.

5 And as we move along, as we learn more, we're
6 going to find there's some things we don't know much
7 about, and we're going to have to investigate those
8 further and weave them into the programs. I see a lot
9 of these as just natural progressions of our program.

10 CHAIRMAN FROINES: Craig?

11 DR. BYUS: Just thanks, Peter. I enjoyed the
12 talk very much. Interesting to see.

13 CHAIRMAN FROINES: Roger is much nicer than I
14 am. He approached that with some delicacy. Let me take
15 a different tack here.

16 MR. VENTURINI: Sure.

17 CHAIRMAN FROINES: Less friendly.

18 I thought that this was a very nice
19 presentation so don't misunderstand what I'm about to
20 say. But this is a group of scientists who benefit from
21 getting an overview of the whole program, I think.
22 That's the good side.

23 The bad side is what you basically said to us,
24 though, is that in terms of the panel's taking things
25 up, at some point silica is going to come down the pike.

1 There may be some potencies of PAHs, which will be
2 hydrocarbons, I'm sure. And then there's the styrene
3 issue.

4 So if we take the thousand toxic air
5 contaminants or 2,000, 500, whatever number you want to
6 come up with, basically what's being said is we did
7 diesel and we've been doing pesticides ever since, and
8 the only thing we're going to have is basically styrene
9 and silica over the foreseeable future.

10 And I think, as Roger alluded to, that there
11 are a lot of compounds out there that deserve
12 designation as toxic air contaminants. I'll tell you
13 one is PAN. Why don't we have PAN before us? Why don't
14 we have quinones? Why don't we have nitro-PAHs? Why
15 don't we have -- and on and on and on. I mean, we could
16 put -- a group of scientists could put together a very
17 good list of compounds that should be dealt with as
18 toxic air contaminants.

19 So what we get is a broad overview, Peter, but
20 what we don't get are a list of compounds that represent
21 important toxic air contaminants. And this panel wants
22 to know the answer to that question.

23 MR. VENTURINI: Actually, I'm not troubled by
24 your question at all. I think it's a very good
25 question.

1 I wanted to focus here on basically risk
2 management, kind of gave you an overview of what we saw,
3 some of the things that will be coming to you as the
4 next compounds.

5 And I think one of the things that we've done
6 collectively very well is we periodically do this list
7 update where we update the list of compounds that are on
8 our list, which is 200 and something. And we actually
9 have developed a methodology, kind of ranked these and
10 prioritized these.

11 And what I suggest that we might want to
12 initiate is, you know, in the next year or whatever's
13 appropriate, take another look at that list, take
14 another look at that prioritization. And, you know,
15 there are categories on that list of compounds to be
16 evaluated further to then enter into the process.

17 And I think that would be a very good dialogue,
18 you know, with us, with you folks, with OEHHA, to say
19 what are -- you know, over the next several years, what
20 do we think is going to be the next important ones to
21 bring to the panel.

22 So I don't want to leave you that, you know,
23 three more compounds and we're done. I don't think
24 that's the case at all. But that's just where we are at
25 this point. And then we need to continually update that

110

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 list and see what should be next, what should the next
2 priorities be.

3 CHAIRMAN FROINES: Well, the -- Jim Pitts and I
4 have been arguing to take up nitro-PAHs since about
5 1985. And one gets the impression sooner or later that
6 there's an avoidance process going on. Because we keep
7 saying it every year, and everybody says uh-huh, uh-huh.
8 And Janet actually mentioned nitro-PAHs in a phone
9 conversation at one point. So I know it was on her
10 radar screen.

11 I think that the problem with the priority
12 system tends to be -- it's one of the problems with
13 DPR's priority system too. They tend to take the things
14 where there is a certain kind of information available,
15 and they don't take -- they don't try and look at things
16 where the sort of regulatory information isn't
17 available, it's less available.

18 So the science may be there. There may be some
19 science there, but there's -- less regulatory
20 attention's been given to it. And it seems to me that
21 we need to do that.

22 I would argue, yeah, sure, let's go back to
23 that document, but I would argue at some point that
24 OEHHA and SRP and you all should put together a meeting
25 in which we actually spend a day talking, having a

111

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 conference in which people make presentations about what
2 are the issues around toxic air contaminants in
3 California and try to come up with a laundry list that
4 might then be taken seriously. In other words, it
5 should be a process, it seems to me.

6 Roger and Janet have been pushing their issue,

7 the issue of atmospheric chemistry transformation, for,
8 you know, as long as you and I have been here. And --
9 but it hasn't gotten translated into -- I mean, there is
10 no reason why this panel shouldn't take up 20 nitro-PAHs
11 as toxic air contaminants. I think -- I don't think
12 that's far off.

13 Roger?

14 DR. ATKINSON: No. Well, a dozen for sure.

15 CHAIRMAN FROINES: I mean, you know, an
16 estimate.

17 DR. ATKINSON: As a class.

18 MR. VENTURINI: And we should have that
19 dialogue.

20 DR. ATKINSON: And there are new -- there are
21 chemical classes for which there probably are no health
22 effects data but which until recently there was no
23 definitive data that they would be present in the
24 atmosphere. Maybe they'll turn out to be nontoxic, but
25 it would be nice to have some view of them or somebody

112

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 start thinking about it from a toxics viewpoint, are
2 they going to be a problem or aren't they? I don't
3 know.

4 MR. VENTURINI: Melanie just reminded me as
5 part of my presentation we did mention that we are
6 asking OEHHA to take a look at the PAHs. And she just
7 mentioned that they'll be looking at the nitro PAHs as
8 well. So maybe that's a precursor to bringing it to the
9 panel.

10 CHAIRMAN FROINES: Polar PAHs is the correct
11 compounds. Because it's not going to be just nitro
12 compounds. It's going to be ketones. It's going to be
13 -- I mean, go back to Schutsell's papers in the early
14 80's on what's in these, and you've got thousands -- or
15 at least hundreds of compounds that are ketones,
16 aldehydes, quinones, fenols, et cetera, et cetera. And
17 those are all potential candidates.

18 Now, to the degree that we deal with diesel,
19 you don't have to deal with some of those. But to the
20 degree you're dealing with compounds that are
21 atmospherically generated, it's a little different
22 issue.

23 DR. ATKINSON: Yeah, what you breathe is not
24 necessarily just what's emitted.

25 MR. VENTURINI: Right.

1 DR. ATKINSON: Unless you're behind a diesel
2 bus.

3 MR. VENTURINI: Well, you know, one thing that
4 I've been busy working with the panel is that we have at
5 times stepped back and taken a look at things and do we
6 need to do things a little differently, do we need to
7 reprioritize. And, you know, it could be that we're at
8 that point again.

9 CHAIRMAN FROINES: Well, I think the panel can
10 spend every -- can meet every month over the next five
11 years, and we will cover hun -- a few dozen pesticides.
12 But the question is what's going to happen with the air
13 toxics.

14 MR. VENTURINI: Okay. Well, I will -- let me
15 chat with OEHHA and my folks, and we'll talk to you
16 further and see where we can go.

17 CHAIRMAN FROINES: I think we could have a
18 day-long meeting about this issue that would be pretty
19 interesting if it was coupled with people actually
20 presenting science about what -- you know, it's not just
21 sort of what's on the high-risk list or what's on the
22 hierarch list and that sort of thing, but what's the
23 emergent science indicate. And, clearly, the issue that
24 we're not talking about are the non-cancer effects.

25 MR. VENTURINI: Yes. And just a comment on

1 that. Historically, we haven't focused that much in
2 risk management on that because it's been our
3 experience, looking at the data, the ambient data, that
4 the ambient levels have been far below those non-cancer
5 effect levels. But that may change as we start looking
6 at these more micro-scale assessments.

7 So I think we're moving into some new territory
8 with our control program, and I think also with the --

9 CHAIRMAN FROINES: Every meeting, at least once
10 in our meetings, Paul Blanc says the following: "We are
11 not being driven by the carcinogenic end point with this
12 particular chemical." And he's always happy when he can
13 say that because he feels that we are driven by
14 carcinogenic end points much too much.

15 And if you watch, listen, because he says it

16 every time. And it represents a philosophical point of
17 view. And it's -- we think the same thing around diesel
18 and asthma. You know, so it's -- anyway, thank you very
19 much.

20 MR. VENTURINI: My pleasure.

21 DR. FRIEDMAN: Thanks a lot.

22 MR. VENTURINI: I enjoyed the dialogue.

23 CHAIRMAN FROINES: The overview was very
24 important, I think, for everybody. We got to ask our
25 MTB issue, and Gary got to ask his hybrid question.

115

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 MR. VENTURINI: Super. And we will be glad to
2 do this periodically in the future, and I appreciate
3 your interest in the risk management side.

4 CHAIRMAN FROINES: And we wanted to meet with
5 you to talk because we think we should be doing some of
6 that monitoring because we're going to be in six sites
7 anyway.

8 MR. VENTURINI: Super.

9 CHAIRMAN FROINES: Shall we have a motion to --
10 adjourn? Adjourn?

11 DR. ATKINSON: That's the word.

12 DR. FRIEDMAN: Not part of your regular
13 vocabulary.

14 CHAIRMAN FROINES: I keep having these senior
15 moments.

16 MR. VENTURINI: You're not alone.

17 CHAIRMAN FROINES: So any motion to adjourn?

18 DR. BYUS: So moved.

19 DR. FRIEDMAN: Second.

20 (Show of hands.)

21 (Whereupon the proceedings adjourned at 1:45
22 p.m.)

23

24

25

116

BARNEY, UNGERMANN & ASSOCIATES 1-888-326-5900

1 STATE OF CALIFORNIA)
2 COUNTY OF SAN DIEGO) ss.

3

4 I, Susan M. Kline, CSR No. 4617, a Certified
5 Shorthand Reporter in and for the State of California,

6 do hereby certify:

7 That I reported the foregoing meeting in
8 shorthand writing; that I thereafter caused my shorthand
9 writing to be transcribed into typewriting.

10 I further certify that I am not in anyway
11 interested in the outcome of said meeting.

12 EXECUTED this 1st day of May, 2000.

13

14

15

16

SUSAN M. KLINE
CSR No. 4617

17

18

19

20

21

22

23

24

25