

1 breakout session. So first of all, we'll have three  
2 escorts to take people to the various breakout rooms  
3 because this building is more complicated than the last  
4 one and finding your way yourself may be difficult. So  
5 before you go anywhere, the paint stripper group will  
6 follow Marcia. That will begin here. And that's the  
7 first group to leave. So the paint stripper group to  
8 leave now or very soon.

9 (Pause in proceedings.)

10  
11 BREAKOUT SESSION

12 SPRAY POLYURETHANE FOAM SYSTEMS  
13 CONTAINING UNREACTED DIISOCYANATES

14 ---o0o---

15  
16 MR. SCHUMACHER: We do have some topics we want  
17 to go over. So we'll start with topic number one which  
18 is a discussion of the priority products description.  
19 But before we do that, we do want to have an overview  
20 of how we selected this product and Dennis will be  
21 presenting. That's Dr. Guo. And it should work in  
22 this room.

23 DR. GUO: Good morning.

24 MR. PALMER: Thank you for coming. Let me just  
25 introduce Dr. Dennis Guo. He's one of our research

1 scientists and he's just the lead for this presentation  
2 and was part of a team of toxicologists and scientists  
3 and engineers working at DTSC on this process. I want  
4 to acknowledge all those folks and their hard work. I  
5 also want to acknowledge all of your hard work here  
6 today and in Sacramento and in between to help us out.  
7 So Dennis is just going to give a brief overview of the  
8 priority product that we chose here and our selection  
9 process, and then we'll try to go through these three  
10 areas that we identified in the agenda. We're open to  
11 talk about anything, but we want to make sure that  
12 everyone has a chance to express their concern or ask  
13 their question and that we get through as much of this  
14 as we can because we have till about 12:20 on the  
15 agenda. So I think we should have plenty of time. So  
16 Dennis.

17 DR. GUO: Thank you. Thank you very much for  
18 coming to this breakout session for spray polyurethane  
19 foam systems containing unreacted diisocyanates. My  
20 name is Dennis Guo. I am a research scientist with  
21 DTSC. The objective of this brief presentation is to  
22 learn and gather information. Today we're going to --  
23 I'm going to describe the priority product. One of the  
24 comments we see is that the definitions are not clear  
25 enough. And I'm going to describe this with more

1 clarity and why we listed this product. And then there  
2 are two other topics we want to learn and we want  
3 comment.

4 In the priority product profile, the priority  
5 product we defined as spray polyurethane foam spray  
6 systems containing unreacted diisocyanates. That means  
7 the product must be product for spraying and it must  
8 contain unreacted diisocyanates. In addition, the  
9 product is limited to product for insulation, roofing  
10 and filling of the ceiling. And this product may or  
11 may not be under the two GPC codes we listed in the  
12 profile. But regardless, if the manufacturer put under  
13 these two GPC codes, they're included.

14 The priority product comes in different varied  
15 delivery pressure components and sizes. They may be in  
16 drums, low pressure systems like cylinders and boxes  
17 and then individual cans as well.

18 And to clarify, the original priority product  
19 profile never intended to include cured, rigid  
20 polyurethane foam because they're not used for  
21 spraying. Neither did we intend to use polyurethane  
22 products that do not involve spraying. Also other  
23 polyurethane products that are not mentioned or  
24 included in the profile are not included.

25 We choose this product because the product

1 needs to be sprayed and during spraying throws out  
2 vapors, aerosols and the particulates that may -- that  
3 contain unreacted diisocyanates. And the diisocyanates  
4 included in the profile are considered by the  
5 department as chemicals of concern.

6 Exposure to the diisocyanates may harm  
7 sensitive people. Those are the basis for listing  
8 those. The chemicals of concern is MDI and the -- I'm  
9 not going into details about MDI because the MDI is in  
10 the literature. It's not -- it's inconsistent, but MDI  
11 these two cast members included. And you see some  
12 strike-out and then why TDI and HDI is no longer  
13 included. In the original priority product profile we  
14 define -- we include coatings as part of the spray foam  
15 roofing system. And the coatings may contain TDI and  
16 HDI. We received a lot of feedback and comments. And  
17 then we learned that urethane-based coatings are not --  
18 are just one of several options for spray polyurethane  
19 foam roofing systems. They're not essential. So it's  
20 more appropriate to address TDI and HDI and the roof  
21 coatings separately. That's why we are no longer  
22 including TDI and HDI.

23 MDI is a known hazard. And studies documented  
24 the exposure to MDI through breathing vapors, particles  
25 and in contact with mucus membrane, eyes and skin could

1 sensitize people and it can lead to asthma and other  
2 health conditions. When sensitive people are  
3 sensitized, continued exposure relate to severe asthma  
4 attacks even concentrations low. Permanent lung damage  
5 may occur and possible death.

6 Another factor that we selected this product  
7 chemical combination is that this large quantity  
8 product in Congress they are very popular and they're  
9 well widely recognized for energy savings.

10 This is a slide I borrowed from Dr. Duncan from  
11 the SPFIA seminar. And this product is used everywhere  
12 and new applications are found continuously and it's  
13 been widely used, this product.

14 When used properly and when used for in  
15 manufacturers' recommendations and practices, this  
16 product can be beneficial. The problem is some of the  
17 uses are not necessary follow recommended practices.  
18 Like some of the DIY'rs do not wear mask. So the  
19 vapors and aerosols in the product particulates like  
20 this individual may be exposed to unreacted  
21 diisocyanates.

22 We are particularly concerned about two groups  
23 of people, small independent contractors and the DIY'rs  
24 because this product may be purchased on-line or mostly  
25 low-pressure systems. But still vapors, aerosols and

1 the particulates may contain MDI. The reason we are  
2 concerned about those two groups, because not all of  
3 them are fully aware of the risks. Some of them may  
4 not be aware at all and they may not have sufficient  
5 training like the people who get certified by the  
6 industry. They may use little or no personal  
7 protective equipment. The DIY'rs in particular not  
8 necessarily have engineering controls. So during  
9 applications they may be exposed to vapors, aerosols  
10 and the particles.

11 We released some tentative materials in our  
12 profile and also we are aware that there are  
13 non-polyurethane foam materials and technologies are  
14 emergent. Like one person said during the last session  
15 that there are product. But DTSC when we were writing  
16 the priority product profile, we needed -- decided that  
17 we would compare those alternatives. And also the  
18 intent of the priority product profile is not to  
19 conduct a thorough tentative analysis.

20 The department had limited marketing  
21 information. We knew a few large companies supply  
22 chemicals. I think there are five of them. System  
23 houses distribute the product or formula the product.  
24 We don't know the exact number of California-based  
25 system houses and the product types and production. We

1 have very little information. This is an area that we  
2 would like to learn. We would like to have your  
3 comment. If you have a comment, you can submit a  
4 comment today or you can submit your comment in  
5 writing. And I believe the deadline is June 30th.  
6 Thank you very much for --

7 MR. KOSCHER: Can you go back one slide?

8 DR. GUO: Sure.

9 UNIDENTIFIED SPEAKER: Is this presentation  
10 going to be posted?

11 MR. SCHUMACHER: Yeah. We'll post it on the  
12 web site so everyone can have access to it.

13 MR. GUO: Thank you very much.

14 MR. SCHUMACHER: We would like to start with  
15 our first topic question. If you look on the agenda,  
16 it's the discussion of the product priority definition,  
17 the definition of this particular product whether it  
18 needs to be changed in some way or not. We would like  
19 a discussion about that topic first. So if you have  
20 anything to say about that, please raise your hand.  
21 We'll start in the back.

22 MS. WIGMORE: I'm with Work Safe and an  
23 occupational hygienist who has come across  
24 diisocyanates off and on in my professional career. In  
25 terms of definitions, one of the things that I know

1 about from both the green chemistry work as well as the  
2 work at Cal OSHA and one of the reasons why a bill  
3 called SB193 is in the works is it's very difficult to  
4 actually know what's in what products, who makes them,  
5 all that kind of stuff. That information is not  
6 publicly available. It is one of the things that makes  
7 it very difficult for the Department of Public Health  
8 to do its work when it knows about new hazards. It  
9 makes it very difficult for you to do your work when  
10 you're trying to figure out what isocyanates are used  
11 in foam products. So my question is how do you know  
12 that MDI isn't the only isocyanate that's of interest  
13 given that there are many more isocyanates out there  
14 that I forget the number because I don't have the  
15 documents in front of me? And I would suggest that  
16 what you be asking about is isocyanates, period, that  
17 are used. And I'm not quite sure why the roofing is  
18 off the list, but that isocyanates ought to be a  
19 category. And if that's what -- because they share  
20 similar hazard traits. And if it's about the hazard  
21 and not about risk, and you talked in your presentation  
22 about risk, it's actually people don't know about the  
23 hazard never mind where it is. So I would advocate for  
24 using sufficient, essentially saying all isocyanates  
25 that are in spray foam products. Let's figure out why

1 we -- if there aren't other things to put in there.  
2 And that's what the alternative analysis is about.

3 MR. PALMER: Thank you, Dorothy. Well, first,  
4 the structure of our regulations requires that we  
5 identify specific chemical or chemicals in a specific  
6 product. So it's our understanding that a specific  
7 chemical that is used in the manufacturer's spray  
8 polyurethane foam is MDI. That's why we're focusing on  
9 that.

10 In the alternatives analysis if, for example,  
11 there was a proposal to use a different isocyanate,  
12 that would have to be evaluated in that process and  
13 would be subject to our oversight and industry's input  
14 in terms of how they would deal with that. So in some  
15 sense we capture that as an alternative. If we had  
16 information that there was other isocyanates, that's  
17 concerned in the product list. And we don't.

18 And on with respect to TDI, when we -- at the  
19 time we did the profile, we included in our definition  
20 of roofing systems the coatings that go on top of  
21 roofing systems. We've learned a lot about that.  
22 Those coatings are used primarily as a UV protectant so  
23 that the foam doesn't degrade over time. There are a  
24 wide variety of options there, not just polymers that  
25 are based on on TDI or some other. So that along with

1 the fact that they're not typically purchased as part  
2 of this spray foam kit or that process, it's a  
3 different product. It's not to say that that might not  
4 be of concern at some point, but it would be a  
5 different product.

6 MS. WIGMORE: Can I ask a related question  
7 then? If I remember correctly, one part of the process  
8 is that you folks can ask for information about what's  
9 in -- what chemicals are being used in chemical  
10 products. I forget what you call it, data something.

11 MR. PALMER: Yeah, we've been calling them.

12 MS. WIGMORE: Have you considered doing that  
13 for this product?

14 MR. PALMER: No. We don't have any evidence  
15 that we need to do that for the isocyanates. You have  
16 identified and others have identified concerns about  
17 other chemicals in the product, specifically flame  
18 retardants. That's not been our focus. We understand  
19 there are -- in fact, the industry provided us with a  
20 lot of information about what is in both the A and B  
21 side of the components which include flame retardants  
22 which includes some surfactants and some other things  
23 to make the product work. But that's not the focus of  
24 what we put forward.

25 MR. SCHUMACHER: Yes, sir.

1 MR. LORENZ: Yes, Will Lorenz of General  
2 Coatings.

3 What specifically are the two lists for spray  
4 foam? What's the blueberries and the grapes that make  
5 it on the list?

6 MR. PALMER: Do we have connectivity? I don't  
7 know if we have web access. The way to find that is if  
8 you go to our informative candidate chemicals list, you  
9 can type in diisocyanates and search and see what lists  
10 it's on specifically that we pulled into our  
11 regulation. I don't know off the top of my head which  
12 ones. I'm not sure.

13 UNIDENTIFIED SPEAKER: There're listed in the  
14 profile.

15 MR. PALMER: Profile, yeah.

16 MR. LORENZ: There's a number of sources listed  
17 there. But I was trying to find out what's the  
18 definitive list of eight and the twelve or something  
19 that you say.

20 MR. PALMER: It specifically references in the  
21 profile which lists we point to. And I don't remember  
22 what some of the products. For example, methylene  
23 chloride I do know has -- I think there's 16 hits.  
24 There's different lists.

25 UNIDENTIFIED SPEAKER: 18 different lists.

1 MR. PALMER: 18 different lists. Isocyanates  
2 is not as many of them. I'm not sure.

3 MR. LORENZ: But MDI-based isocyanates,  
4 correct?

5 MR. PALMER: You would search for MDI. And  
6 again, it is complicated because a logical person might  
7 assume that a CSA number would be unique. They're not  
8 and there's overlap. And it can be difficult when you  
9 start getting into the different ways chemicals are  
10 named. But if you search under that, I think you will  
11 find it.

12 MR. LORENZ: I have another question. It was  
13 mentioned earlier on about risk hazard, hazard traits.  
14 Can you go through how you look at that? I follow a  
15 different formula that says risk is equal to hazard  
16 trait times exposure.

17 MR. PALMER: That's the same formula we would  
18 use.

19 MR. LORENZ: So many times the discussion is  
20 really less concerned -- you seem to be talking about  
21 hazard trait, but yet we seem to sometimes mix risk in  
22 here where risk is a multiplier as part of that.

23 MR. PALMER: Well, it's important to note that  
24 our system does -- risk is a part of our system because  
25 the criteria are the hazard trait plus potential

1 adverse harm through exposure to that. So it is a  
2 risk. The difference in part is that we're looking at  
3 the chemical and asking can you substitute or use  
4 something different with a lower hazard trait. So  
5 essentially rather than saying, well, you could -- and  
6 granted, the SPF industry has made huge efforts to  
7 train and equip and educate people that use these  
8 products, granted. But it's important that people do  
9 that because the information provided us by the  
10 industry is that people who use high-pressure foam  
11 systems are continually in an environment above the  
12 PEL. Okay? So it's necessary. So that's a  
13 mitigation.

14 But in your equation if you reduce the risk --  
15 excuse me, if you reduce the hazard number, then your  
16 risk automatically goes down regardless of what  
17 exposure control you have. So that's the fundamental  
18 principle is that you could theoretically perhaps  
19 eliminate the need for some more extensive, you know,  
20 protective measures, best practices, training, et  
21 cetera, if you had something that wasn't as inherently  
22 risky.

23 MR. LORENZ: And does the regulation require  
24 that you meet a threshold requirement for exposure?

25 MR. PALMER: There's no specific threshold

1 requirement in terms of it's not like a PEL or a  
2 quantitative limit. The regulations do provide that we  
3 could establish what's called an alternatives analysis  
4 threshold limit which would be that you could have a  
5 certain concentration of a certain chemical that would  
6 be acceptable. None of the products we chose have  
7 that.

8 MR. LORENZ: No. I meant exactly in choosing  
9 the product do you have to reach a threshold  
10 requirement of exposure widespread, et cetera, in the  
11 definition?

12 MR. PALMER: It's the narrative standard that I  
13 outlined in the law which is significant adverse  
14 impact. There's not a risk number. It's not like in  
15 our cleanup programs where they use as a point of  
16 departure number one in a million cancer risks. That's  
17 not what we're using. It's a narrative. There's a lot  
18 more flexibility. And that is a risk-driven number,  
19 you know, but that's not the model here.

20 MR. LORENZ: I see.

21 MR. SCHUMACHER: We did check the lists. And  
22 MDI is on three of the lists that we used.

23 Yes, sir.

24 MR. FISHBACK: Randy Fishback, Dow Chemical.  
25 Karl, you just talked about permissible exposure limits

1 and threshold levels or whatever. When it comes to  
2 spray foams, there's obviously several that you used.  
3 You just mentioned high-pressure systems and exposures  
4 there and --

5 MR. SCHUMACHER: I'm sorry. Could you speak a  
6 little louder?

7 MR. FISHBACK: We make -- among other things,  
8 we make a low pressure, one component system. And  
9 studies show that there is no exposure to diisocyanates  
10 well below the permissible exposure limit. So I guess  
11 my question is where is the exposure that results in  
12 the potential for significant adverse or widespread  
13 exposure? And is there -- I mean, I'm wondering if  
14 DTSC meant to bring in all of the different spray foams  
15 under one umbrella when, in fact, there's no evidence  
16 of exposure. As you know, the low component or the one  
17 component low pressure comes out as a bead not an  
18 aerosol. So it's sort of a completely different  
19 application and different physics to the system.

20 MR. PALMER: Yes, we've gotten a lot of  
21 information from the industry on that. We still are  
22 looking at that. Again, there's no threshold. There's  
23 no bright line there. The fundamental concern is that  
24 you have still -- there is some unreacted diisocyanates  
25 in there. I know the industry has done studies showing

1 that there's minimal, no exposure. We're going to look  
2 at that. But the concern was that you've got  
3 biomargin, an end user who is not an educated, trained  
4 professional that might be someone like me or who buys  
5 a can at Home Depot or your local hardware store.

6 MR. FISHBACK: I get it for free, Karl.

7 MR. PALMER: "Great Stuff" actually is the name  
8 of the stuff. So again, we're looking at that  
9 information. And the fact that it may not exceed a PEL  
10 is not relevant in some sense because --

11 MR. FISHBACK: But where is the widespread and  
12 significant adverse?

13 MR. PALMER: Because it's sold in every  
14 hardware store in the country. And so potential  
15 exposure is not an exposure over the PEL. It's not an  
16 exposure if it meets some regulatory standard.

17 MR. FISHBACK: So I guess widespread, I just  
18 don't think it's significant.

19 MR. PALMER: We're looking at that.

20 MR. RIESENBERG: While we're looking at this,  
21 you still have incorrect information on your website.  
22 So you can look at it until the cows come home. But  
23 you're damaging and decimating this industry with  
24 incorrect information that you're still maintaining on  
25 your website. You've done nothing to correct it.

1 MR. PALMER: You know what? We need to respect  
2 the process.

3 MR. RIESENBERG: That's funny. Kurt Riesenber  
4 with SPFA.

5 MR. PALMER: We will call your name and then --

6 MR. SCHUMACHER: We'll get to you in a second.  
7 Yes, sir, next to you.

8 MR. MAGNANI: Bruce Magnani with The Houston  
9 Group. You mentioned the question was about the list  
10 and you mentioned that it shows it on three lists.

11 MR. SCHUMACHER: That's correct.

12 MR. MAGNANI: Which of the three lists  
13 specifically references the exposure component because  
14 you're required to be on list four, hazard trait and  
15 exposure. So you have three lists. Which one is  
16 specific to exposure?

17 MR. SCHUMACHER: We didn't research that in the  
18 few minutes that we had to do that. Elaine, do you  
19 want to take a quick look? Oh, you know?

20 ELAINE: I think it might be -- it's on the  
21 OECON list with an inhalation reference exposure level.

22 MR. SCHUMACHER: That's one.

23 ELAINE: The other two are toxic air  
24 contaminant list for California and the European  
25 Commission list as a respiratory sense or the size. So

1 category one. That's the three lists and it's in the  
2 profile.

3 MR. SCHUMACHER: Does that help you, sir?

4 MR. LORENZ: Indeed.

5 MR. SCHUMACHER: Maybe, maybe not.

6 In the yellow shirt, yes.

7 MR. RAYMER: Bob Raymer with California  
8 Building Industry Association. A couple points. In  
9 terms of getting the word out to our membership, CBI  
10 doesn't manufacture the product. Of course, we're  
11 accountable for about 90 percent of the new homes that  
12 are built in California each year. We also do a lot of  
13 apartments and low-rise commercial buildings. And, you  
14 know, we're looking at a diverse side set of product  
15 alternatives that we can use. What I'm a little bit  
16 concerned was I attended the Sacramento workshop and I  
17 got a good clarification at that point which has since  
18 been further clarified that you're looking at  
19 application for spray foam which is very helpful to  
20 hear that you're looking at, of course, worker safety,  
21 be it a contractor or a do-it-yourselfer, but that  
22 you're not looking at unreacted diisocyanates in terms  
23 of an installed product. In essence a home buyer buys  
24 the home. You've got that between the studs. You're  
25 good to go. So it would be good. And if I understand

1 it correctly, if I go to your website now that  
2 clarification has been made and I can then use that to  
3 get a word out to my membership because I've been  
4 reluctant to do that right now.

5 And let me explain to you why. The day after  
6 we had the workshop in Sacramento the energy commission  
7 as you heard earlier held a workshop. They hold dozens  
8 of these workshops as they develop their regulations.  
9 Usually at this point in time they will look at one or  
10 two new energy efficiency issues and they will move on  
11 to the next one, lighting, plumbing. The one that was  
12 the day after the Sacramento workshop that you had  
13 focused on advanced wall systems and high performance  
14 attic systems. And at the beginning of that I had the  
15 occasion to overhear my energy consultant talking to  
16 one of his cohorts who had nothing -- they didn't go to  
17 the DTSC workshop. They were just there for the CEC  
18 program. And they were just casually discussing a  
19 250-unit project which had the week earlier pulled its  
20 use of spray foam and is now going to batt pink roll-in  
21 insulation which is probably a Dow product.

22 MS. ROSS: We only do blue.

23 MR. RAYMER: Okay. Owens-Corning. Sorry.  
24 Regardless of who it was, based solely on the notice,  
25 your two-page press release where it indicated spray

1 foam and then under that insulation in homes or  
2 whatever, it sort of led people to believe that was  
3 going to be the focus of this. And so almost  
4 immediately there's been sort of a pullback by the  
5 industry. I want to try to get some accurate  
6 information out to our membership. And I don't want to  
7 sort of get it through piecemeal. I would like to have  
8 like a good one or two sentences saying you're looking  
9 at the application of this from worker safety, be it  
10 do-it-yourself or contractor, but you're not looking at  
11 installed spray foam insulation in the home. Would  
12 that be accurate?

13 MR. PALMER: Yes. And we'd be happy to work  
14 with you on that to make sure it's consistent with our  
15 information.

16 MR. SCHUMACHER: Back in the white, please.

17 MR. VARVAIS: My name is Dan Varvais with Brand  
18 Material Science. To echo what Mr. Raymer just said,  
19 your naming spray foam to this list is having  
20 implications across the United States. We have  
21 builders in Texas now that are questioning using spray  
22 foam inside their houses because of the legal liability  
23 of the possibility for legal actions because of the  
24 statement DTSC made. I'm an energy person background.  
25 My passion is energy efficiency. And to be able to

1 last summer go through every Energy Star homes built in  
2 Sacramento during a heat wave and find that none of the  
3 houses were able to maintain their set point. The  
4 hottest place on planet earth is the attic above your  
5 house in the summertime. There was one builder from  
6 Heritage Homes at the Sacramento meeting. Those houses  
7 were all able to maintain their set point. They didn't  
8 use as much peak power as the other houses did. They  
9 had tremendous impact on the comfort for the people  
10 inside their houses. And I know we'll get a chance at  
11 some point in time to be able to explain how well this  
12 product works in terms of energy efficiency and its  
13 reduction of greenhouse gasses and the life cycle cost  
14 analysis and the sentiment that has been on the  
15 product. But what you have done and what you have said  
16 is hurting the business across the United States.

17 MR. PALMER: Thank you, again. And just so  
18 it's clear, we understand the negative impacts. But I  
19 hope it's clear that we are not making any statements  
20 or assertions about the energy use of the -- or the  
21 energy benefits of the product. That's easy for me to  
22 say in the narrow scope of our authority and  
23 regulations. What I would encourage the industry to do  
24 is work with us to ensure that our information -- read  
25 what's on there today. And if it isn't clear, let us

1 know. If you have publications -- I mean, we met the  
2 day after the Sacramento workshop. My staff and myself  
3 met for four hours with all the main representatives  
4 and got SPF cradle to grave. It's very helpful. We're  
5 also hopeful to continue that dialogue. And if they  
6 want us to look at something to make sure it's accurate  
7 from our regulatory standpoint, then we're happy to  
8 help.

9 MR. SCHUMACHER: Does that help you, sir?

10 MR. VARVAIS: Yeah, it helps me understand.

11 From our standpoint it's like we've been charged with a  
12 crime and we had to come up with a defense and we  
13 don't --

14 MR. PALMER: I understand. And that genie is  
15 out of the bottle right, wrong or otherwise. The only  
16 thing I can do is make the commitment to try to work  
17 with people to move forward.

18 MR. SCHUMACHER: Red shirt in the back.

19 MR. FINE: Mitch Fine from Armstrong. The  
20 current priority product profile under the section  
21 occupational asthma DTSC lists six cases against SPF.  
22 Of the six one is spray paint, one is engineered wood,  
23 one is rock glue and three are truck bed liners.  
24 There's not a single reference to SPF. According to  
25 the California Department of Public Health, the 21-year

1 period 1993 to present, out of the total 974,000 cases  
2 of occupational asthma, ten were attributed to MDI. Of  
3 these ten, five were associated with moldings, two  
4 packaging, one woodwork, one janitorial, one unknown.  
5 None were associated with SPF. And for the last eight  
6 years there have been no reported cases in California  
7 of isocyanate occupational asthma from any source.  
8 Question.

9 MR. PALMER: I was hoping.

10 MR. FINE: Given this absence of the reliable  
11 information and the recent recognition by DTSC that SPF  
12 contains no TBI nor any carcinogenic material, does  
13 DTSC continue to propose that SPF is reasonably  
14 foreseeable to contribute to or cause significant  
15 widespread adverse impact as defined in 69501 Section  
16 51(a), and if so, on what legal basis?

17 MR. PALMER: Thank you, Mitch. As of today,  
18 yes, I would say we still propose to keep that on the  
19 list for the reasons we stated before on the basis of  
20 the potential harm, based on the hazard traits of MDI  
21 as well documented and its widespread use. Now, I'm  
22 not disputing -- I mean, it would be great that you  
23 would provide all that specific analysis to us and  
24 data, and we'll certainly have our toxicologist look at  
25 it. And I'm not an attorney, so I can't speak to

1 particularly the legal basis. But, you know, we'll  
2 evaluate all that information. And that's why we're  
3 here.

4 MR. FINE: Karl, all I would ask you to do is  
5 look at 69501 which is the structure, the regulatory  
6 guideline which control this discussion. And there  
7 they define the word "potential." So potential just  
8 doesn't mean any change. It actually means reasonably  
9 foreseeable. So it's defined. So given that you don't  
10 have any evidence, any reliable information in the  
11 current PPP, that document doesn't allow you to proceed  
12 with the proposition that you're proceeding with. So  
13 again, I would like the legal basis because if  
14 obviously we move forward to a legal challenge, you  
15 know, we would like to know what the basis right now is  
16 in your mind for proceeding other than that it has the  
17 potential to cause widespread harm because according to  
18 the definition, at least as I read it, it doesn't.

19 MR. PALMER: Okay. Thank you.

20 MR. SCHUMACHER: Yes, sir. Right there.

21 MR. PACHECO: Well, this seems to have been  
22 turned into a free-form comment. I thought we were  
23 going to go through the questions one by one. So since  
24 we're doing things.

25 DTSC, correct me if I'm wrong, you're not

1 against expanding foaming sprays. You're not against  
2 insulation. What you're against is a particular  
3 chemical mix that has a known hazardous effect. And  
4 what I'm hearing from industry, which, of course, is  
5 what you're going to hear, is a strong defense doesn't  
6 answer this problem. Get a greener solution, get a  
7 greener system. Like I mentioned earlier, Warner  
8 Babcock says their commission in six to nine months  
9 they feel they can deliver a stable, commercially  
10 viable product. Now, not everyone here has enough  
11 money to commission that. But you here say a bunch of  
12 things. Come together. Commission it. Call them up.  
13 Instead of fighting about delisting something that's  
14 not been delisted and should not be delisted, why don't  
15 we actually come up with a green chemistry alternative.  
16 There's a way to do that. I know that at CBW we would  
17 love to work with you guys. We have a history with  
18 that society. Some of you may know, part of the reason  
19 there's certain packaging because we fought decades ago  
20 because our members were getting sick by diisocyanates  
21 and the industry adapted. The largest supplier for our  
22 largest employer, AT&T, refused to adapt. They fought.  
23 They went bankrupt. Everyone else who is in this room  
24 is making a living because they are a part, one  
25 component or another, of those that did act. It's a

1 billion dollar industry. So I know we're not going to  
2 stop arguing about every little crossed T and I during  
3 this discussion. But I really hope there's a  
4 discussion about actually finding the green chemistry  
5 alternative. It's there. It's doable. Let's quit  
6 arguing.

7 MR. PALMER: Thank you. Yeah, and again, you  
8 know, stepping back a little bit, not just some spray  
9 foam but part of the intent of this framework is to  
10 encourage innovation. And the reality is that all the  
11 great minds, chemists, engineers, scientists in the  
12 companies that make these products have an opportunity  
13 to see if there's a safer way to do it. And John  
14 Warner, the, quote, unquote, father of green chemistry,  
15 is doing some pretty cool things. So I think the  
16 market forces will take its course. This is a very  
17 regulatory, bureaucratic process that takes time. And  
18 so to whatever extent the market can move faster and  
19 better, great.

20 MR. RIESENBERG: I think Nathan is punishing me  
21 for talking out of turn before. I can wait. I'll just  
22 hold my hand up all day.

23 MR. SCHUMACHER: Go ahead.

24 MR. RIESENBERG: Thank you, Karl. Sorry for  
25 busting in before. Kurt Riesenbergs with SPFA. I just

1 wanted to apologize for speaking out of turn before and  
2 walking in and disrupting your session.

3           So in terms of the items up on the board here  
4 which I know you want to focus on, we'll get back to  
5 number one I guess and we talked about this at the last  
6 breakout session. We had a lot of comments during the  
7 general session on some of these issues. And the issue  
8 that I'm stuck on, Karl, is that the definitions and  
9 terms are unclear. They are ambiguous and it is  
10 ambiguous as to which products are included or excluded  
11 in this. We've gone around. There's so much in this  
12 product profile that's incorrect. There are multiple  
13 products that have been mentioned that aren't in there.  
14 There are bad descriptions of our product. There are  
15 so many -- and I have a question and a request. I'm  
16 going to get right to them.

17           There is so much wrong with the product profile  
18 that you've published. And we know and appreciate that  
19 you're holding these workshops and you're willing to  
20 talk about these things and learn about them and all of  
21 that. It gets back to the point that we started this  
22 off with a month ago. These conversations should have  
23 happened a long time ago. You should have known enough  
24 about the product to write the product profile  
25 correctly. The research should have been done

1 properly. You've temporarily decimated this industry  
2 while you're trying to figure all this out because the  
3 genie is out of the bottle and now it seems like there  
4 is no recourse. So I made a specific request last time  
5 to have the product profile removed from the website  
6 until such time that you can have it corrected. Unless  
7 you can stand here and say right now are you  
8 100 percent -- do you stand 100 percent behind  
9 everything that's written in that product profile as it  
10 stands on your website right now? That was one  
11 question and then I had a request.

12 MR. PALMER: Have you seen it lately?

13 MR. RIESENBERG: I have seen it lately.

14 MR. PALMER: You saw the disclaimer, the  
15 information we put on page 2?

16 MR. RIESENBERG: Yes.

17 MR. PALMER: So I do stand behind this profile.  
18 As we say, it was a snapshot in time on March 13th.  
19 That was our understanding and our analysis. So yeah,  
20 maybe there's some errors in there. Yes, there's some  
21 lack of clarity and we're committed to fixing that.  
22 But, you know, the focus on the profile understand were  
23 heard loud and clear on the concerns this morning and  
24 earlier. I'm not sure what to tell you, Kurt, other  
25 than we want to get it right and we're happy to keep

1 working on that.

2 MR. RIESENBERG: The urgency of that is  
3 important because we've established that there are  
4 inaccuracies in it. And putting a page 2 in there to  
5 say, well, there may or may not be because we did it  
6 some time ago doesn't really solve any of the problems  
7 that the industry is facing as a result of it. If  
8 someone, particularly a deliberative government body,  
9 has received credible information there are  
10 inaccuracies in something and you cannot continue to  
11 publish it to the detriment and decimation of an  
12 industry, you have an obligation to take it down until  
13 it's right. So I'm making a second formal request  
14 today that I did at the last workshop that you take  
15 that document down until we can get it right. And  
16 we're happy to work with you just like we would have  
17 been to work with you six months ago. We're still  
18 happy to work with it. But now it's in triage mode.

19 So the second item is a request for an  
20 explanation as to the differentiation between all of  
21 the ongoing federal work on isocyanates, the national  
22 emphasis program that no one at the front of the room  
23 knew was active at the last workshop that kicked in  
24 June of last year. That demonstrates to me great  
25 concern because you say you reached out to your other

1 agency partners and other folks. But this is a federal  
2 national emphasize on isocyanates, the topic that we're  
3 here to talk about. You couldn't have talked to OSHA  
4 because Cal OSHA was supposed to be writing their own  
5 national emphasis program. They had six months to do  
6 it. They didn't do it.

7 So the federal program is now active as of June  
8 of last year in this state focused on isocyanates and  
9 worker safety. EPA put out a chemical action plan on  
10 isocyanates last year. This is a heavily focused-upon  
11 product. We have been working with the federal  
12 government to put professional certification programs  
13 together to get toxic technical documentation right,  
14 everything that we could possibly do to develop a good  
15 working relationship with them to get good information  
16 out and raise the bar on the industry. We've asked  
17 several times, and it's still unclear to me with all of  
18 the current focus that's on isocyanates how is this  
19 program explicitly any different than those and where  
20 is it adding value that's not covered under OSHA or  
21 EPA.

22 MR. PALMER: Well, we did talk to OSHA. We did  
23 talk to the EPA. They're different that they're -- you  
24 know, in my mind they're complimentary. I mean, all  
25 the good work that's being done by a lot of different

1 people is still good work. This is a different  
2 framework. This is asking a more fundamental question.  
3 Is there a better way to do it rather than iso? It's  
4 not asking should the PEL be changed. It's not asking  
5 is there a better practice. So it's a different  
6 framework that we were given by the California  
7 legislature. We implement the regulations. That's  
8 what we're doing. Now, I'm not sure what else to tell  
9 you. I'm not trying to discount what the EPA and  
10 others are doing. It's just -- it's all good  
11 information. And we're committed to working with  
12 everyone to see if it fits together.

13 MR. RIESENBERG: So working with those agencies  
14 based upon the research that was provided to you and  
15 this new flexible framework that you have that still is  
16 frankly a little bit muddy to all the rest of us, I  
17 mean, it was spoken of in generalities, we're trying to  
18 figure out what the end game of this is.

19 MR. PALMER: Again, I think -- let me step back  
20 a little bit. One of the perceptions that many people  
21 have, not just with this product, is that DTSC has  
22 predetermined an outcome. We have not. We haven't  
23 decided that we're going to restrict the sale let alone  
24 ban anything. It's not our intent. We don't -- you  
25 know, you saw the regulatory responses that we have

1 available to us. That's it. It might -- so the fact  
2 that we're asking the question doesn't change any of  
3 the facts. Okay? We're asking people to use the facts  
4 that you have, that the industry has and research and  
5 the best minds to answer that question. So it's very  
6 important to understand that we're not saying that this  
7 product or that product should be banned. We're not.  
8 We're asking a question based on the information we  
9 have and the framework we're looking at. And where it  
10 goes is up to a lot of different people not just us.

11 MR. RIESENBERG: Unfortunately the ban is  
12 effectively voluntary at this point because we're  
13 seeing a huge drop --

14 MR. PALMER: We hear your point.

15 MR. RIESENBERG: -- in marketing and  
16 investment. The contractors in this state are being  
17 significantly damaged while you figure it out.

18 MR. SCHUMACHER: Yes, ma'am, in the back.

19 MS. WIGMORE: So I testified before the ESTM  
20 committee about this. OSHA does not deal with the same  
21 thing that DTSC is around this program. OSHA is all  
22 about controls. And I don't have my testimony handy,  
23 but I can certainly quote from the head of OSHA who  
24 says that the way we're doing things ain't good enough  
25 and that what we really need are alternatives analysis

1 and safer chemicals, that they deal with permissible  
2 exposure limits which are politically abrasive, numbers  
3 that are supposed to protect workers that studies show  
4 for the most part often don't. So OSHA doesn't cover  
5 this.

6 This is about prevention. It's not about  
7 controls. That's what OSHA deals with. They deal with  
8 engineering controls, with PPEs. And if I had my  
9 prevention triangle handy, I'd show you. When you  
10 depend on limiting the harm in that way, it's a very  
11 inefficient way to actually have prevention.  
12 Prevention is about getting rid of the hazards. That's  
13 what Ernie said. There are possibilities out there.  
14 But in doing so, when you talk about this priority  
15 product description and the definition, on the one hand  
16 you are saying you're going to limit yourself to  
17 certain -- to only one isocyanate made and only for the  
18 stuff when that's being sprayed. But at the second  
19 -- my second point is though you're saying you're doing  
20 a life cycle approach.

21 And I would ask you to look at the studies that  
22 are now being done and have been done in the past about  
23 firefighters and what's happening to them as a result  
24 of all the crap that's being put into buildings these  
25 days, whether it's flame retardant, fire retardants or

1 other kinds of chemicals that have an effect on them  
2 that are raising their cancer levels, that are causing  
3 breast cancer in enormous numbers in San Francisco  
4 female firefighters. You can't leave out the life  
5 cycle approach. If it's supposed to be there, you got  
6 to think about what it does after you spray the stuff,  
7 whether it's to the people in the houses or the  
8 firefighters that might be coming in to deal with the  
9 fire or other uses when people come along and try and  
10 cut the stuff. The heat from the cutting will generate  
11 from particulate probably as well as vapor. People  
12 might not understand the difference between those two  
13 and won't have the opportunity to view the results.

14 So it seems to me that you're feeling the  
15 pressure of many of the industry people in this room.  
16 And to be quite frank, it feels to me like you're not  
17 standing up for what you're supposed to do which is  
18 protecting the public, protecting workers, protecting  
19 the environment and trying to get rid of toxic  
20 chemicals that harm people and harm our environment.

21 MR. PALMER: Well, thank you, Dorothy. I would  
22 just say that, you know, the scope of our regulations  
23 is quite broad. But in practice the requirements are  
24 that we focus fairly specifically on a chemical or  
25 chemicals in a product and without making any judgment

1 about flame retardants in general or in foam or any  
2 other. You know, we're in this for the long haul.  
3 This is -- we're starting very specifically because we  
4 think that it's important that we have something  
5 concrete and very specific that meets our criteria and  
6 that we have the bandwidth to work with this process in  
7 an effective manner. And so I'm sure there are some  
8 people who would like us to bite off a bigger bite of  
9 more chemicals or more products and there's some that  
10 would prefer that we didn't bite at all. And so we're  
11 starting relatively slow and we'll go from there. But  
12 as far as life cycle goes is that -- you know, that's  
13 true, yes, the process does look at all the life cycle.  
14 But it isn't completely comprehensive. We're limited  
15 to certain types of chemicals, certain number. We can  
16 only focus on so much.

17 MS. WIGMORE: The last thing I'd like to say on  
18 this is that I'm glad to hear that industry is  
19 providing you with information. But I think that  
20 there's also information from people like those who  
21 Ernie represents who use this stuff, the folks that we  
22 work with who are day laborers who use this stuff. And  
23 I think that you need to hear from workers and what  
24 happens to them and what their concerns are just as  
25 much as you have from industry.

1           MR. PALMER: Well, what I would say is we would  
2 love to hear from everyone. You know, Director Raphael  
3 has done things -- people can criticize her for some  
4 things. She listens to everyone, and we're going to  
5 continue that process of listening to everyone and  
6 trying to evaluate information that we get. So we'd  
7 love to hear from worker organizations, environmental  
8 groups, other industry groups. You know, come one come  
9 all.

10           MR. SCHUMACHER: With that in mind, yes, sir,  
11 second row back.

12           MR. KOSCHER: Justin Koscher with the American  
13 Chemistry Council. I assume maybe you want to move to  
14 topic --

15           MR. SCHUMACHER: I would love to move to topic  
16 number two, yes.

17           MR. KOSCHER: On that question -- if others  
18 have questions on the previous one, I can wait. But my  
19 question, Karl, I assume you're going to receive  
20 suggestions from some groups under topic two. Can you  
21 articulate the process that the department is going to  
22 go through in analyzing those suggestions? Are you  
23 going to request industry input on whether or not these  
24 other chemicals are used in the products and what  
25 information industry has on those suggested chemicals

1 if the department does select to move forward with  
2 other chemicals?

3 MR. PALMER: Sure. All the questions we get  
4 we're going to analyze. And some we may pursue and  
5 others we may not. We have a lot of discretion. But  
6 certainly if we get a question, for example, what's in  
7 the product, yeah, we'll ask the industry. The  
8 industry has already given us a bunch of information we  
9 didn't have on additional parts, the components of A  
10 and B side. Yeah, so we'll certainly ask. And the  
11 same thing, you know, part of this is a check and  
12 balance process. We don't just believe everyone that  
13 comes and tells us something. We would like to see  
14 good science backed up by research. We'd like to see  
15 facts. And obviously oftentimes there are people who  
16 have different opinions. So we try to weigh that. But  
17 yeah, we're certainly going to research questions that  
18 get asked of us or comments that get made with  
19 suggestions.

20 MR. SCHUMACHER: Yes, sir, go ahead.

21 MR. LORENZ: Will Lorenz of General Coatings.  
22 On this second topic, the question of -- you presented  
23 the hierarchy I think at the -- some of the comments  
24 with regard to you have elimination or substitution and  
25 then you have reduction. Can you identify or speak a

1 little bit about what reduction means as far as hazard  
2 trait? I mean, reduction I can see exposure. But what  
3 context do you have because if we modify the chemical,  
4 for instance, and we reduce its ability to be airborne,  
5 pre-polymers, other things like that, reducing free  
6 monomer, things like this which are what you cited in  
7 the literature as primarily being more of interest,  
8 does that fall under what --

9 MR. PALMER: Yes. That's a great example. I  
10 mean, the process is a lot about tradeoffs, right? You  
11 know, you have certain functional requirements to make  
12 foam. If you found an alternative to isocyanates that  
13 worked that maybe had a different physical chemical  
14 property that reduced the -- you know, had lower vapor  
15 pressure, had lower likelihood of, you know,  
16 inhalation, that would be probably better. It might  
17 have a different tradeoff because perhaps it had a  
18 different toxicity characteristic or perhaps it has  
19 some other factor in the use of the foam that reduces  
20 its ability, its art value, for example. Okay? Those  
21 are all on the table. And so this process is to go and  
22 see what's relevant in all of those factors because the  
23 menu is very broad in terms of the things that need to  
24 be considered, including the function of the product.  
25 So it's really about getting that evaluation, seeing

1 what's relevant, weighing the tradeoffs between maybe  
2 reducing toxicity on one hand, but there's a tradeoff  
3 in some of the factors. We want to obviously avoid  
4 regarding the substitutes which on the net would be a  
5 loser, right, to people or the environment and the  
6 product still has to work. So we don't know the answer  
7 to that question. And I think we actually acknowledged  
8 in the profile that this is a tough one. You know,  
9 it's different than methylene chloride and paint  
10 strippers which there are some alternatives. Certainly  
11 you could argue the efficacy of those versus methylene  
12 chloride. This is more challenging. Those are exactly  
13 the kind of tradeoffs that the alternative analysis  
14 would be looking at.

15 MR. SCHUMACHER: Yes, ma'am.

16 MS. ROSS: Lorraine Ross, Intech Consulting  
17 representing Dow Chemical. I have a follow-up to the  
18 question. At the outset -- and I may be dragging this  
19 back, so I apologize, to definition. But at the outset  
20 you said that what was not included were non-spray  
21 polyurethane products, the non-spray products, and then  
22 cured, rigid polyurethane foam. And have you  
23 identified what cured means? And I'm leading to that  
24 because of the question on the alternative approach,  
25 right? So if you're looking at time to cure, right,

1 spray and then time to cure, if we could reduce the  
2 time to cure, would that be considered a suitable  
3 alternative?

4 MR. PALMER: Well, that would be for you to  
5 decide in terms of tradeoffs between the curing time  
6 versus the function. We are avoiding the definition of  
7 what's cured because we've heard from the industry  
8 that, you know, it's from zero to two hours to what,  
9 depending on where you are. That's not our focus  
10 because the primary focus is during the application.  
11 And we recognize that there are concerns about, you  
12 know, when is it, quote, unquote, safe to rehabilitate  
13 or whatever. That's not our focus.

14 MS. ROSS: So without setting a bench line, you  
15 know, a benchmark --

16 MR. PALMER: That would be for you to establish  
17 when you do your alternatives analysis. I mean, again,  
18 it's part of the function of the product and would be  
19 part of the potential impact, positive and negative, of  
20 the product. And that might be different for  
21 different --

22 MS. ROSS: It will be.

23 MR. PALMER: -- manufacturers and process.  
24 That's another thing just to highlight is people might  
25 come up with different solutions. Different companies

1 might have a different approach. And that's perfectly  
2 acceptable. There's nothing -- we're not looking for a  
3 silver bullet. We're not going to bless and impose  
4 something. It's based on the individual manufacturer.

5 MS. ROSS: Understood. Thank you.

6 MR. SCHUMACHER: I'm going to do what I did in  
7 Sacramento. There's a lot of people toward the back of  
8 the room who have not said anything. Feel free to  
9 chime in. I'm giving you a golden opportunity.  
10 Besides Mitch and Dorothy, there's a lot of you back  
11 there.

12 MR. PALMER: Somewhere between Mitch and  
13 Dorothy.

14 MR. SCHUMACHER: Anyway, I'll go back to our  
15 good friend from Great Coatings.

16 MR. LORENZ: Will Lorenz, General Coatings.  
17 Trying to understand alternatives. And does  
18 alternatives have a definition in your regulation with  
19 regard to widespread and viable as you do with regard  
20 to being an exposure out there? You have a definition  
21 of widespread and so forth. Because if -- you know, my  
22 concern is someone is -- you know, someone has reported  
23 about a company that's in San Francisco that's  
24 proposing to come up with a solution in nine months.  
25 You know, they'll have a commercially viable product.

1 Well, good luck with their general -- with their  
2 process there. The question is does that product then  
3 have to be commercially, one, viable and widespreadly  
4 available, or do you accept alternatives if someone  
5 were to have just a patent on that requirement which  
6 would permit someone like myself or other manufacturers  
7 from being in that business? That wouldn't be  
8 considered to be viable and widespread. It would be  
9 you would be supporting one monopoly.

10 MR. PALMER: I think there's at least a couple  
11 questions in there. One I would ask Lynn Goldman, my  
12 attorney, about the definition of alternative. I don't  
13 recall off the top of my head how we defined it.

14 MS. GOLDMAN: I don't know that we are  
15 specifically defining the alternatives in there.  
16 That's why the process is that you identify what your  
17 product needs to do, the different requirements that  
18 you have, and then what could possibly meet that, some  
19 theoretical products that haven't been developed that's  
20 nine months off that you don't know anything about  
21 that, so you couldn't do an analysis on that.

22 MR. PALMER: Yeah, again, it's about tradeoffs.  
23 So, for example, one classic example is BPA in plastic  
24 baby bottles is a glass baby bottle alternative. Sure,  
25 on one hand it's an alternative. It does the same

1 function. Is that an alternative for you in your  
2 business makes plastic baby bottles? Maybe not  
3 because, you know, can you retool your factory? So  
4 there's not a canned answer to that.

5 MR. LORENZ: Love to dialogue further about  
6 that.

7 MR. PALMER: Sure.

8 MR. SCHUMACHER: Yes, third row back.

9 MR. PACHECO: I guess I have a question to both  
10 DTSC and others in the room. So Soudal which is  
11 International Chemical Corporation. I don't know if  
12 anyone from Soudal is here. They're not volunteering  
13 if they are. Was it Sweden or Switzerland that banned  
14 diiso years ago? Soudal come up with an alternative  
15 formula. It's been on the marketplace in Europe for  
16 years. Soudal has an American distributor and actually  
17 manufacturing facility. But because it's not banned  
18 here, they don't make it here, so those that want to  
19 buy American as CWA does, we can't advocate for AT&T to  
20 purchase it. But have you had any interaction with  
21 Soudal about whether or not their SPF foam or from the  
22 EU about whether or not some of the concerns you're  
23 hearing here is Soudal's product working there? Also  
24 there's a Corning product. I don't remember the name.  
25 We haven't tried it out that also works. Have you had

1 any correspondence from industry where they already  
2 have successful models?

3 MR. PALMER: I'm not aware, but I'm going to  
4 turn it over to Dennis who knows more about it than I  
5 do.

6 MR. GUO: We now made an announcement on-line.  
7 And we are not -- we never get an MSDS data sheet and  
8 we don't know what the product is.

9 MR. PACHECO: From Soudal?

10 MR. GUO: Yes, yes, Soudal. And also you  
11 mentioned his name in our profile. But two weeks ago  
12 somebody who regularly they asked the same question.  
13 So we did not look into the product, but we are aware  
14 of product emerging. But like our W director,  
15 Dr. Williams, said, we don't know what's in it yet.

16 MR. PACHECO: I'm sorry. Did they refuse to  
17 give you an MSDS?

18 MR. GUO: We have not established.

19 MR. PALMER: And that's an important point.  
20 Just because someone says they have a better mouse  
21 trap, we're not necessarily going to believe them and  
22 there's going to need to be disclosure to us as an  
23 alternative if people want to assert that it's safer.

24 MR. SCHUMACHER: Okay. Since we had some  
25 people join us in the back of the room, I still throw

1 open the invitation to the back of the room, feel free  
2 to chime in. Hearing no one. Yes, sir.

3 MR. KOSCHER: Justin Koscher with the American  
4 Chemistry Council. Karl, now that you've received a  
5 little bit more information about the value chain of  
6 the spray foam industry, do you have a better idea of  
7 who would be the responsible entity required to perform  
8 the alternatives analysis?

9 MR. PALMER: I think so. I mean, it's -- the  
10 channels are sort of complex. But the responsible  
11 entity would be the person who actually manufactures  
12 the product first and foremost. So in the case of --

13 MR. LORENZ: Which product?

14 MR. PALMER: The spray foam system, the  
15 unreacted diisocyanate system and markets that. So  
16 that wouldn't necessarily be Dow Chemical. I'm not  
17 sure. I don't recall who makes what. But just making,  
18 one, the isocyanates, if you manufactured isocyanates,  
19 that's not you.

20 MR. KOSCHER: So we're talking more of the  
21 systems houses.

22 MR. PALMER: Sounds like it would be the  
23 systems houses. Now, those system houses which may  
24 be -- there's no light. No one home. So system houses  
25 would be what -- I think our perspective would be the

1 people that manufacture who would be the responsible  
2 entity. If one of the system houses was outside of  
3 California and they didn't want to do the work, then  
4 the person that imported that product would be next in  
5 line. Ultimately if they don't want to do it, then we  
6 could go to the retailer and say, you know, you have  
7 some options. You could just act on their behalf or  
8 you could discontinue its sale, such a thing.

9 MR. RIESENBERG: Retailer being a contractor  
10 also if it's a professional system?

11 MR. PALMER: My understanding is the  
12 retailer -- the contractor is purchasing that from  
13 someone, right? Kurt, maybe you'd be better to answer  
14 this question. Where do you get your materials from?  
15 Where do you get your --

16 MR. RIESENBERG: It's a very simple process  
17 where raw materials come from a series of  
18 manufacturers, another set of raw materials come -- the  
19 A side comes from a series of manufacturers, the B side  
20 comes from another series of manufacturers. Typically  
21 those systems houses that manufactures the B side are  
22 purchasing their A side from another manufacturer and  
23 they sell them as a set to a contractor or professional  
24 contractor --

25 MR. PALMER: And that's who we're talking

1 about.

2 MR. RIESENBERG: -- who then installs the foam  
3 on site.

4 MR. PACHECO: It would not be the contractor.  
5 It would be the system house.

6 MR. RIESENBERG: Or the distributor, right, in  
7 California?

8 MR. PALMER: Well, again, that distributor,  
9 depending on the channel that he might have purchased  
10 the kit from someone else. So it'd still be the system  
11 house.

12 MR. RIESENBERG: Okay.

13 MR. PALMER: Is that helpful, Justin?

14 MR. KOSCHER: Yes, it is. Thank you.

15 MR. LORENZ: Will Lorenz, General Chemical.  
16 I'm just trying to follow the rules. I don't want to  
17 be like Kurt. Just kidding.

18 MR. RIESENBERG: I got called on it, Will.

19 MR. LORENZ: On alternatives again, are  
20 alternatives listed as known hazards? Is there a  
21 hierarchy to hazard associations? You've got that list  
22 of -- that you put up there, right? And you said that  
23 they sort of all weigh the same, including economic and  
24 so forth. But is there a hierarchy to a prioritization  
25 of how you're going to go about evaluating a water

1 toxicity versus an airborne toxicity, asthma versus  
2 cancer, you know, all these other alternatives? If we  
3 look at trying to make viable either process or  
4 chemical substitutions or look at completely new  
5 technologies, we have to then understand that pathway.  
6 Otherwise, we're going to be relegating ourselves back  
7 to this discussion because we may not have fully  
8 evaluated it.

9 MR. PALMER: So I think what you're talking  
10 about is in the alternatives assessment process.  
11 There's different points in the process whether we are  
12 picking the criteria used to protect the priority  
13 product is a little different than what you're  
14 assessing in the alternatives analysis which is  
15 extremely broad. There is sort of a natural hierarchy,  
16 if you will, because the AA process is a two-phase  
17 process. And the first phase is more of a screening,  
18 looking at hazard traits, identifying relevant factors,  
19 your business needs and coming up with a work plan. So  
20 there's some natural prioritization there.

21 The second part of the process is more in depth  
22 dealing with quantitative analysis and making sure you  
23 consider all the factors. And I'm not sure what that  
24 looks like. I'm trying to think in terms of spray  
25 foam. But you have to consider all of the factors that

1 are identified in the A through M criteria as we've  
2 defined them in the regulation. Those A through M  
3 criteria -- and this is a subtlety. Now we're starting  
4 to get reading the regulations -- is that those  
5 criteria identified by the legislature, we incorporated  
6 those in our regulations. We sort of repackaged them  
7 to make a little more sense. You have to consider them  
8 all. It doesn't necessarily mean that you have to do  
9 the full-blown analysis if it's not relevant. So in  
10 spray foam perhaps one factor -- and nothing leads to  
11 me -- is not relevant for your product in this life  
12 cycle. So you don't consider that and you identify  
13 that in your analysis. So I encourage you to look at  
14 the regulations and see how that's laid out. And I'm  
15 not sure where you're coming from. But --

16 MR. LORENZ: Well, you've talked in terms over  
17 many meetings we've had, and we're appreciative of  
18 these meetings, is the STD concept of like in my mind  
19 the worst -- kind of the worst of products or worst of  
20 worst chemicals. So assuming if you have that sort of  
21 understanding of that that you have some sort of a  
22 hierarchy of that and you got some sort of a pyramid of  
23 this causes immediate death, global destruction. So  
24 that's the worst case substitution versus something  
25 less or more benign. Is there some sort of criteria?

1           MR. PALMER: There is no formula. There's no  
2 ranking in some sense. I think we had a really good  
3 discussion at our previous green science meeting that  
4 you were at talking about your sort of conceptual model  
5 of your product and through its life cycle. I think  
6 that's where you would start to say what's really  
7 important and what are the factors where there are  
8 potential impacts and potential opportunities for where  
9 there's going to be tradeoffs.

10           Again, back to the chemistry you highlighted in  
11 your earlier question, I think there's probably some  
12 fundamental questions there which are the performance  
13 in the chemistry to make foam. Before you get to  
14 end-of-life issues, you're going to start --

15           MR. LORENZ: But again, I don't want to  
16 substitute methylene chloride or fire retardants  
17 because I know how contentious this is right now. But  
18 in the end I want to try and look at not only my  
19 products in the future but you also wanted to  
20 understand the compounds in there and how they fit in  
21 your equation because you're asking me to get to the  
22 end point and present to you with a document because  
23 I'm a manufacturer of foam systems in California, so  
24 I'm the person putting together a document. I pretty  
25 much accept that that's the understanding here. But

1 yet I have to then get to either product or chemistry  
2 alternatives. And I want to make sure that I don't  
3 present an alternative that doesn't meet your criteria  
4 or puts me at risk of saying, well, look, you've now  
5 engaged a different hazard that we're not willing to  
6 accept because we've got a hierarchy here and that  
7 doesn't meet the criteria.

8 MR. PALMER: So part of the process that helps  
9 ensure that you're on the right track is that first  
10 phase of the AA which we approve, okay, and a work  
11 plan. So that's going to be where you would come to us  
12 and say I've looked at all these factors. These are  
13 what I think are relevant. Here's the things I think  
14 are on the table, which of these are off. Here is my  
15 approach. Here is what I'm going to do. And we would  
16 look and that makes sense. So it's not -- you're not  
17 waiting all the way to the end of the process which is  
18 16, 18 months later potentially to say, oh, you went  
19 down the wrong path. Fortunately there's not  
20 necessarily -- there's a lot of unknowns. There's a  
21 lot of data. You're going to have to do work to figure  
22 out how you assess -- get information and assess and  
23 balance that. This is part of the challenge we're  
24 going to be dealing with in how we do an alternatives  
25 analysis. And it's not insignificant. There are a lot

1 of factors and a lot of conditions. There are highly  
2 dependent on the specific product. And perhaps your  
3 business, certainly your business in the Central Valley  
4 and potential impact on surface and groundwater is  
5 different than someone who is doing the same thing in  
6 the Mississippi River delta. And that might be  
7 relevant.

8 MR. LORENZ: Thank you.

9 MR. SCHUMACHER: Somebody new. Yes.

10 MS. BALKISSOON: This may be kind of too in the  
11 weeds. As the person who is doing the alternative  
12 assessments, we had discussions with Karl about the MP  
13 and all those about sort of the A through M criteria.  
14 And there was a discussion I thought these workshops  
15 were going to focus more on kind of a little more  
16 weeding in terms of like with the economic analysis and  
17 how to approach that because that was some of the  
18 issues that came up. So I was wondering where in the  
19 process would that kind of discussion happen?

20 MR. PALMER: Well, there's two parts to that  
21 question I think. One is there will be -- as we go  
22 through rule making, we're required to weed, go through  
23 the finance process especially as to 399 issues which  
24 is the fiscal and economic impact. That's a relatively  
25 high level analysis of the regulations themselves. And

1 so that's very different than documents that's going to  
2 be needed in the AA process. That would be done as we  
3 start rolling out modules and guidance on the AA  
4 process. And that's what we really would like people  
5 to participate. Those are going to be some of the more  
6 challenging aspects. How do you monetize this impact?  
7 What model are you going to use versus another one?  
8 But yeah, that's a little bit further down the road.

9 (The reporter speaks.)

10 MS. BALKISSOON: Indira Balkissoon with  
11 TechLaw.

12 MR. SCHUMACHER: And by the way, we do have a  
13 court reporter. You have a sign-in for everybody in  
14 the room. So we'll get you copies of this.

15 Yes, in the back.

16 MS. WIGMORE: Just on the topic, too. If I  
17 heard you right when there was a question about the  
18 MSDS from Soudal, the response was that -- from Dennis  
19 was that you had sort of posted things on your website  
20 and you assumed that was going to bring in people to  
21 provide you with information. I managed to find a  
22 number of places where both people who are academics  
23 are working with companies, John Warner, the Warner  
24 Babcock Institute which does this kind of alternative  
25 assessment but develops alternatives. There's simply a

1 woman in Southern California who specifically works  
2 around alternatives. Are you telling me you sort of  
3 don't have that information?

4 MR. PALMER: Yeah. I would love to have that  
5 information.

6 MS. WIGMORE: So why is it so easy for me to  
7 find and so difficult for everyone else in this room to  
8 find? I'm quite serious about that because I have a  
9 binder full of writing things around this that include  
10 some data sheets about things that are supposed to be,  
11 you know, better than the isocyanates in terms of  
12 toxicity. I've got information from SUBSPORT which I  
13 know you folks know about. So I'm just curious. I'm  
14 happy to supply you with it. But I'm a little  
15 concerned that you haven't got it already. And whether  
16 there's difficulties in the process that you need some  
17 help with that aren't being made aware of.

18 MR. PALMER: I think certainly it is a  
19 challenging process for us. It's a new process for us.  
20 And the three things we're looking at now, we looked at  
21 a myriad of things maybe at a shallower level. But so  
22 we're learning, too. So if there's approaches and  
23 resources that we're not aware of, we would love to  
24 hear that. I don't have a better answer than saying  
25 that we're doing our best with what we've got which is

1 limited.

2 MR. SCHUMACHER: Maybe before you send us a  
3 bunch of material you might want to talk with Dennis or  
4 Karl about what we already have just to compare notes  
5 either by e-mail or even in person after this session  
6 is over with if that's okay.

7 MR. PALMER: That's fine.

8 MR. SCHUMACHER: Okay. Yes, sir.

9 MR. KIRSCHNER: I'm Mike Kirschner with  
10 Environ. About market information, this is a huge  
11 challenge for any regulator. With the Ross directive,  
12 which is the hazardous substance directive in Europe, I  
13 talked to a number of enforcement authorities there.  
14 For years after this directive came into force, not  
15 just when it was issued in 2003 when it came into force  
16 in 2006 and for years thereafter and even today there  
17 are manufacturers that are unaware of it. There's not  
18 a clear path for government and industry to share this  
19 type of information for the regulated to know that  
20 they're being regulated and for the regulators to know  
21 who they should be regulating. So one of my chief  
22 concerns about the whole SCP process is how do you  
23 address that issue. If you issue a data column, how do  
24 you know that you've even gotten to the right  
25 organization, to the right manufacturers and so on.

1 What we're hearing here is this took everybody by  
2 surprise and all the manufacturers certainly by  
3 surprise. And that's probably not the way we want to  
4 run forward, right? So what are you thinking for how  
5 to improve the communication path between industry and  
6 DTSC?

7 MR. PALMER: Well, in the near term our work  
8 plan process is going to be an important aspect of that  
9 and I think will really help us. You know, personal  
10 care products, wide and deep. You know, there's all  
11 kinds of potential products there. But the markets are  
12 complex and there's a lot of variety. And our ability  
13 to get information on that is relatively limited. We  
14 purchased marketing information. That is only so  
15 valuable. But when we have the workshops and we start  
16 saying, well, we're looking at this category,  
17 considering this category, it's our hope that the  
18 members of that industry will come to us just as all  
19 you have and say, hey, let's have this discussion.  
20 This is what we do. This is what we know. This is  
21 what we don't know, and we'll go from there. That will  
22 be helpful.

23 MR. KIRSCHNER: I think publishing a three-year  
24 work plan will help get the word out. As I said, with  
25 Ross, even years afterwards the UK enforcement

1 authority, for instance, was still looking for help to  
2 access small and medium businesses even in the UK to  
3 get that information out to them. So there's -- I  
4 don't think there's a panacea. But I think you have to  
5 really seriously think about all the different avenues  
6 to what avenues are available and creating new avenues  
7 to get out to industry.

8 MR. PALMER: Well, we certainly need help in  
9 that. This is new for us moving into the product  
10 world. We're largely a waste and hazardous materials  
11 agency. So it's a different perspective. And the  
12 tools we have need to be beefed up and we need help  
13 refining them and using them wisely. So we appreciate  
14 it.

15 MR. SCHUMACHER: Yes, sir.

16 MR. PACHECO: You're getting questions and  
17 you're going to get a lot of questions about how are  
18 you going to grade the alternatives analysis or the  
19 alternatives. And so I'm sure you can only do like a  
20 general to do this. But those alternatives that most  
21 closely adhere to 12 principles of chemistry, very  
22 clearly articulated 12 principles of chemicals, those  
23 I'm assuming DTSC will grade higher or find more  
24 acceptable --

25 MR. PALMER: There's language in our

1 regulations about how we evaluate the alternatives  
2 analysis, products that we get, they include timeliness  
3 and making sure you check all the boxes. But there's  
4 also language, and I don't remember if any remember it,  
5 but looking for the -- there is somewhat of an ST in  
6 there that we're looking for the best answer of given  
7 the knowledge out there and its viability. I'm not  
8 sure how it's couched. But I don't think we identified  
9 specifically the 12 fundamental chemistry concepts.  
10 But hopefully those will be embedded into the AA when  
11 people do it.

12 MR. SCHUMACHER: Mitch, in the back.

13 MR. FINE: Thank you.

14 I'd like to say one thing to CWA and to Dorothy  
15 is that with the green science initiative we really  
16 have an opportunity in California to do something  
17 unique and different. And what I really want to say  
18 here is that we're not the enemy. We're looking for  
19 this information. We want to cooperate. We want to  
20 have dialogue. We don't want to be in opposition. I  
21 don't see myself as in opposition to the environmental  
22 movement. I got into spray foam because I want to do  
23 something good for the environment and work with NGOs  
24 to make this product safer. We're absolutely in favor  
25 of that. So I don't want you to feel that we want to

1 set up an antagonistic situation here. And I think the  
2 framework that Karl is talking about and the state has  
3 come up with, the government has come up with is  
4 something we can all work together in California and  
5 really set a model for the rest of the country. And I  
6 want to participate in that and I don't want to be seen  
7 as, you know, the bad guy. So I think that's really  
8 important. And we're all in this room here. And I  
9 think as you said on the screen, we all have the same  
10 goal here. We want to make homes energy efficient. We  
11 want to make the governor's goal of 2020 and we want to  
12 do it as safe as possible and we want the information.  
13 We'd like the information. And for something viable I  
14 can tell you for one I'm there. I'm not going to -- if  
15 there's something that's safer that works, I'm going to  
16 do it. But again, in my research and everything, I  
17 can't find it. But if Dorothy, if you have  
18 information, I want to sit down with you and I want to  
19 take the information and I'll take that back to B.A.,  
20 Armstrong and Dow and say hey, what can we do with  
21 this? So I want to cooperate in that way.

22 The specific question I have is is SPF with  
23 unreacted isocyanates one product or for purposes of  
24 hazard and AA analysis does the DTSC look at four  
25 distinct products as defined by the EPA and laid out on

1 the PP? Specifically for my question is will you look  
2 at SPF roofing which is sprayed on the outside  
3 differently for AA and hazard analysis than let's say  
4 SPF insulation on the inside?

5 MR. PALMER: Yeah, I think, Mitch, each  
6 particular application is going to inform the AA. So  
7 because you're part of, AA is looking at the specs and  
8 the products uses and needs. So although I would say  
9 it's the same product in terms of spray polyurethane  
10 foam, its application is a little different both on  
11 roofs and in interior space. So the AA would be  
12 perhaps if you are the manufacturer for a roofing  
13 system and that product was not used for insulation  
14 other than roofs, then you wouldn't consider some of  
15 those other relevant factors. But that's the long way  
16 of saying it depends is it relevant as to what it's  
17 being used for.

18 MR. FINE: Thank you.

19 MR. PALMER: In the AA process.

20 MR. SCHUMACHER: Yes, sir.

21 MR. KOSCHER: Justin Koscher with the American  
22 Chemistry Council. Karl, I note Dr. Guo covered some  
23 of the misinformation on the market information. Can  
24 you just articulate what specifically you feel the  
25 department doesn't have in terms of the market

1 information that it needs?

2 UNIDENTIFIED SPEAKER: We can't hear behind  
3 you.

4 MR. KOSCHER: Oh, I'm sorry. I just asked if  
5 Karl could articulate what market information the  
6 department needs but does not yet have from the  
7 industry or from others.

8 MR. PALMER: I don't know that we've fully  
9 evaluated all the information that's been given to us.  
10 We've been given a lot of information by the industry.  
11 But in terms of market information, who are all the  
12 players, who are the 20-plus spray foam houses that's  
13 relevant, what are the volume of the product for use in  
14 California. You know, this is a good example that you  
15 can go and find data on isocyanates, you know, HPV-type  
16 stuff nationwide. More specifics we typically don't  
17 have.

18 MR. SCHUMACHER: Specific to California?

19 MR. PALMER: Specific to California, yeah. And  
20 I think the other aspect would be some of the  
21 differentiation between the systems used. So how much  
22 is used for roofing. How much is used for other  
23 insulation purposes. In the case of the one component  
24 foam, how much of that is used -- sold in California.  
25 That would be helpful. And that may be in some of that

1 information -- I'm not sure if we -- the number of  
2 system houses. So who are the players. So part of the  
3 process assuming this goes through is that once the  
4 regulations are adopted, the responsible entities are  
5 required to notify us that they exist and they're now  
6 in this process. We want to be able to do some checks  
7 and balances to make sure that everyone who is subject  
8 to the regulations is complying. But probably more  
9 importantly is to give us some sense of the amount of  
10 the chemical in commerce which speaks to potential use  
11 and exposure. At the same time it also, not to jump  
12 ahead to the alternatives analysis phase, but there's  
13 increasing use of this product for very good reasons.  
14 And so information on that would be helpful as well in  
15 terms of projected use. And some of that I know that  
16 industry has given us. I think part of the problem --  
17 you know, we spent the last couple weeks digesting a  
18 lot of information. And we will certainly have  
19 questions that we'll ask people who provided that  
20 information if we have it, if we have them.

21 MR. SCHUMACHER: Yes, Dorothy.

22 MS. WIGMORE: One of the questions that might  
23 be useful to ask when you're collecting, Karl, is that  
24 it seems to me that the market information here is all  
25 about the kind of businesses and who is doing. You got

1 nothing about who the end users are, about the workers  
2 that are involved, the kinds of jobs those workers do,  
3 are they union or not because if they're union, there  
4 may be a way to work with some folks collectively.

5 It's much more difficult to work with people who aren't  
6 in unions. But there may be some information you want  
7 to get about who is actually using this stuff. And  
8 it's a game. As somebody who does occupational health  
9 here and over the years, it's stuff that's very  
10 difficult to get. But if you have an opportunity, you  
11 might be exploring that. And I can think of some other  
12 questions that might relate to the work concerning that  
13 might be useful. I'll pass those on.

14 MR. PALMER: Sure.

15 MR. RIESENBERG: Kurt Riesenbergs with SPFA. I  
16 appreciate everything Dorothy said. And Dorothy  
17 actually said something a little while ago that the  
18 court reporter is here that I can go on record saying I  
19 agree with something that Dorothy said. But in this  
20 case on the worker issues where you were talking  
21 earlier about the OSHA doing things differently, the  
22 OSHA national emphasis program drills down to companies  
23 with one single employee for the national emphasis  
24 program in iso science. It's not ten above like every  
25 other net that's ever been. So I feel like you were

1 discounting the work and the direction that OSHA was  
2 going earlier with the national emphasis program  
3 focusing on worker safety and proper use of this  
4 product and this material and now we're back on  
5 workers. So I guess I'm asking if you could clarify  
6 for me what -- I guess what it is you're suggesting by  
7 telling DTSC to go out to the worker end if that's  
8 already being covered by OSHA?

9 MS. WIGMORE: Well, DTSC has said that they're  
10 interested in certain kinds of uses of the spray foam.  
11 And particularly they looked at the small and medium  
12 size contractors. So were workers involved there?  
13 Workers are involved. And Ernie can tell you how many  
14 of his members are involved in using spray foam  
15 products. They are not there working for AT&T and I  
16 don't know who else. And they're in a union in that  
17 case. So workers are important in this because they're  
18 the ones who get sick. They're the ones that I talked  
19 to a friend today who is on this issue in Massachusetts  
20 where somebody ended up in a coma with chemical  
21 meningitis as a result of chemical.

22 MR. RIESENBERG: From spray foam? Was that  
23 from spray foam?

24 MS. WIGMORE: I believe so.

25 MR. RIESENBERG: Really?

1 MR. FINE: I'd love to see data.

2 MR. RIESENBERG: Yeah, I would, too. That's a  
3 hell of a statement to make in a spray foam workshop.

4 MS. WIGMORE: My point is that the workers are  
5 ones that get sick. The workers are the ones who are  
6 canaries in the shaft. And they're working with  
7 isocyanates. There's plenty of evidence about what  
8 isocyanates does to people who use them and make them.  
9 So that's why I'm suggesting that if you're going to  
10 get market information that includes how many workers  
11 are involved, how many people -- if you can get this,  
12 do it yourselves. But sometimes those boundaries are  
13 pretty gray when you're getting into small contractors  
14 and stuff. And I know that from my work. But it's  
15 because I'm interested in dealing with the hazard. And  
16 that's not what OSHA deals with. They deal with the  
17 controls. I'm interested with dealing with prevention  
18 and hazard. And OSHA deals with controls and reducing  
19 exposure. That is what the special emphasis program is  
20 about.

21 MR. PALMER: Back to Justin's original question  
22 to give you some perspective is that if part of the  
23 concern is potential exposure, knowing the number of  
24 workers in California that handle spray foam processes  
25 would be helpful. And knowing any breakdown of who

1 they are, what they are, what training, how many of  
2 your SPFA members are in California and how many have  
3 gone through the various levels of training that you've  
4 outlined for us. Those are helpful to paint the  
5 picture to us about potential exposures, the relevance  
6 of or significance of potential harm.

7 MR. SCHUMACHER: Okay. We have to move to wrap  
8 up because we have five minutes left for this workshop  
9 today. But I want to reassure all of you that you can  
10 still send comments to the web address that we gave you  
11 earlier as well as contact us through other means as  
12 well. So I don't know if you have that. Can you put  
13 that thing up?

14 MR. PALMER: The web address?

15 MR. SCHUMACHER: About comments. The very last  
16 thing. Yeah, there you go. That's still an option for  
17 you. And we'll be in touch with people who send us  
18 information undoubtedly, already information we've  
19 gotten from you. So Karl, do you want to wrap it up?

20 MR. PALMER: Yeah. So first I want to thank  
21 our court reporter and our outstanding public  
22 participation staff who have helped us put these  
23 workshops on. I appreciate it. I want to thank all of  
24 you for coming and for having an honest and open  
25 discussion about these issues. We know they're very

1 important to all of you across the board. They're  
2 important to us. And it's important that we hear what  
3 you have to say. We've learned some things today I  
4 think. We've reinforced some other concerns that have  
5 been expressed before. We're committed to working with  
6 all of you from here on out to get this right. This is  
7 a long process. We have our final workshop June 4th in  
8 Los Angeles and then we'll have a little bit of  
9 breathing room to come back and reassess everything and  
10 move forward. In that time I would encourage you to  
11 think about what you've heard today, questions that you  
12 might have in addition to ones today, comments, you can  
13 give us information that you think will be helpful for  
14 us to understand your perspective to put in the context  
15 of what you think we need to hear. And we're committed  
16 to listening and doing our best to evaluate that. We  
17 will certainly ask questions if we have them. We  
18 appreciate everyone's perspective. You're welcome to  
19 come to Los Angeles if you'd like. The format will be  
20 the same. And I'm sure we'll be talking to many of you  
21 ongoing. So thank you for your time and energy and  
22 appreciate it.

23 MR. SCHUMACHER: Thank you all.

24 (Whereupon, the meeting was adjourned at 12:28  
25 p.m.)

REPORTER'S CERTIFICATE

I, CATHERINE M. MEYER, a Shorthand Reporter,  
State of California, do hereby certify:

That said proceeding were taken before me at  
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IN WITNESS WHEREOF, I have hereunder subscribed my hand  
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*Cathy Meyer*

CATHERINE M. MEYER, CSR NO. 11596  
State of California

DEPARTMENT OF TOXIC SUBSTANCES CONTROL  
DTSC Workshop on 05/28/2014

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DEPARTMENT OF TOXIC SUBSTANCES CONTROL  
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