

Cal/OSHA Advisory Meeting for Revision of the General Industry and Construction Lead Standards 8 CCR 5198 and 8 CCR 1532.1

Minutes for Meeting on November 10, 2015, Oakland, CA

Welcome: Eric Berg, Acting Deputy Chief of Research and Standards

Meeting Chairs: Steve Smith, Peter Scholz

Notes: Mike Horowitz, Kevin Graulich

Attendees:

Name	Affiliation
Bailey, Jerry	U.S. Battery Mfg. Co.
Barber, Ruben	Laborers #67
Benne, Lorna	CalTrans
Bogdanic, Dragomir	CalTrans
Brockman, Dave	Certified Coatings Co.
Buchanan, Ross	Redwood Painting Co., Inc.
Butcher, John	Certified Coatings Company
Campbell, Terry	U.S. Battery Mfg. Co.
Cooper, Michael	California Department of Public Health
Coyle, Patricia	California Department of Public Health --OHB
Ead, Samir	CalTrans
Ealy, Mike	AEC
Falloy, Chris	DC-16 IUPAT
Fernandez, Sharilyn	CalTrans
Forchione, Jo	Pacific Gas & Electric Co.
Gottesfeld, Perry	Occupational Knowledge International
Gregory, Donna	CalTrans
Hagen, Dale	Alameda County Healthy Homes Department
Harrington, David	Cal/OSHA Consultation
Hipkins, Karen	CDPH (retired)
Hollis, Jill	CalTrans
Jackson, Rebecca	California Department of Public Health
Jones, David	AGC of California
Jordan, Dennis	Jordan Consulting
Kernazitskas, David	OSHSB
Kosnett, Michael, MD	University of Colorado, Denver
Lee, Christopher	United Contractors
Leary, Paul	USDOL OSHA
Manthe, Steven B.	Assoc. Environmental Contractors
McAllister, Scott	M&M Occupational H&S Services
McLaughlin, Dave	Oregon OSHA
Miksad, Roger	Battery Council International
Moelk, Andy	Jeffco Painting
Muzaffar, Saheer	California Department of Public Health
Napier, Dan	DNA Industrial Hygiene
Olhiser, Burt	SSPC and PDCA
Pantoga, Maurice	LA County Public Health Department

Pedroza Jr., Ismael
Rozance, Eric
Sandusky, Dave
Schorken, Erik
Seaman, Mitch
Shiraishi, David
Smith, Jeremy
Smith, Kim
Stiner, Heather
Thompson, Kevin
Toyota, Angie
Trang, Jora
Vork, Kathleen
Vuglia, Joe
Weisberg, Justin
Weir, Jay
Wells, Vickie L.
Werbellow, Frank
Wick, Bruce
Yarbrough, Ed

Trojan Battery Company
Phylmar Group
Forensic Analytical Lab
DC-16 IUPAT
CA Labor Federation
USDOL OSHA
CA State Building Trades Council
CalTrans, Division of Eng. Services
SSPC
Cal-OSHA Reporter
LA County CLPPP
Worksafe
Cal-EPA, OEHHA
Hazard Management Services, Inc.
Chrisp Company
AT&T
County & City of San Francisco, DPH
DPR Construction
Calpasc
CalTrans

Introduction and background: Steve Smith welcomed attendees, noting that this was the 6th and probably the last meeting for this advisory group. The group has been engaged since 2011 in a pre-rulemaking process seeking out, where possible, consensus on changes to the regulations and specific wording before commencement of formal rulemaking. After this meeting, the Division would take into account comments received through December before developing any final revisions for one last draft. Division staff would then develop support documents needed to submit a rulemaking package to the Standards Board, hopefully by early 2016. Steve Smith noted that the first three meetings of the advisory committee had focused on the need to lower the blood lead removal level (BLL) and Permissible Exposure Limit (PEL). The last two meetings addressed other changes to the General Industry and Construction regulations specifically. Steve Smith noted that the drafts handed out today differed from the drafts on the website, and the handouts highlight significant changes since the last meeting. Per the agenda, Smith said, we'll review and take comments on these changes. Throughout this process, Smith said, we've solicited not only input on the language itself, but we've also solicited concerns about the economic and technical feasibility of the proposed changes. This is important for us because we have to draft an Initial Statement of Reasons that explains these impacts. So the more documentation we get from advisory committee participants on potential costs and benefits, the quicker staff will be able to prepare supporting documents for the Standards Board.

Peter Scholz said the meeting would look at six areas of substantial change that are highlighted in gray on the handouts. Any additional issues can be raised at the end of the meeting. We'll start with the General Industry Safety Orders (GISO). On the handout there is a schematic, I don't want to go over these, but I hope they give a general overall sense of the regulations.

Again, the underlined parts on the schematics represent changes from the last advisory meeting. You can see that for all the tussling around with new concepts we've exercised some restraint, and, while there are changes, a lot remains as it always was. We don't want to spend time today critiquing the parts of the standard that are not being proposed for change.

Discussion of latest changes to the General Industry Safety Orders

Scholz said let's begin with the concept of the "threshold amount" of lead, which is found only in GISO, Section 5198. This language begins on the bottom of page one and continues to page 2. We've had a lot of input, pro and con, for a number of meetings now on this concept. The "threshold amount" concept implements some of the important protections of this standard irrespective of air monitoring levels. We've had discussion of how this change might be more effective for small businesses; in the absence of air monitoring data, a standard with the "threshold amount" concept in it would be more protective for the workers in those businesses.

So in the draft, in section (b), the definition section, "threshold amount" of lead is altering or disturbing material that, *(A) is known to contain lead at a concentration equal to or greater than a concentration of 0.5% by weight as a result of material testing, or as content listing in a safety data sheet or similar specification sheet.* This language has changed, I think as a result of one of Perry Gottesfeld's comments in a letter to us. The way it is worded now gives equal weight to materials testing and a listing on a SDS or specification sheet as to whether or not the material contains more than a half of percent lead. The way it was worded before was a little ambivalent about which was considered definitive. Comments on this wording?

Burt Olhiser said that defining the amount as over 0.5% erroneously gave the impression that an exposure could not occur with materials of lesser concentrations, which is not the case. So why not just say lead and leave it at that rather than quantify the concentration.

Scholz said this used to be 1%, but we got a lot of input at previous meetings and dropped it down to 0.5% to create a significant threshold. Were it just to say "lead," that would leave it undetermined—we could be talking 1 ppm. This is set at 5,000 ppm (0.5%) analogous to the action level exposure; not an insignificant exposure. That was our thinking. A number of people spoke up on why 0.5% made more sense than 1%, which I had originally come up with.

Olhiser said it makes sense from the standpoint that 0.5% is the threshold for lead-based paint, but again it suggests to the user that if I'm below that I don't have to do anything with regard to the standard. We see a lot of that confusion in the lead-in-construction standard where there is no threshold. To make the two standards compatible it would make sense to me to drop that.

Scholz agreed it might open the standard up to a misreading, but that is not how it is written here; you are still required to do the testing as required by the standard which could then trigger the training and the medical surveillance. This sits alongside that as a separate, independent floating trigger to those requirements. You are saying someone could misinterpret that; I think the issue

you raise is that complexity of the standard is a hurdle to its implementation. I hear you on that, but I think we have to exercise restraint by not chasing every possible scenario because, as we get further along in the lead standards, the language gets increasingly complex and hard to understand for the lay person. So I agree with you that we need to guard against unnecessary complexity.

Dale Hagen said he wanted to support that in terms of the Alameda County Health Department's work with people doing unsafe work practices. People hear what they want to hear. This term is seen by people as analogous to the threshold you cross to get in a room—you don't cross the threshold, you're not in the room, so therefore nothing applies to you. So maybe terminology, maybe "threshold" could be replaced with some different terminology.

Scholz said, different wording, OK. If you don't cross the threshold you are not in the building. Good point. But that is clearly not how the term is being used here. Good points. So turning the page to page two, talking about complexity here. [Reads the unchanged text until reaching the highlighted changed text on "exceptions" under "Torch Cutting"] The exception wording means if you fall into one of these categories, you do not have a threshold amount of lead work. [Reads the two highlighted exceptions.] These exceptions are to address the comments of several people at previous advisory meetings—Vicky Wells said it most—that the way it was written you had no way to opt out of this concept of threshold amount of lead work even if you had air tested and were below the action level. This meant you had to do medical surveillance and training and you could not get out of it. The suggested change here uses a hazard survey to offer a way out of the requirements of a threshold amount of lead work.

Dan Napier said it seems clear the exceptions relate to only torch cutting. Or not?

Scholz said you're saying exceptions one and two could be interpreted just torch cutting and not to the whole concept of threshold amount of lead work. Ok, so there is a possible misunderstanding there, thank you.

Dr. Michael Kosnett had two points. This section on defining threshold amount of lead work is very important because later on other sections are triggered by threshold amount of lead work. I'll defer part of my comment to later on my concern that the concept in the exception of "fewer than 8 hours during any 30 day period" may not be sufficiently protective. Regarding exception item number 2, it should be clear that those are "*ands*," and you have to satisfy each of those clauses to opt out. My second point on the exceptions is that I don't believe that maintenance of blood lead levels below 10 is sufficiently protective. If the desire is to maintain blood lead levels below 10, and you are going to opt out, you should have a margin of safety. Since we are concerned about 5, the limit of reproductive age [sic, *effect?*], it would be more appropriate to say blood levels below 5, not 10. It should also indicate that all the employees who conduct that activity should be below 5, and it should specify a period of time that it had been observed that employee blood levels are maintained below 5. It's not like you do it once and everyone is

below 5. You should have a period of several measurements of that activity have gone by to be sure at that point you cannot doubt. Not just a single point in time. It should be a period of a year, if all the employees conducting the activity were below 5. That would be a more protective measure.

Scholz said, so less performance oriented. How it is written is it is left to the professional judgement of the person doing the survey. You are saying leave less for professional judgement and specify more as a minimum.

Kosnett said if we are going to have individuals not ever be subject to the triggering of medical surveillance, we need a level more protective than 10. It needs to say it is all the employees and it needs to specify a period of time.

Vicky Wells said her initial request was trying to address exposures of public safety personnel. It was not my intent that initial blood testing be required for those people. My request was that they could opt out if an industrial hygiene survey conducted by a competent industrial hygienist had demonstrated that they were below the action level. Traditionally, the action level has triggered blood lead testing. In order to make it more protective, you guys are saying there hasn't been good industrial hygiene done. If good industrial hygiene has been done, they shouldn't need to do the blood lead testing component. Those people are not in blood lead testing programs now. The way this is currently written, you would be requiring every public safety person in the state of California to go through blood lead testing. This is going to be incredibly expensive for very minimal lead exposures.

Scholz asked Vicky Wells if the public safety personnel in her program used outdoor shooting ranges and if all of these employees were below the action level. Wells confirmed the ranges were outdoors and that the exposures were non-detect. He then asked if she was saying these employees would fall under threshold amount of lead work because lead was being altered and disturbed for more than 8 hours. He also asked how she would determine 0.5%.

Wells said, Special Forces employees shoot a couple of days a week, and I don't know how you would prove it was not half a percent, as we are talking about lead bullets, which clearly are included in the standard. I think that any work operation that has been evaluated by a competent industrial hygienist to be below the action limit should be allowed to opt out. If you want to put some wording in there to require surface testing as well as air monitoring, I have no objection to that. The blood lead testing is not economically feasible and is very, very burdensome with very little benefit. I have blood lead testing done many years ago, not because Special Forces employees were shooting at a range, but because they were working at another facility, and were concerned about lead exposure. We authorized blood lead testing for any of these Special Forces employees who wanted it. Out of more than 100 people, we had one result above 10. When I talked to that individual, I learned that he did a lot of loading his own ammunition at home. For

all blood lead testing, you have to realize that people have non-occupational exposures to lead. So seeing one or two outliers is not necessarily indicative of an occupational exposure problem.

Scholz agreed that the non-occupational exposure issue was a concern, and that it would be true for whatever level the standard sets, that level should not put undue pressure on the outliers.

Vicky, you are aware that if we do go with under the action level opt-out of threshold amount of lead work, essentially we are eviscerating the concept completely out of the standard. What you are raising would mean we would have to throw out the whole concept completely. If you can test out by action level out of threshold amount of lead work, then that is essentially getting rid of the concept as a whole.

Wells said you should be able to test out if you have good industrial hygiene data showing you are exposed [*not?* Sic] above the action level. The purpose of the action level has always been to trigger medical surveillance. You are saying that when there is not good monitoring data, they need to be included, and I agree with that. But if they have done their industrial hygiene due diligence and the exposure isn't there, requiring the employer to pay for medical surveillance is not cost effective or feasible.

Scholz said that in drafting the exception we are trying to limit the time over which you would have to do medical surveillance.

Wells said it would still be very expensive. If you have 3000 police officers, how many police officers over what period of time do you want the blood lead levels to be below 10 before you allow them to opt out; it doesn't say. Are we talking about one set of blood leads on these people, are we talking about 10? For every person in San Francisco I have to do blood leads, it is going to take half a day to get that person over to be tested facility and back to the assigned work shift. You are looking at four hours per person for thousands of people in San Francisco. That's a lot. And then when you look at the entire state of California, that's a huge economic burden.

Donna Gregory from Cal Trans had two questions. The first was about scrap metal; for bridge components, if you are going to repair or remove a piece of metal from a bridge, when is it considered scrap?—after it is taken out, or before? [Answer from Scholz: after.] The second question concerned how long to maintain the blood lead level testing of 10, monthly or for how long?

Scholz the answer to the second question depends on the professional judgment of the assessor. To do more we'd be chasing too many different scenarios where different logic ought to apply. The on-site competent person would determine what data was adequate for determining the existence, or lack of existence, of a significant health threat. You are quite right, it doesn't specify. We thought there was some strength in this.

Gregory then asked if every supervisor on every crew to have an industrial hygienist do the monitoring.

Scholz said, no, that is not the intent here. If you have a group of people that meet the definition of threshold amount of lead work, and they fall under the action level. If you believe them to be insignificantly exposed and you want to opt out of the on-going training and medical surveillance, then you could call in a consultant, a CIH, who would make this determination by crafting an appropriate hazard survey to demonstrate the exposures were insignificant.

Kosnett said, responding to the concerns, I understand there will be outliers, so all shouldn't necessarily be included. I don't accept governing this entirely by air levels. The whole point of putting in "altering or disturbing of lead" is because we have ample experience of situations here in California where air levels are not elevated but there is substantial elevation of blood leads in certain industries. The way we have found that fact out, and discovered it, is not by industrial hygiene investigations, *a priori*, but by the fact that blood lead monitoring has revealed it. Dr. Papanek, who is in the back of the room, is one of the pioneers of determining that in Los Angeles, years ago. I'm open to the idea of having an opt-out, but the way you opt-out is by having a record of blood lead monitoring of people altering or disturbing which shows, after a certain period of time, that there is not an exposure. I'm willing to accept if a representative sample of people has their blood lead monitored for a sufficient period of time and you could show that there is no exposure, and then they can opt out. The other possibility is you can leave this language in there, and employers could apply for a variance on a case-by-case basis.

Jay Weir said AT& T has 30,000 employees who could come in contact with lead cable. I'm sure other utilities have the same issue. A blood test for all these employees would be for essentially nothing, because we've shown our work isn't causing any issues.

Scholz said, if you've shown that, this opens the door for you to exempt out. Have we opened the door wide enough here?

Weir said if blood tests are required to show that, then there is a problem. We are talking about a small amount of work being done on that type of cable, but not a small amount of employees.

Kosnett said every employee, all 30,000, does not have to be tested before you can opt out. But if you have a representative sample of the employees showing that over a period of time people doing this job are less than 5; that would be satisfactory.

Wells said a blood lead of 10 is reasonable; I don't think 5 is reasonable. I don't think you are going to reasonably see that group below 10. I don't think asking people to apply for a variance is reasonable. Do you really expect every police department, every sheriff's department, every public safety officer group in the state of California to individually apply for a variance once they've done their monitoring and demonstrated they don't have an exposure hazard? I don't think that's reasonable. I agree with the gentleman from AT&T: we are going to be sending in lots of people in for blood monitoring where we know there is no exposure. There are two ways to get good exposure data: air sampling or surface contamination testing to gauge the ingestion risk. I'm perfectly happy if that industrial hygiene sampling has to include a surface testing

component to make sure we don't have an ingestion hazard. Trying to do even a representative number of blood monitoring tests for that number of employees would be difficult. I know most of these employees are going to object and not want to participate in the process. They expressed that, saying, "This is just another way to drug test us." I don't think blood testing should be part of the survey process. Historically through this standard we have looked at triggering medical monitoring based upon industrial hygiene sampling and the action level. Otherwise why do we have an action level?

Kosnett said you are ignoring the fact that people have had substantial exposure under the action level because of the ingestion pathway. The most effective way to establish that there is no significant ingestion pathway is by blood lead testing.

Scholz said the issue has been aired pretty well. He asked Vicky Wells: As a CIH yourself, do you feel comfortable making the determination that a group of workers are insignificantly exposed in the absence of any blood lead testing record?

Wells said absolutely, with the air monitoring, and observation of the operation on multiple days and with adequate surface wipe testing to evaluate ingestion exposure potential—I'm totally comfortable with that.

Jo Forchione said she had raised the issue of representative blood lead monitoring for portions of the people who pull lead cable or cut lead sheet at PG&E. That is a union issue that has to go through memos of understanding. They want pay differential and other things.

Frank Werbelow asked if back in June of 2014, wasn't there a study by the CDC on what the average lead content of the average man has in their system—10 or 12—that was presented here?

Scholz said, less than one. Pat Coyle is shaking her head up and down.

Patricia Coyle said less than one.

Werbelow said I thought 10 to 12 was the average.

Several people chorus, "No."

Scholz said you would have to go back to the 70's for that. We've seen a dramatic decrease; we are under one now. These numbers we are discussing need to be seen against that backdrop of non-occupational average adult blood lead in the US is now under one. So when we are talking about 10, we are talking about a ten-fold difference and a level now considered a hazard to your health.

Napier said that the practitioner should determine the use of biological monitoring. I am a practicing Certified Industrial Hygienist and have been the chairperson of the [AIHA] Biological Monitoring Committee several times, so I'm always interested in biomonitoring. But by the same token, given the data, it is my professional judgment to make those decisions—do I need blood

leads, do I need other information. As a CIH, that individual's training and background is what we need to look to. Let's not tie their hands by saying you have to do this or that. Give the professional the discretion.

Kosnett said the group has to realize that what is being proposed here at the 6th meeting is to move backwards substantially from where we were a couple of years ago. We got to today talking about a threshold amount of lead because of the fact we were all cognizant through 20 years of occupational workplace prevention programs that show that air monitoring alone is not a sufficient basis to protect people either in construction or general industry. People get exposed when air monitoring doesn't get done, number one, or that air monitoring that has been done is not representative of all the pathways. That's why we put the threshold amount of work in here; now the suggestion is to eviscerate it. I strongly object to that. I am willing to accept a certain amount of blood monitoring for a representative sample of employees for a period of time. Then you should be able to opt out. I think that is a reasonable exception.

Mitch Seaman had a question about section 2; I understand the desire to keep it intentionally vague. How would it work in practice? If, for example, of AT&T's 30,000 employees, some sort of analysis shows that 100 of those workers have blood lead levels above 10. Could the employer take that information along with this language to mean that because the average is far below 10, which is a relatively small percentage of 30,000, then I still meet this exception? What would happen with such a hypothetical? Would it then go to an inspector, would it be a judgment call as to whether or not that 100 would be? Am I missing something?

Scholz said the language is intentionally performance oriented with the decision put back on the professional judgment of the CIH. The CIH will bring their professional judgment to bear on the issue as to what constitutes an adequate determination that for a particular circumstance that meets the formal definition of a threshold amount of lead work, these workers are not significantly exposed and do not need to be part of the medical surveillance or training programs. Beyond that, there dwell dragons. We'll see how it works itself out in the real world.

Chris Fallon said it seems the people who are most vocal are not the people who are going to be dealing with this on a daily basis. It is my workers in the IUPT and Allied Trades that are going to be getting the lead exposure. So having some stringent language and not going backwards I think is a good idea.

Gregory wondered what the criteria are going to be for the industrial hygienist to approve to meet the exemption. Is that going to be a document or just because they say it?

Scholz noted that the word "written" is not in here. It should be in here, I think. There needs to be documentation; you know Cal/OSHA is going to look for it. Good point.

Dave Sandusky said as a CIH myself, I wonder about the wording "shall be competent, such as a Certified Industrial Hygienist." This is not strictly limited to a CIH, so is a health physician able

to say yes or no; is Joe Blow who has been doing this for three months and calls himself an industrial hygienist able? It seems like a pretty wide open door.

Scholz said the language came right out of Title 8 Section 5155.

Chris Kirkham said Section 5155 doesn't mention "certified" [just "competent"].

Napier said a lot of this is already in code. The Business and Professional Code requires signature and seal on any opinion. That would imply that it has to be written. The other thing is there is title protection in California, so you can't call yourself an industrial hygienist or Certified Industrial Hygienist unless you are one or are working towards one.

Scholz said you're thinking the "such as" leaves the door open to "CHs" rather than "CIHs". We'll look at that. Let's move on; this discussion has been fruitful. We do need to think about AT&T and PG&E and the cities and counties that will be at the end of this language and have to deal with it.

Wells said cities, counties and state. Don't forget the Highway Patrol; you're talking about a lot of people.

Scholz agreed, and said, and how they can make this determination without it being overly burdensome and yet have it still be a good faith determination that people are not significantly exposed. Let's switch gears and look at the other standard here, the construction standard 1532.1, and we are going to look at (c)(1)—another of our favorite thorny issues, what to do with abrasive blasting. This is a special issue for us because there are no respirators that are OSHA recognized as having a protection factor greater than 1000. Dropping the PEL down to 10 would limit in-containment exposures to 10,000. We've gotten pro and con feedback as to whether or not this is feasible.

On page 2 of the construction draft, (c)(1) is near the bottom. The exception is the new language. [reads the exception: *Until [insert five years from the effective date], no employee conducting abrasive blasting shall be exposed to lead at concentrations greater than 25 micrograms per cubic meter of air (25 µg/m³), calculated as an eight-hour time-weighted average exposure (TWA).*] Essentially this is an implementation schedule, as step-down, for one industry, for one process. When the General Industry lead standard was originally promulgated there was a whole implementation schedule for different industries that were steps down to 50 over time. This draft language here is a step-down for abrasive blasting that would begin when this standard is promulgated. The process would be limited to exposures to the blasters of 25,000 using a respirator with a protection factor of 1,000, giving the industry five years to come into compliance with 10,000, or essentially a PEL of 10. This idea came as a result of me listening hard during a phone conference put together by the Steel Structures Painting Council (SSPC). Heather Stiner was there in Pittsburgh. It was a good conference that Bob Nakamura and I sat in on. There were a bunch of SSPC people and contractors on the line, as well as Cal Trans people

(some here today). This was a theme that ran through the phone conference. It wasn't the only theme—there was a healthy amount of government bashing and talk about how 10,000 would never be reachable. But there was also a strong current of “Don't drop it on us all at once. It's not how we do business now. Things are going to have to change. Some of us already have bids out on jobs that are three years out. How can we bid on one standard but have to do the job under a new one, if the rules of the game change.”

This is our attempt to address that issue by giving both the contractors and the customers five years to work out how to get abrasive blasters' exposures below 10,000. This is a statement of trust, or faith, on our part that there are contractors who will take this ball and run with it. This is based in part on me talking to contractors around the state, in Texas, and consultants as far away as Ontario. I'm hearing that this will change the way work is being done, but it is not infeasible.

Kim Smith said during that phone conversation, we had discussed having a step down on the amount, not only the time of five years. If you get to a certain point, if at that level of exposure the workers blood leads during this time and find that through correct implementation of the PPE and everything else, people are being protected, do you have to carry it all the way down. That was one of the things brought up.

Scholz said he remembered her saying exactly that. You are looking for more of an incremental stepdown or a tradeoff between air levels and blood levels.

K. Smith said if you are going to have a five year window, you may want to bring it down as a gradual because the way it normally works is, “We're not going to deal with it until we have to.” That comes up. Like you said, the good contractors are going to go ahead and go for it. Some of the others, maybe not. But if there is a target...that is something to consider.

Olhiser said this provision strikes me as somewhat naive. What does Cal/OSHA expect to happen in five years? There's going to be a technological breakthrough of some kind? Not that I can see. Dry abrasive blasting will be the primary work practice in five years, as it is now. When it comes to maintaining bridges and other infrastructure items, these are all coated with fairly substantial amounts of lead-based paint historically. That's why you have the exposures that you do. Yes, we have technologies that lower worker exposure: vapor blasting, slurry blasting. But they can't be used successfully on bridges and other structures because of flash rusting issues and other issues associated with clean-up. There are cost-drivers beyond measure when it comes to using these other technologies. While the five year stepdown is a bit naïve only because I don't see the technology that would allow it to occur, I think the 25 micrograms is workable.

Scholz said he had talked to the chemist at the Cal Trans paint lab about flash rusting, and they are fine with flash rusting at this point. They are the determining expert and they say they have the painting systems to deal with flash rusting.

Olhiser said no, no. You better poll that one. It is a contract lab.

Mike Ely said 25 micrograms is a reasonable number and the five years is doable as well.

Heather Stiner said the main conclusion of the phone conference call was we wanted Cal/OSHA to entertain doing a monitoring program to determine if tightening up on personal hygiene would help lower the BLLs instead of the automatic requirement of lowering. At the end we were saying the real issue was tightening up personal hygiene not lowering PEL and BLL. Let's lower the PEL to 25, tighten personal hygiene and then study the BLL.

Scholz agreed people were saying this at the end of the phone call.

David Brockman said he was one of those contractors. One of the main points from the phone call was, and this was Lloyd Smith's words, blasters are nowhere on the jobsite better protected than when they are inside containment under the blast hood. It doesn't really matter how high the concentration is; it could be 100,000. They are under positive pressure. The whole thing breaks down and people get exposed when they go out of containment and they start taking it off. They get it on their hands, they reach for a cigarette. That's where it all breaks down. You are trying to legislate the BLLs down by controlling the exposure inside containment. That's not where they are getting it. It's your containment crew that doesn't expect to get it, they are taking down a tarp and don't have a respirator on. When the guys take off their stuff for lunch or the break, and they don't have good hygiene and they are reaching for a cigarette. That's where it's happening; it's not inside containment.

Scholz said he heard that too, thanks for bringing that up.

Napier said he had several abrasive blasting clients who don't have employees with blood leads above 10. I agree with my colleague that it is generally personal hygiene, habits, smoking, getting cigarettes dirty, not washing their hands. The containment exposure is not there. As an industrial hygienist I agree with Dr. Kosnett; we need to look at more issues. But we can't simply say we'll regulate this, and things will change. It's like if the speed limit is 50 and there are people speeding all the time, lowering the speed limit to 10 is not going to help the fact that there are people speeding. Let's figure out where these guys are getting their exposures and regulate that.

Scholz asked what the air monitoring levels were for the blasters with blood leads under 10. Were the airborne exposures over 10,000?

Napier replied, generally 500 or 600. We are looking at control media, Kleenblast, that control the amount of lead. There are other controls; you have to use everything.

Scholz said my point exactly. The attempt here *is* balancing more stringent hygiene requirements and in addition requiring people to bring down their airborne exposures. We are not saying that all exposure comes from airborne exposure. Both play a role.

Kosnett said when we say the PEL is going to be 25, the last paragraph on that page says you take into consideration the protective factor of their respirator. So, if you are using supplied air with its 1000 fold protection factor, we are saying we want it under 25,000 for abrasive blasting five years.

Scholz said and then they have to get below 10,000 after five years. That's where the objections start.

Olhiser suggested that if Cal/OSHA wants to make a change to the industry to better protect employee health, they need to write into the standard a requirement that during a job the employer have a person assigned as "the lead man" who goes around and cleans up equipment, makes sure that the areas workers are going to be in are clean and has those sorts of tasks. I'd be glad to work with you to come up with a task list. As David said, that's what really happens. When that employee is inside that hood and inside that containment, and he's blasting away and there have been billions of micrograms out in the air out there, he doesn't have an issue. He has an issue when he steps out of containment, takes off that respirator, hangs it up, grabs a cigarette. Even if he proceeds right to the wash station--I've wiped people's hands right after they've washed and there is 2, 3, 400 micrograms of lead per hand after they've done a thorough job of washing up. Contractors cannot currently assign a "lead man" for oversight because of competition; they wouldn't get the job if bids included the costs of such an assignment. If this concept was in the standard, there would be a level playing field for everybody out there.

Scholz said we'd get to that issue a little further on. He asked if wipes on the inside of respirators had been done.

Olhiser said they were not finding much of anything on the inside of respirators, but found huge amounts of lead on the outside. Nothing significant on the inside of respirators unless there is no place to hang the hood up when they come out of containment, and the hood is as a result dropped on the ground. If they drop it on the ground, all bets are off.

Perry Gottesfeld asked where the evidence was that there was no airborne exposure in abrasive blasting. I understand that there is hand to mouth contact, but both routes are important. How do you exclude one over the other? What's the evidence for that?

Ross Buchanan, a 22 year veteran of Redwood Painting said his company did a lot of abrasive blasting in refineries and chemical plants. We'll see lead content up to 200,000 parts per million and we haven't had anybody with a blood lead level over 5.

Scholz asked what the air levels were and how often they go above 10,000.

Buchanan said air levels had gone up to 17,000 micrograms per cubic meter. Above 10,000 probably 5% of the time. It is usually in the 5,000 micrograms per cubic meter range. Nobody has gone over 5 in our blood lead testing. We have had people go over 5, usually from power

tooling, but never from abrasive blasting. I would attribute that to what I am hearing from these other gentlemen: when you are under a hood in positive air, you are just not getting exposed at that moment in time. The exposure tends to be on the hygiene side of things.

Scholz asked if it was infeasible for Buchanan's industry to get down that 5% of exposures down to 10,000, given five years to do so.

Buchanan said we would have to do something different to get exposure down, but he didn't know what that would be. If the paint is 200,000 parts per million and you are going in there sand blasting, what are you going to do? I think we do pretty good ventilation. Maybe someone can suggest what we can do to bring the airborne dust down—I'd be willing to listen, but I don't see it at this point in time.

Scholz asked who helped to design their containment configuration and ventilation.

Buchanan said they followed the SSPC guidance document C7. Typically we do our design in-house and don't use a consultant to design containment and its ventilation.

Ed Yarbrough said in agreement with Olhiser, that there are examples in other safety orders on the concept of designating competent persons. In excavation safety, competent persons have to be there daily to do inspections. The same thing for the implementation of fall protection plans, and others, like asbestos. All those things already have that. Inserting something like that here for the abrasive blasting environment to require a competent person to verify that the outside areas are clean and such prior to the employees entering would be a simple thing to add in. That means now the contractors have to assign that person to come in early in the morning to clean and wipe down that area, to check it at lunch, and do whatever needs to be done to make sure it's clean for the next day. That takes off some of the personal exposure once they are outside the containment.

Scott McAllister said that the Cal/OSHA inspection program of bridge maintenance found that a lot of abrasive blasters, in different circumstances, would actually lose their air. When that happens when you are in containment with a couple of 100,000 micrograms per cubic meter of air [sic?], you've got no protection. Because you have to take your monkey mask off and walk out of the containment. That can take 10, sometimes 15 minutes if you are up in the steel. I would like to see a requirement for an escape respirator. We did give one company working on the Bay Bridge a requirement for an escape respirator because they lost their air almost on a regular basis.

Scholz asked McAllister if he was talking about an auxiliary SCBA.

McAllister said the most practical solution was a full faced respirator kept in a clean pocket.

Stiner said if her understanding was correct, the blasters would have 5 years, and then they would have to meet the 10 micrograms per cubic meter. But currently we don't know how to

meet that, and Cal/OSHA is not providing any information on how to meet that requirement. How can you enforce something if you are not telling us how to do it? That is not fair to the industry.

Scholz said we have a dearth of information on both sides. We have asked a number of times for information from the industry. You guys are actually holding the data on this. What would really help us would be if you were showing us exposure data from jobs where you were ventilating really well, being smart about how you were patterning your work, smart about the orientation of the work, separation of blasting, design of—maybe partitioning of containment, etc., but were still getting levels significantly above 10,000. That would really be helpful to us. We've gotten no data like that. I'll grant you, data may be hard to come by. At the same time, I'm talking to consultants who say they've been on 500 jobs and they've never seen a job over 2500. They bring in an engineer at the beginning of the job and look at all those issues like the design of the containment specifically from a work pattern, work orientation, ventilation and pathway of work perspective. They bring in theatrical foggers in there and look at the air flow levels. They say that using dry abrasive blasting they can keep the levels below 10,000. I admit this is all hearsay at this point; we were hoping to get more documentation from all you all on this. From the conversations I've had, my faith in contractors to solve problems as they come up is undiminished or even has leapt a step forward.

McAllister said he thought this was a place, for the major jobs at least, for Cal Trans to step up and require real engineering controls. Unless things have changed in their contracts, the only controls required by Cal Trans are geared to prevent dust from landing on someone's Volvo as it drives past containment. As long as they keep the genie in the bottle, Cal Trans is cool with that. Cal Trans has to say in their contracts that thou shalt have some real honest-to-God engineering controls inside this containment.

Yarbrough said Cal Trans contract language says specifically that the contractor shall follow Title 8 law. Period. We do not go over and above that except in very unique circumstances. We do not dictate means nor methods; that is solely up to the contractor bidding the contract. That is something that Cal Trans will not change. If we do, and we make a requirement for a specific piece of equipment, it becomes a fair bidder issue: we take out people that might be able to bid the job if we didn't have that requirement. Cal Trans has specific requirements burdened on to us, the state has disadvantaged business enterprises, veteran-owned business and everybody else who bids these contracts. If that is something this group felt was important, it would have to go to the legislature for a change in law. [Murmur of agreement from other Cal Trans employees present]

Olhiser said in regard to ventilation, he works on containments that are large and small, with all having the maximum amount of ventilation. I've worked on containments that are so small, and the lead concentration of the item inside of it so high, that exposures were in the 30,000 microgram per cubic meter range. Yet the air being strung out in that unit was so strong that you

had to hold on to your hardhat. Otherwise it would get sucked into the ducting. Heaven forbid you get close enough, or it will suck you in! The ventilation was there, yet the blaster was exposed to 30,000 micrograms. The solution to this isn't necessarily more ventilation. Really, the solution is, as others have said, is to have someone who can actually address the hygiene aspects of this project. Where these projects all fall down is in the personal hygiene of the workers. It's too big of a task for the worker to take that on for him or herself. If you had someone to assist, and you put it into the specifications that a competent person was required, that would go a long way towards solving this issue. Ventilation is not going to change anything.

John Butcher said in regard to supplied air and exposures, his firm Certified Coatings, had found that you had two groups of blasters facing a common exposure with the same ventilation and protective equipment. One group would come up with a high blood lead, and the other group that doesn't. You have to go in and look and see what is going on differently. It comes down to hygiene practices; it is not data based on air monitoring.

McAllister asked if the two groups had different actual exposure.

Butcher said the actual exposure is the same; they are both in the same containment.

Gavin Dillon said he had a report that shows that all the hygiene practices are not being followed. You can follow workers from their truck back to their work locations and identify the high areas of lead. I can furnish that report. It clearly shows the hygiene practices not being followed in the field; they are actually bringing it back to their workplace from the jobsite.

Scholz said he is not saying that hygiene doesn't have an effect on blood leads.

Brockman said if we really want to know what a guy is exposed to, let's monitor inside the respirator. What's happening outside the respirator is not representative of what he is exposed to inside. Everything in industry says monitor outside. I have a theoretical problem with that.

Scholz said just relying on the respirator goes against basic industrial hygiene tenets; we always look at engineering controls first. The employer is required to supply a safe working environment and a respirator is a last resort. A fallible, undependable last resort. So that's why the emphasis on our part on controlling the work environment by focusing on engineering controls that are dependable and will bring down the potential exposure. If the hose gets crimped on a respirator, the positive pressure goes out and you get infiltration of material.

Brockman said he had a problem with the 25, and he certainly had a problem with the 10. Let's take vapor blasting. That's well and good if you can get your equipment within a 100 feet of where you have to blast. Or maximum 300 feet. You can't always. If you are dealing with a two lane bridge that is 350 feet high, you are limited to a barge or an 8 hour lane closure at night. Your equipment may have to be 1500 feet away. You can run dry abrasive blasting 1500, 2000 feet. It'll work. You can't with vapor blasting. There are limitations like that. If you go down to

10, you are going to make maintenance on a lot of infrastructure impractical. The only practical thing would then be to go out with power tools for a band aid and slap some more paint on until it has to eventually be replaced for 50 times the cost of a good dry abrasive blasting job.

Scholz noted that the Standards Board must adopt standards that are as protective as feasible for working Californians. So when this proposal goes to the Board that is what they will be looking for. So if that proposal says 10 for everybody, but not for abrasive blasting, that's going to come under a lot of scrutiny; we need information to back that up. And we don't have it at the moment. We need industry to step forward and provide us information. We are getting a lot of good stories here, which I am interested in hearing about. But I am not seeing any documentation yet. Just to encourage people on the Cal Trans and the industry side to help us get this information as opposed to me calling around trying to make sense of something that I don't do every day, that I don't wrestle with every day, and trying to determine what is the most protective.

K. Smith thanked everyone for listening to the discussion about an implementation schedule. There might be confusion for people who were not participants in the phone conference about the implementation issue that was discussed on the phone call. I don't know if everyone understands. We have contracts that are planned years in advance. Sometimes these contracts are 3,

4, and 5 years duration. There is a huge potential for claims and other problems if we change the rules midstream on a contract.

[The meeting adjourned for lunch at this point.]

Scholz said, juggling the other ball in the air, this was a similar outstanding issue in the general industry standard: the feasibility of the battery manufacturing industry meeting the proposed PEL. We've come up with language that tries to address the issue. Let's look at pages 5 to 6 of the general industry handout. This language introduces a concept used in the cadmium standard; it does not get rid of the PEL which would still apply in all situations on the general industry side. In addition to the PEL, there would be for certain battery industry processes, a second number above the PEL called a SECAL or Separate Engineering Control Air Limit. It means for these processes, the battery manufacturer is required to meet the SECAL using engineering and work practice controls to the extent feasible. After the SECAL is satisfied, they have to meet the PEL using respiratory protection. They have to get to the SECAL using only engineering and work practice controls. Any other controls, including respiratory protection could then be used to meet the PEL. [Reads the draft language starting from section (e)(1)(A), "*Except as specified in subsections (e)(1)(B) where any employee is exposed to lead above the permissible exposure limit, the employer shall implement engineering, and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead at or below the permissible exposure limit except to the extent that the employer can demonstrate that such controls are not feasible.*"] So, the burden on all general industry employers, just as in

construction, is a preference for engineering and work practice controls to meet the PEL as low as you feasibly can. Except for this new exception in (e)(1)(B) [Reads “*Where a separate engineering control air limit (SECAL) has been specified for particular processes (See Table 1), the employer shall implement engineering and work practice controls to reduce and maintain employee exposure at or below the SECAL, except to the extent that the employer can demonstrate that such controls are not feasible.*”]

Scholz continued, and then you see Table 1 which designates certain processes and certain SECALs (e)(1)(B) that have to be met that are above the draft permissible exposure limit of 10. [Reads (e)(1)(C), ” *Wherever engineering and work practice controls are required and are not sufficient to reduce and maintain employee exposure to or below the permissible exposure limit or, where applicable, the SECAL, the employer nonetheless shall implement such controls to reduce exposures to the lowest levels feasible. The employer shall supplement these controls with respiratory protection, in conformance with subsection (f), to control employee exposure within the permissible exposure limit.*”.] This doesn’t undermine the permissible exposure limit; it still applies to all processes in general industry. The SECALs create a safe harbor for these processes in the battery industry. So if they can get their numbers, using engineering and work practice controls, below the SECAL numbers, the standard doesn’t require more of them.

Ishmael Pedroza of Trojan Battery’s environmental safety director and a member of the Battery Council International’s (BCI) industrial health committee read a prepared statement on the behalf of BCI. BCI represents companies that manufacture, distribute and recycle lead batteries. BCI members account for 98% of US lead battery production and 97% of recycling capacity. There are 5 BCI employers in California employing more than 1,000 workers. All these companies employ health and safety staff such as myself that every day of the year work hands on to prevent worker exposure to lead. If any group is expert in how to manage lead exposure in the workplace, it is BCI and its members. BCI applauds Cal/OSHA for including SECALs for specific areas of battery manufacturing facilities in today’s draft for discussion. Federal OSHA first approved this target regulatory mechanism under the 1992 cadmium standard. Cal/OSHA is well-advised to include it here. SECALs provide companies with an alternate lead target but impose stringent and mandatory personal protective equipment requirements.

This approach will provide significant health protection to workers and will help keep good manufacturing jobs in California. BCI has recently submitted an economic analysis that supports this proposal. The analysis shows that without SECALs, the cost of meeting the air level of 10 micrograms per cubic meter just in the six areas of battery manufacturing facilities identified for SECALs would exceed 45% of California lead battery manufacturing industry’s profit. This percentage is well in excess of the 10% trigger for infeasibility used by federal OSHA. This figure does not include any other cost that would be imposed by the rule, such as costs required to meet the new PEL in other areas. That level of investment on top of the other new compliance costs would create significant burden on California companies that our competitors would not face in other states and nations, likely leading to the closure of some or all of the California facilities. Furthermore, our industry’s ability to protect workers’ blood leads under the SECALs is unquestionable.

When BCI last testified before this advisory committee in 2014, we described the battery industry's highly successful voluntary program to reduce all workers' blood lead levels. Over the past ten years blood lead levels have been dramatically reduced. The battery industry in North America and Europe has jointly adopted the goal of getting 100% of our workers below 30 micrograms per deciliter by the end of 2016. A year ago, at the end of 2014 across the US, not one battery manufacturer or secondary smelter employee had a blood lead above 40 micrograms per deciliter. The industry national average is below 15. BCI members are committed to continuous improvement regardless of what blood lead target Cal/OSHA ultimately adopts.

We do have one concern with the proposed rule, however, relating to provisions that, unlike the SECALs, lack a phase-in schedule. Based upon our experience with the industry's voluntary program, we believe that Cal/OSHA's new air and blood lead targets must have a 5 year phase-in. Just like the SECALs. Even as the areas not subject to SECALs meeting a new PEL will take time. Reducing errant levels inside a facility always requires new or re-engineered capital equipment. In our experience a reasonable schedule for such a project is 5 years, which includes the time needed to evaluate the current emissions, design the necessary capital equipment improvements, engineer any related facility or machinery improvements and finally to install capital equipment. These steps simply cannot be rushed.

With regards to the medical removal provision, as explained at length in our prior filings, the proposed removal level of 20 micrograms per deciliter is unnecessarily low. It does not reflect the state of today's science for workplace exposure. If Cal/OSHA moves forward with this removal level, it could represent a dramatic change from today's regulatory requirements and should also be phased in over a period of 5 years. This is because workers must be individually trained on the use of new equipment, new work practices, new or additional hygiene measures, and new personal protective equipment and other blood lead reduction tactics. If Cal/OSHA medical removal provisions are made effective immediately, a number of California workers would be placed on medical removal before their employer or they had a chance to implement any significant improvements. This would cause significant disruption to the industry and its workers. Again, we urge Cal/OSHA to adopt 5 year phase-in schedules for the new medical removal blood lead levels. That does not mean it would be 5 years before the new equipment would apply. Instead, we propose that the removal level be set at 40 micrograms per deciliter on the effective date and incremental reduction every 24 months until the final removal level is in place in year 5. This phase-in schedule would drive continuous improvement, provide needed benefit to any workers in other industries with very high blood levels and allow industries significant time to come into compliance without significant workforce interruptions. BCI reiterates that worker training and education are the key element in preventing worker exposure to lead. BCI members conduct extensive worker training for all employees on how to prevent exposure, including extensive training in good work practices, the use of PPE, and good hygiene methods to aid workers in protecting their own health. BCI members practical experience is that these measures are as, or more, effective than facility-wide engineering controls in reducing lead exposure. Certainly, BCI training emphasis on those skills has been successful in reducing work exposure.

Gottesfeld said he had a question on the language on B, the exception regarding feasibility. That seems to be repeated under C. What is the purpose for having two exceptions for feasibility? The second question is what evidence was the basis for coming up with 50, 40 and 30 as practical.

Scholz said the dual use of the word “feasible” is a result of moving existing language of the standard to a new location. I think it is used in two different ways. Above the SECAL, the employer can still claim they cannot meet the SECAL if they can demonstrate its not feasible for them to do so; that is what is addressed by exception B. C says if you can’t meet the PEL or SECAL, you still need to implement engineering and work practice controls to the extent feasible. Even though you can’t meet it, you can’t throw up your hands and go, “We can’t meet it, let’s go straight to respirators.” You still need to implement engineering and work practice controls to bring the level down as low as feasible and then supplement with respirators. That is existing language in the standard, too. It has just been moved around to make room for the SECAL concept. The cadmium standard uses a different word other than “feasible.” “Reachable” or something strange like that; I changed that word to “feasible” for consistency within the lead standard.

Your second question was what information we had been given to substantiate these particular numbers. We have not yet been given information to substantiate these numbers particularly. We have been given an analysis from BCI which shows that it would be economically infeasible to meet the draft PEL of 10, costing them more than 10% of their annual profits.

Kosnett said he was disappointed and surprised that the battery industry is making the claim that the science does not support the proposed medical removal level. There has been ample discussion over the past four years of these meetings and in the published literature for a lot longer that there are health effects of lead on cardiovascular mortality, for example, at levels below 20 in adults. It’s puzzling that you make the claim that the average of the industry is below 15, yet you want to have the standard implemented with medical removal protection at 40.

McAllister asked if the tasks of grid pasting and parting and battery assembly listed in Table 1 were assembly line operations.

Pedroza said they were.

McAllister then noted that the box under “Lead Acid Battery Manufacturing” was blank in the Table 1.

Scholz said that the line underneath “Lead Acid Battery Manufacturing” was an error in table formatting, so grid production and small parts casting and plate formation were still part of “Lead Acid Battery Manufacturing”.

McAllister said this was the same argument Cal/OSHA had had with Prescolite battery in 1978. This was a plant in Visalia. The plant had about 25% of the workforce taking prophylactic chelation in the office of the HR department. It took almost two years for the Division to succeed in getting engineering controls established at the plant. Prescolite did manage over several years to come pretty close to what now the industry is saying it can't comply with. We also found that the battery assembly or disassembly was done at a mental hospital outside the city limits. So, now, I don't know how many years later, we are struggling with the same PELs, basically, with the SECALs. Seems to me we could go a little further. I definitely think these numbers should be lower, based upon success with lowering exposures from the same operations and tasks long ago. The plant managed to get the levels down on the assembly processes. It took a lot of CIHs working in the occupational health section to help them out; Cal/OSHA didn't even have industrial hygienists then. The plant managed to do something significant, though I'd say their business ethics weren't the best. But under pressure, they came around. They were getting around 50 micrograms per cubic meter of air. They worked with split shifts, four hours on the line, and then another task. I'm just saying we are still arguing about these same numbers 37 years later.

Roger Miksad said, in response to Scholz, that BCI had provided Cal/OSHA economic data to support the 30 and the 40, as well as technical information about these particular work areas and why they have unique circumstances. Responding to McAllister's comments, Miksad said he was unfamiliar with the 1978 incident, but no matter what was going on in that facility, today's facilities are night and day different. The circumstances facing the facilities today are very different from what was going on in 1978. Today's facilities are much cleaner, but also producing a much higher quality of product. It is the machinery and the mechanical interaction with lead in these particular work areas that leads to an unavoidable release of lead. You simply can't saw, or form a plate without some release of particulate. It's not that we think those levels are good; they are unavoidable without an economic investment that exceeds the industry's capacity. Cal/OSHA can put in whatever PEL it wishes. Whether the lead acid battery industry can meet that is an economic question. Three of the four facilities in California already have facilities outside the state. At least one has publicly stated at a prior meeting that they would close. These economic considerations that drive the SECAL concept; these are considerations that Cal/OSHA is statutorily mandated to take into account. Other agencies in California, like Public Health, don't have that consideration.

Scholz moved on to the topic of hygiene, stating, here we are going to try the impossible: we are going to look at both standards simultaneously. The changes are essentially the same for both standards. For general industry, refer to pages 11-12 of the handout and page 14 in the construction industry handout. Basically we have three changes. On the construction handout, (i)(1) introduces the concept of occupational lead exposure. In (A), we have the concept of the special cleansing compound, and then we have a rewording of the exception for the provision of drinking water where there is lead exposure. [reads (i)(1): *The employer shall assure that in*

areas where employees have occupational lead exposure, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied.] The only change here was the addition, as suggested by Perry Gottesfeld, of the wording, “have occupational lead exposure.” [Reads (1)(A): *For all employees exposed to lead, in accordance with the provisions of Section 1527(a), the employer shall ensure an adequate number of washing facilities and special cleansing compounds.*] It was David Harrington that brought this to our attention initially, that there is a recent NIOSH study on what cleansing compounds are actually effective. We also realized that the construction hygiene standard, 1527, actually speaks to that issue. Since the reference to 1527 was already in there, we extended the reference to mention that special cleaning compounds do exist. Where they are found to be necessary, they should be used. Although not changed since last time, I’ll read B. [Reads (B): *The employer shall ensure that employees who are exposed to lead wash their hands and face prior to eating, drinking, smoking or applying cosmetics, and wash all exposed skin at the end of their shift.*] then the exception, which speaks back to the prohibition. [Reads: *Exception: The employer may provide for drinking water. The employer must ensure that drinking water is consumed in a manner which does not allow exposure to lead.*] This exception relates to prevention of heat illness and the possibility of employees bringing their own beverages to the workplace. The employer must ensure that beverages are not consumed in a way that results in lead exposure.

Wells said the City and County of San Francisco has workers who work at various facilities who are exposed to lead who have showering and cleaning facilities at their home office base. But they also use other washing facilities, restroom facilities throughout the day as they go from job site to job site. I want it to be clear we are not going to provide special cleansing compounds everywhere we provide restroom facilities for our employees, but only in those that are specifically being provided for lead work.

Scholz acknowledged the language said provide cleansing compounds for all employees exposed to lead.

Wells said that is where she sees the problem. We have employees exposed to lead below the action limit who are using washing facilities provided in accordance with the construction standard but they are not designed for lead, so they are not necessarily going to have special cleansing compounds. That would be very difficult to do. We have crews out during the day that simply use restroom facilities of other city and county buildings.

[Scholz read aloud 1527(a)(2): *Washing facilities for hazardous substances. Where employees are engaging in the application of paints or coatings, or in other operations involving substances which may be harmful to the employees, washing facilities shall be provided in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances. Facilities provided to comply with this requirement shall at all times:*

- (A) Be maintained in a clean and sanitary condition;*
- (B) Have an adequate supply of water sufficient for effective removal of the hazardous substance*

(C) Have a readily available supply of soap, and where necessary to effect removal, special cleansing compounds designed specifically for removal of the hazardous substance from skin surfaces; and

(D) Have a readily available supply of single use towels or a warm-air blower. This is a general requirement for all construction work that goes beyond lead, Scholz said.]

Kosnett said he noticed a small difference. On page 12 of the General Industry standard, the second paragraph says “*the employer shall ensure that employees who alter or disturb lead materials wash their hands...*” while in the construction standard on page 14, for (i)(1)(B), it says that “*the employer shall ensure that employees who are exposed to lead wash their hands....*” There is a difference there; I don’t know if it was intended. I like the construction one better, because it is more general. The problem with the general industry standard is you could be in the facility and not necessarily altering or disturbing lead but still be exposed. Say you are a clerical worker or a supervisor. Your job doesn’t necessarily alter or disturb lead even though you are in a leaded area. So I recommend that the General Industry standard say “employees who are exposed” wash their hands instead of “alter or disturb” lead.

Olhiser asked if “occupational lead exposure” was defined anywhere.

Scholz said that it was “an exposure to lead that results from work,” but that the level of the exposure was not defined.

Olhiser moved to strike the term as undefined, confusing and confounding. We are throwing another term in there that is complicating things, and we are not defining that term.

Scholz demurred, saying the construction standard leads with this phrase in its scope, quoting, “This section applies to all construction work where an employee may be occupationally exposed to lead.” But Scholz agreed that the term was superfluous in the main body of the standard beyond the scope [There is only one such use, on page 21 of the construction draft, in the section on written medical opinions—editor.]

Olhiser next raised a question concerning the frequent necessity for remote location of wash stations for certain projects such as bridges. The wash station will be back on land. We’re out suspended somewhere on a bridge. There is what we call a dry decon area located close to the work area. Employees step out [of containment], use pop up toweling to wash their hands, then get in a vehicle and are transported to the decontamination area off the bridge to actually decon their bodies. They’ve vacuumed off and washed their hands with the de-lead soap. None of those activities would qualify under this standard, because there is insufficient water and that kind of thing. Is there any provision for that? SSPC submitted comments about that, but I don’t see that incorporated in the thinking here.

Scholz said this was the result of defaulting to the language of 8CCR 1527.

Olhiser said the difficulty is that 1527 talks about running water. The contractor could be found to be in violation of the standard if we are strictly relying on 1527.

Scholz added that the language was “near proximity to the work site.”

Olhiser said what is that? Very gray.

Steve Smith clarified that this was existing language which employers had to live with right now.

Olhiser said this was true, but we are crafting the standard to be more reflective of modern thinking of what is going on. Our experience is that when we are doing this work we can adequately protect employees coming off the job. So shouldn't we allow that? He would find the specific language the SSPC had recommended and forward it.

Steve Smith said that the term “near proximity” was used in standards for protection from other chemicals, and the lead standard did not need to be different. We are just trying to be consistent. We haven't seen an issue with the use of the term “near proximity,” which has been pretty well understood by the regulated community for decades. I'm not sure what we are going to solve by throwing something new in.

Olhiser posed a hypothetical scenario of a desert jobsite with workers in a containment vacuum blasting gas transmission lines in. Leaving the containment, the workers' clothes are vacuumed, and they use pop up toweling to wash their hands. Then the workers drive 40 miles to their hotel rooms to take a shower. Is that near proximity? As long as that is defined as near proximity, I don't have a problem.

Scholz asked if a wash station couldn't be at the work location.

Olhiser said you could have a hand wash station but not a shower.

Eric Berg pointed out that the asbestos industry is able to provide portable showers for remote locations.

Olhiser said that this is lead, not asbestos, and there is no potable water system or drainage, no anything.

Steve Smith said Cal/OSHA personnel would look at such circumstances on a case-by-case basis to determine what near proximity should mean. Is this the most feasible you can do? This continues on from existing language and is not a new issue. I don't think we are going to resolve it today.

Yarbrough said he didn't have a solution but could throw another can of worms on to the pile. One thing missing from discussion of occupational lead exposure is early deposit lead. Staff working along a roadway in urban areas where there is early deposit lead in the top two feet of soil, who are putting in guardrails, digging along the shoulders doing something, they are picking up trash. Is that an occupational lead exposure? If it is, how is a mobile crew supposed to do that in a truck?

Steve Smith asked didn't that crew have a portable facility?

Yarbrough said not a shower.

Steve Smith and Scholz said we are talking about hand washing. We already have a regulation on the construction side requiring handwashing where toilet facilities are provided, Smith said.

Yarbrough pointed out that under that standard, mobile crews could drive to toilet facilities if they could get there quickly. So if this type of work is considered occupational exposure to lead, any contractor in the state--and we are not talking just about specialty lead work--any contractor in the state, any county agency or public agency or maintenance that disturbs soil along the roadway now has the potential for occupational lead exposure.

Scholz said you are already under 8CCR 1527. Irrespective of what we write in the lead standard, we are not changing the rules of the game for you. Maybe we are making it more clear that you need to have something, but we are not changing rules.

K. Smith said at Cal Trans in San Francisco a lot of our staff fall under general industry rules, though part of the staff falls under the construction standard.

Steve Smith said that general industry has the same language in 8CCR 3366, which also has the requirement for provision of special cleansing compounds if there was toxic exposure.

Gregory said that Cal Trans travel crews throughout the state have available to them decontamination trailers with showers, toilets, and washing machines.

Yarbrough said that there were not sufficient numbers of these decontamination trailers to handle every crew that deploys out of every yard. There are a couple of those units. We don't have those in District 3 when I deploy 20 crews out of 20 yards on a daily basis; there are not enough decontamination trailers to do that.

Scholz reminded all that we are talking about wash stations, in (i)(1), which has to do with wash stations, not showers.

Gottesfeld said this discussion sounds like it should be in the category of if nobody has had a violation for this in 35 years, why are we debating it now? The requirement is the same as it has been in the previous decades.

Scholz reminded all that a lot of time had been spent before lunch talking about the importance of hygiene, if more attention was paid to hygiene no one's blood leads would go up. This is where the rubber meets the road on the hygiene issue. We are going to pay more attention, spend more money, and do terribly unreasonable things like have sinks readily available.

Miksdad said he had to push back against the statement of Scholz and Gottesfeld that the rule hadn't changed, but the rule has dramatically changed. Currently the hygiene requirements apply

only to employees exposed above the PEL. With the changes, the same in the construction and general industry standards, the requirements will now apply to all employees with occupational lead exposure. I can't speak for construction folks, but from our folks' perspective, conceivably that now applies to every service personnel at every dealership and car repair facility in the state who is installing a battery. That battery has an exposed lead terminal, and if they need to grind an old battery out, due to rust, they are now being subsumed into this proposal.

Scholz interjected, they do have a sink. Miksad said, "...and specialty handwashing cleansers," to which Scholz replied, "where necessary to control dermal exposure."

Miksad said you need to be clear that the scope of the rule is not the same. It is now dramatically broadened from only those employees above the PEL to all employees with occupational lead exposure.

Scholz said the language on page 15 of the construction standard draft handout that has been struck out [*The employer shall provide adequate handwashing facilities for use by employees exposed to lead in accordance with section 1527.*] , under number 5, "Hand Washing Facilities," says nothing about the PEL, referring only to 8CCR 1527. We've just moved the language up. Where "above the PEL" has been changed has to do with provision of food and beverage. On the provision of hand washing facilities, nothing has changed. We have just moved the language. Maybe it is the special cleansing compound that is the lightning rod. But that language is also in 1527 and all we doing is drawing attention to the fact that this is an existing requirement in 1527.

Napier said in GISO we are saying if it is less than 0.5%. In construction it has always been hung on the air monitoring. For situations like the Cal Trans crews—they don't have an occupational exposure to lead. There is lead there, but we don't have a definition of what occupational exposure to lead is. That's going to cause grief.

Scholz said this is existing grief.

Steve Smith said this is existing federal grief. This is the language straight from federal OSHA; it hasn't changed for 40 years. The issue has arisen before; people want us to define what federal OSHA meant and what we mean by occupational exposure. But we're not going to. We are going to leave it as it is, because that is what it has been. This is federal language. We are going to keep it. We are trying to deal with our issues of getting those blood leads down. We are not going to tilt at every windmill; we are just going try to lower the blood leads, lower the PELs. We don't think we need to do the occupational lead definition.

Scholz said we have touched on that over the last couple of years.

Olhiser said he was confused and did not know why we are not talking about showers in the context of hygiene because we've not struck out "exposed above the PEL" and we've inserted "have occupational lead exposure. " Now this is required when anyone anywhere is doing

anything to do with lead. When you go to item 3, showers, [page 5 of the draft construction standard, (i)(3)] are to be provided to employees whose exposure is above the PEL. The PEL we are reducing to 10, which means everybody is going to be exposed.

Scholz said this was his language regarding level 3 trigger tasks.

Olhiser said he had also suggested inserting language that talked about inserting in there the ability to have dry decon.

Scholz said that was another issue, but it could be looked at again. I want to be clear that we have not changed the language on the wash stations. On page 15 of the construction handout, towards the bottom, you can see struck out language. We have not changed that. There was no requirement for above the PEL. Above the PEL was for the showers; and we still have that. That hasn't changed either. We've moved language around.

Olhiser said federal OSHA's compliance module defines "clean" as below 200 micrograms per square foot. I've asked Cal/OSHA whether or not to go with that. The statement I got back was Cal/OSHA would be hard pressed to enforce anything more stringent than that. My question is, is that still the performance level? Or would it be less than that?

Scholz said he didn't know, but that it would likely be duked out in front of an ALJ.

Mike Horowitz said that number came from cleaning a surface and then trying to see what residual lead remained. They couldn't clean it better than that. We are talking very speculatively about the possibility of going below that.

Yarbrough said, in relation to the trigger of occupational lead exposure, if you go back to 1527 and you have less than five employees, the wash facility can be inside the toilet, but you need immediate access to it. You don't want employees standing outside waiting for someone stuck in the restroom, so you probably have to make certain the wash station is outside the toilet facility where any employee can get to it at any time, based on this standard.

Scholz reads aloud the less than five employee exception in 1527.

Yarbrough suggested perhaps removing this exception in 1527 for permitting wash facilities to be inside portable toilets. The new portable toilets coming out now have the wash stations fixed to the back of the units. You don't see stand-alone hand washes anymore.

McAllister noted that work on bridges is often subject to cold temperatures, so wash stations should be located near the work to encourage use.

Scholz then shifted the focus to the general industry regulation, skipping (i)(1), which is identical to the discussion that had just ended.

Wells said it is perfectly reasonable to provide washing facilities for people, but I have concerns about the requirement to wash all exposed skin at the end of the shift. If you are just giving someone who has been disturbing lead a sink, they are not going to be able to wash all of their exposed skin at the end of the shift. You are going to have to provide shower facilities for all of those people. Let's go back to the firing range; yes they have a sink there where they can wash their hands and face, but that is not going to be all their exposed skin. It would require providing shower facilities for a lot of people that we don't currently provide shower facilities for, and probably don't need them. So we really need to think about that wording. It's fine to provide a sink, washing stuff, towels, for when they wash their hands and face. But to clean their scalp and back of the neck, you legitimately need showers.

Scholz said Wells had been referring to B on page 12 of the general industry handout, and reads: *The employer shall ensure that employees who alter or disturb lead materials wash their hands and face prior to eating, drinking, smoking or applying cosmetics, and wash all exposed skin at the end of their shift. Note: For the purposes of subsection (i)(1)(B), 'lead materials' is defined as used in the definition of 'Threshold amount of lead work' in (b).* This could have been more clearly said, but it is the half percent. It was based on input we got in April. It used to say, "The employer shall ensure that employees who are exposed to lead wash their hands and face." So we had it for all workers, but people in April wanted a higher bar set. This is our attempt to do that; what do people think? Do you want that bar eliminated?

Kosnett said, or say "people who are exposed above the action limit or who alter or disturb lead materials."

Gregory said her concern was raised hearing people say they took their employees to other community buildings, other offices, to use existing public hand washing facilities. Why are we transferring hazardous materials form building to building? Because it's handier?

Scholz went on to discuss section (c) on special cleansing compounds, reading: *The employer shall make available, where necessary to effect removal, special cleansing compounds designed specifically for the removal of lead from skin surfaces.* This language comes from 1527.

Weir said the equivalent general industry safety rule was 8CCR 3366 which says, "suitable cleansing agents" shall be used. It says 85⁰ water will be provided for exposure to carcinogens or substances with designated skin (S) in section 5155. But it still says "suitable."

Scholz said, so it says "suitable," not "special". Moving on to initial blood lead testing, (j)(1)(A) in 1532.1, page 16 of the handout, "*The employer shall make available initial blood lead testing to employees as follows: prior to assignment to work known to cause exposure at or above the action level, prior to conducting trigger tasks as listed in subsection (d)(2), and as soon as possible when determined to be exposed at or above the action level.* These changes were in response to the advisory comments we got last time. A number of people wanted "prior to" so as to establish a baseline before assigning a worker to a task. But that lead to complications because

not in all cases do you know what the exposure is. So this is my attempt to give two definitions to “initial”, which is *prior* when the exposure is known, and *as soon as possible* when it is determined to be over the action level. [No comments forthcoming].

The exception [*The employer need not make available initial blood lead testing, as required by (j)(1)(A), to an employee who has been blood lead tested in the prior two months.*] was added because of concerns on the construction side. We don’t want *prior to* testing in all instances, because some workers may end up being pin cushions for repeated sampling if they jump from job to job. We’ve added this exception in an effort to prevent over-testing.

Mikсад asked for parallel exception language for general industry.

Scholz asked, do people in general industry jump from job to job?

Mikсад answered that employees might change assignments, particularly new employees.

Scholz said the Division would think about the request, but wasn’t sure the situations were comparable, because employees in the general industry case were not jumping from employer to employer as was true for some employees in construction.

Mikсад replied that the phrase *prior to assignment to work* still applied in general industry. Workers during the training period might jump frequently between the warehouse and the factory floor. Every time they come in or out of a work assignment they could theoretically be subject to blood lead testing.

Kim Smith said the way she read it, the employer need not make available, but the language doesn’t directly address employees hopping employers. Unless the employees can provide their testing.... So that might be something the unions can address, the establishment of a database.

Scholz said the employee might say, “Look, I was just tested a month ago...”

Olhiser said he was curious why the final phrase in (j)(1)(A), “... *as soon as possible when determined to be exposed at or above the action level*” is included; why not just a period after “...*(d)(2)?*”

Scholz said because people can be assigned to tasks that are not trigger tasks. It may not be known they are exposed above the action level prior to the task. It may be an unknown exposure that is a non-trigger task. It is to cover that eventuality.

Justin Weisberg asked what “assignment” meant. Chrisp Company does road paint stripe removal. An assignment to remove stripes means potential exposure to lead, then we have to make blood lead testing available. But the same employee may get an assignment the next week for something else without the potential for lead exposure, and then they are assigned to another lead removal project, is that what “assignment” means?

Scholz said it means where the employer assigns the employee a task that the employer either knows is above the action limit because you've done the air monitoring, then you'd have to provide them blood lead testing prior to assigning them to that task.

Weisberg said, OK, then if you provide that testing within two months, you don't have to retest?

Scholz said correct. Let's say 6 months ago they did it. You are now assigning them again to the same task that you know is above the action level, you'd have to offer the tests again.

Weisberg said, so potentially 6 times a year a worker would have to be tested even though the assignment hasn't changed, the engineering controls haven't changed, it's still a two month period?

Scholz said yes, if you know exposure is above the action limit.

Weisberg said it does say initial, so are we going to be required to do this every two months?

Scholz said it depends on the exposure level. Are you looking at exposures that are going to be over two?

Weisberg said who isn't? A lot of them will, anyway.

Scholz said he spent a lot of time looking at that; he had been concerned about that. I beg to disagree; everybody will *not* be exposed to over 2. There are many tasks that fall well below that. This is a grinding job he is talking about.

Weisberg said with the current test method we use, our results are under 4, or maybe, under 2 is a non-detect.

Scholz said get your detection levels lower, and you may find it is below 2. That's what you want. With someone to consult on your air monitoring, you can definitely get below two.

Weisberg said they had consultants, including the one in the front row [Dan Napier]. But if we are above 2, then we have to test every two months?

Scholz said conceivably, if you are pulling people on and off jobs, yes, that would be the worst case scenario. You are pushing the hypothetical to the worst case there. Would you like this to be changed to 3 or 4 months? Is that what you are saying?

Weisberg said that would be less pin pricks.

Jora Trang of Worksafe wanted to make a comment about (j)(1)(D) and (E), but Scholz asked her to send the comment in writing or hold the comment to the end of the meeting, as those sections were not being discussed at the moment.

Werbelow said an update was needed for the trigger task flow chart.

Scholz said he thought that had been distributed at a previous meeting, but in any case it would be posted on the web site.

Scholz turned next to page 14 of the general industry discussion draft, (j)(2)(A)(1). Reads: *The employer shall make available blood lead testing to each employee covered under subsection (j)(1)(A) on the following schedule:*

1. *Prior to assignment to work known to be covered by (j)(1)(A) or, where applicable, as soon as possible when assigned work is first determined to be covered by (j)(1)(A). And then at least every two months for the first 6 months. Any comments on that? It is the same concept requiring prior blood lead testing when exposure is known to be at a level requiring blood lead testing, or as soon as possible.*

Forchione asked what is meant by “the employer shall make available” blood lead testing. Does it mean the employee has the opportunity of declining that?

Scholz said, correct, it has always been that way.

Gregory asked if ZPP testing was to be eliminated out of the blood lead testing process.

Scholz replied it was part of the medical exam. ZPP was being eliminated as a mandatory sister test to blood lead testing. It will be part of the medical exam for employees above 20.

Miksad for purposes of clarity in the transcript, asked that the provision in the construction standard be moved over regarding employees who have jumping jobs every two months.

Scholz promised to look at that. Moving on to medical removal protection, the last of the bulleted items, reading from page 20 in the general industry draft, Section (k)(1)(A) suggested by Dr. Kosnett. This is what employees will be removed from when they trip over the threshold that puts them into medical removal protection. Reads: *The employer shall remove an employee from work having an exposure to lead at or above the action level, and from work altering or disturbing any material containing lead at a concentration equal to or greater than 0.5% by weight....* And that same language gets transferred down below to (2)(A).

Miksad suggested for clarity to use the defined term for threshold amount of lead instead.

Scholz said he had thought that choice of words was more convoluted but understood that Miksad liked the alternative better.

Kosnett said that the threshold amount of lead concept has embedded in it a time element. If you are going to remove someone from work, you don’t want them above the action level, and you don’t want them altering or disturbing because we want to protect these people from further exposure.

Scholz said that the time element within the definition was the reason the threshold amount of lead terminology had not been used. Implicit in threshold amount of lead work is that 8 hours in

30 days concept. That's why when we use it here in (k)(1), we just aggregate that. We don't use the concept "threshold amount of lead work," instead we say "altering or disturbing lead material equal to or greater than 0.5%." We wanted to get away from the time component in the definition of threshold amount of lead work.

Miksad said that also eliminates the ability to put the worker into a job that has been shown not to be an exposure risk or hazardous.

Scholz said we'll look at that.

McAllister asked in (k)(1) where it says "at or above the action level, and altering and disturbing", does that mean it has to have both of those?

Scholz said no. It means the worker will be removed from work having this one attribute and from any work having the second attribute.

Gregory (?) or K Smith(?) and McAllister said "and" means "or" in regulations, so the word "both" should be utilized.

Scholz said it depends where you structure the noun, but the Division would review how to structure this sentence.

Kosnett addressed page 13, (j)(1)(A) of the general industry draft. My concern is that a medical surveillance program, which would include blood lead testing, is not necessary if a person is not exposed above the action level for 10 or more days per year, or performs a threshold amount of work for more than 8 hours in a 30 day period—regardless of the magnitude of the individual's exposure. We are aware, and we have done some modeling, that suggests that a person can have an enormous amount of lead exposure one day a month in 9 months and have much more cumulative exposure than a person who is exposed at the PEL continuously throughout the year. Dr. Vork ran the OEHHA model (and we've discussed this before) for a scenario in which a worker spent one day every 30 days for 9 months cleaning out a baghouse or pistol range in which the exposure was 500 micrograms per cubic meter--assuming that person did not have respiratory protection, which they should have for that kind of exposure. But supposing this is a workplace that thinks it is exempt from medical surveillance. The point is, if a person had a high lead exposure one day a month, their cumulative lead exposure could be almost twice—certainly 70% higher—than a person exposed every day at the PEL. I sent you this, Peter; I think it is in the record.

So, I thought that the way around this is to say that if the exposure is above a certain amount (say 100 micrograms per cubic meter), then that person would still have to be in medical surveillance even if they did it less than 10 days a year.

Scholz so if a person goes into a baghouse, it is over 100, what do you picture the testing looking like? They go in for 6 hours, 8 hours.

Kosnett said we need some kind of medical surveillance program that includes blood lead testing for people who perform extraordinary high exposure tasks even if they do it less than 10 days a year or less than 8 hours in 30 days. The way the general industry standard is crafted now there is a population of people who could have very, very high lead exposures and not have any medical surveillance.

Scholz asked if we've run into this concretely.

Kosnett said yes, people who do cleanup work irregularly cleaning out baghouses or rifle or pistol ranges, or go intermittently into a tank where they are doing some work. Maybe that is a construction related task, but I can foresee the situation where that may come up.

Scholz said he didn't think baghouse cleaning would be a construction task. That is a cleaning that falls on the general industry side.

Kosnett said he thinks there is some substantial cleaning and maintenance work that gets done in general industry that can cause very high lead exposure. We know that because we ran the modeling. Why am I concerned about cumulative lead exposure? The risks for the health effects of lead we are concerned about are based on cumulative lead exposure.

Weisberg said that the section under discussion refers to threshold amount of lead work, and does not mention days of exposure.

Kosnett pointed out that in the construction standard, if you do a trigger task, you get the prior blood lead test, but if you are in general industry, and you are doing something like cleaning out a baghouse for less than 10 days a year or 8 hours in a month, you don't get any blood lead test. And, as the general industry standard is currently worded, these people wouldn't get training either. Haz com training but they wouldn't get lead training. So the person who cleans out a baghouse 9 days a year doesn't get lead-specific training.

Olhiser pointed out that there is a lot of baghouse cleaning on construction sites, but we call them dust collectors. The filters often have to be swapped out or cleaned.

Scholz agreed that if we were on a construction site cleaning a dust collector, this would be a construction task, though it is not a listed trigger task although it could fall into the catch-all of being above the PEL or where an employer has reason to believe that.

Miksad asked if the OEHHA modeling had been submitted to a peer reviewed journal. [Kathleen Vork said it has been.] He then said he thought Kosnett's concern was without a basis in reality because the people in the battery industry who go into baghouses are not itinerant workers who magically appear at the facility once a month to clean out the baghouse. These are permanent employees, particularly maintenance employees who perform this task once a month. Even if these employees are not included as over the PEL for the minimum time to trigger surveillance,

they are certainly in our voluntary medical surveillance program. Given the tasks that they perform they are among the most rigorously tested.

Kosnett asked, so this wouldn't worry you?

Miksad said that would depend on how it was written. As understood from previous meetings this provision has to do with outside vendors who come into facilities who may not be aware of the potential exposures, and they are not going to work in the baghouse but may be in an area nearby with exposure above 10. They are only there one day every 6 months. They are not going to be the people going into these areas of very high exposures. A vendor coming in to sell lightbulbs who wants to see all the light fixtures in the plant—that is the type of exposure that this provision of 10 day a year exposure was intended to address.

Kosnett said he was with Miksad on that. That's why I'm saying it shouldn't be for just any worker, but only for workers with a very high exposure. I'm suggesting greater than 100.

Miksad said alright, let's keep this language and review later whatever language Peter comes up with to address that issue.

Kosnett said he was not suggesting eliminate the 10 days. Just modify that to say except for exposures that are very high that are associated with an 8-hour TWA greater than 100. In which case those people should have the benefit of medical surveillance.

Steve Smith clarified the previous point made about training, stating that any exposure over the action limit triggered training—not 10 days over the action level.

Trang addressed issues that Worksafe had already submitted in writing, but focused only on the construction standard since the same issues arise in both standards. First, she said, Worksafe had a concern on page 17, subsection (D) under medical surveillance regarding making the exam available at a reasonable time and place at no cost to the employee. She said many employees already experience retaliation and disincentives in the workplace from availing themselves of medical surveillance. Some language should be inserted in both standards to the effect that the medical surveillance should be provided at a time and place reasonable in regard to the employee's time—that the surveillance was employer supported and conducted on the employer's time, not the individual employee's time.

Scholz said this Worksafe suggestion had been carefully considered and briefed with a small group of knowledgeable people, and we believe that this concern is addressed elsewhere in current labor law. We were loath to put in special language here because this might lead to an erroneous inference that where it is not mentioned in other standards, such as in the cadmium standard, then the surveillance did not have to occur on the employer's time. We believe that it is already mandated by labor law: anything that is required of employees as a result of their employment is on the employer's time.

Trang said the second concern was that in subsection (E) regarding provision of demographic information to the health provider that in dual employer settings the actual worksite might not be covered. For example, you might get demographic information about the staffing agency but you won't get the information about the worksite where the exposure actually occurred.

Scholz said the reason we didn't take this question on is that this language is completely linked into the regulations that govern the Adult Blood Lead Registry which has specific data fields that are designated. The Registry is not designated to accept any more information than that specified in those regulations.

Trang said the last concern was about medical removal benefits on page 24 which say an employee will continue to get medical benefits for 18 months. We would like to see that measured not by the amount of months but rather by the employee's blood lead level falling to a safe place; we suggested a blood lead level of 15. That is because we don't want workers to be caught in this gap of services and we don't want them to continue to have the need for medical benefits and not get any from either the employer or the workers compensation system.

Scholz said that while we haven't done everything we can to address that concern, did talk to the California Department of Public Health. Pat Coyle, who worked at the Adult Blood Lead Registry for many years, can remember only one instance of a worker whose blood lead level remained elevated beyond 18 months.

Pat Coyle added that further research showed that in over 20 years there had been a handful of folks fitting that description. These were folks who were above 80. So it has been known to happen, but we don't have data that would meet the new proposed medical removal protection level of 20 with a drop to 15 needed for return to work. We have to look at it more closely.

Scholz said so we know it does happen, but it happens infrequently. We do know from secular trends in California that while the average blood lead was at one time 20, now we are below 1. We are hoping that is going to fall in our favor. The additional reasons why we think it less likely to happen under our draft than under the current language—this is an existing problem with the standard; let's make that clear first of all—is because adult blood lead levels are lower now and because with removal criteria of two at 20 or one at 30, you are already getting an alert prior to reaching removal levels. At that level, people are getting tested monthly while under the existing standard they are tested every two months. So you are getting more frequent testing. We also think that because the level of removal and the level of return have shrunk from the current removal at 50 and return at 40 to 20 and 15 respectively, we are less likely to see this situation arise. The parts of your concerns that deal with labor law and the workers compensation system are outside our purview, so we really can't address these aspects of your concerns. These were good issues, and we did pore over them and give them due consideration.

Yarbrough said that while there are recognized methods to test below 2 micrograms, note that Cal Trans used to use documented California test methods for asphaltic materials testing where

there was not a recognized NIOSH method. You need to have something documented to assist any accredited lab in the state that is going to perform the testing to follow the exact procedures necessary. That would be defensible before an ALJ. I haven't researched yet the methods shown in the draft to see if they are documented methods.

Scholz said all of them are validated NIOSH methods.

Yarbrough said he hadn't been able to find that information on the NIOSH website. Maybe that's NIOSH's problem. My other concern is early deposited lead, a major concern of the construction industry. Any city or county or public agency that does highway maintenance may be exposed to it, and although as we have discussed, perhaps not to over action level amounts for performing that work. But consideration should be given to dust control plans. These are mandatory for asbestos compliance requirements. You might want to mandate dust control plans for work with early deposit lead. That would alleviate a lot of issues, especially for local agencies. They would have one written, and that would protect the employees. The other part of this is the initial determination. I don't know if we need something special for it, but we may. Is there an expectation that every local agency that has maintenance groups out there is going to go out and do that initial determination of the amount of lead in the soils? And do air monitoring once a year along those roadways? I'm pretty sure that's not happening now.

Napier said dust control is an air quality management district (AQMD) regulation. They have a much bigger hammer (\$450,000) than Cal/OSHA. Since AQMD regulates dust control, I don't know if Cal/OSHA should go down that path.

Scholz noted that the Cal/OSHA regulation doesn't mandate exposure controls until exposure is shown to be above the PEL and this is under the PEL.

Napier said the levels of dust that I see that are anywhere near the PEL are very, very dense and so you are way over AQMD air quality levels before you get anywhere near the lead.

Scholz said our understanding is that with any amount of effort, it is not hard for a contractor to stay below the draft action level and therefore avoid both the training and medical surveillance requirements.

Napier said lastly, under frequency, if you kept it the same, if you had levels under the action level you don't have to do additional monitoring. You don't have to do additional monitoring unless there is a substantial change in the process.

Yarbrough said there still is an expectation that they have done initial monitoring at some point in time to show that they were well below the action limit. Whether or not the state has it, for every model roadway in the state, Cal Trans requires contractors to do it, and we can use similar conditions to cover certain areas.

Napier said agencies could use published reports that say for an area that early deposited lead is not an issue.

John Butcher spoke to something similar on frequency in the construction standard, on page 8, subsection (6)(B), last sentence. I always understood this paragraph to be task driven. [Reads: *at which time the employer may discontinue monitoring for that employee except as otherwise provided in subsection (d)(7).*] This hints at all the employees being monitored rather than the task.

Scholz said that should be task language. I'm trying look to see where that came from. First of all there is a mistake here under 6, it goes A, B, B, C. If you look at the second B, and C--the last sentence in both those paragraphs have the same language. Your concern is the wording?

Butcher said yes, the way it is worded specifies that specific employee as opposed to a representative group of employees performing the same task.

Scholz said it goes back to page 6. [Reads (3)(B): *Monitoring for the initial determination where performed may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations...*]. The employer's obligation is employee specific, but it can use data gathered from another employee that does the same job. Your reading of the standard is correct even though the wording does seem to imply that every employee gets air monitored. Every employee needs to have an air result that's representative of their exposure. That's what that means.

Kosnett said you've substituted in this frequency section and in the general industry standard, where it says PEL and action level, you've put in numbers like 50 micrograms per cubic meter. Just for clarity, you might want to say 50 micrograms as an 8 hour TWA.

Scholz said good point, we've pulled those numbers out of their contexts and stripped out that meaning. We should add it back in.

Kosnett said on page 15 of the general industry draft, on employee notification, section C, within 5 working days after a blood test you inform a patient of their blood lead level. And then number 2 of the standard requires the employer to make medical examinations available, as soon as possible, upon notification. I don't think that notification should be predicated as just 5 days after a blood test. People should be trained or aware of the fact that they are entitled to that. In the training section, are employees told they will always get their notification--that they are allowed to have an exam anytime they feel bad? That also applies on the next page, page 16, on frequency of medical examinations and consultations—number 4. Medical exams should be available as soon as possible upon notification by an employee that that the employee has developed signs or symptoms commonly associated with lead intoxication. I'm concerned that the ability to get a medical exam is restricted only to people covered by the medical standard provision of (j)(1)(A) or 2. I hope it can be clarified that even if you are not normally under the

medical surveillance program on the bottom of page 13, that if the employer gets notified that the employee develops signs or symptoms commonly associated with lead intoxication, that employee should still be allowed to get a doctor's exam. The way it is in there right now, the only way you get that is if you fall under (j)(1)(A).

Scholz said so you are saying irrespective if you fall under (j)(1)(A) or not, if employees develops signs or symptoms commonly associated with lead exposure...and you fall within the scope of the standard...

Kosnett said supposing the hypothetical employee he'd discussed earlier, exposed to very high exposure job less than 10 times a year or less than 8 hours in a 30 day period...if that person feels that they are sick from lead, they should be entitled to the benefit of a medical examination under the standard. As written now, that person would not necessarily get the exam.

Scholz noted that this was a problem with existing language, but it is worth thinking about.

Wells said any California employee understands that if they think they have an illness related to work they have a right to a medical exam under the workers compensation system. So they have that right whether it is in the standard or not. Whether you put it in here or not, it already exists.

Kosnett replied that he had pointed out that in the standard as currently configured, people exposed to lead less than ten times a year were not entitled to being part of the medical surveillance system. That needs to be addressed. Notwithstanding that concern, if they get ill, the standard should address the fact that employees should be entitled to be seen.

Olhiser said under 2, medical removal protection benefits, page 24 of the construction standard, the 18 months has been kept, but apparently the phrasing about "until duration of the job" whichever is less, has been removed. Was that removal intentional?

Scholz said that is in there somewhere; it has not been touched. [Someone found it was in (2)(B), and Olhiser said to never mind.]

Olhiser said in regard to the change in the action limit and PEL, that will require a two-fold, if not a three- or four-fold increase in the cost of analysis of air monitoring. This will limit the number of laboratories that are capable of doing the analysis. My final concern is that the cost of training will be increased due to the lowering of the PEL. You are talking about 100,000 workers or more that will need to be trained under this standard. Ten thousand supervisors are going to have to go to 40-hour classes and probably 100,000 workers will have to go to a 24-hour class. He agreed to provide Scholz with data to support these numbers.

Scholz said he had reviewed the available exposure data but had found few employees between 30 and 2.

Miksad referred back to Kosnett's comments on general industry, page 15, subsection (C), employee notification. Under the prior version the notification went only to employees whose levels exceeds the criterion, "x." You've removed who the notification goes to, so if I were being hyper aggressive, I'd read that as a requirement to notify every employee in the facility of that employee's blood lead. I assume that's a drafting issue. Scholz said we'll look at that. As to Dr. Kosnett's second point about (c)(2), we have no objection about that going to the training requirement. We certainly don't object to any factual training for employees. If that's what the standard requires, that can go in the training requirement. As to the availability of the testing and why it was limited to (j)(1)(A) is that for an employer who has lead-exposed employees and is therefore subject to the standard, the employer could experience significant cost increases if the testing were expanded to a subpopulation of employees who were not significantly exposed. That is why for 40 years this has been limited in this way. Dr. Kosnett's earlier exception to the exception for very high infrequent exposures can probably solve his concern about that while still preserving the original limitation to providing testing only to the exposed worker population.

Scholz said, including that other group back into (j)(1)(A)? Miksad said sure, assuming appropriate language is inserted.

Wells said, changing hats, that she now was speaking for the California Industrial Hygiene Council. We believe that in both standards there should be qualifications listed for the people performing the monitoring. If we are going to require monitoring, we should require that it's done appropriately, done by a competent industrial hygienist as you've referenced in the exception in the general industry standard.

Andy Moelk referred to page 5 of the construction standard, number 6 at the bottom where they are talking about 5 hours maximum for abrasive blasting. After 5 years that is going to go to 2 hours. I don't see how that will work in our industry. Sometimes we have jobs that are just one day. We are suiting up for the worst case scenario, with respirators and clothing. I don't see how this part of the regulation is going to work.

Scholz said that is within the context of interim protection that only applies before the air monitoring is done. After the air monitoring is done, those protections don't automatically apply. If we were to have a PEL of 10, and the exposure to your blasters was monitored and you could not get levels below 20,000, and their respirator has an APF of 1000, and there was no other way of reducing exposures, then that would mean reducing employees to a half shift. If your air monitoring showed levels below 10,000, say 8,000 or 9,000, then they could blast for a full shift.

Moelk said he was talking about jobs that last one or two days. You just can't get a turn around on air monitoring data. By the time you get the results the job is over.

Scholz said probably you would be under this if you did not have good historical data that showed what the expected exposure was.

Moelk said they would have historical data. I was wondering if this is setting us up for a citation for not complying if we were to go 8 hours instead of 5.

Scholz said note that is says dry abrasive blasting here. If you didn't have air monitoring data and you had guys in there for more than 5 hours, and the proposed PEL for you guys of 25 for five years was in place, yes, that would set you up for a compliance situation. What forced these numbers is that federal OSHA assumes numbers as high as 37,000 for dry abrasive blasting. If we follow that assumption, and we have a five-year PEL of 25, then in order to meet that presumed exposure of 37,000 and still get exposure below 25, we have to limit exposure to 5 hour shifts. On a two year job, for example, this would apply for the first few days until you succeeded in reducing exposures below 25. As currently drafted, after 5 years, then below 10. If your exposures were that high, which we don't assume they are. This is all to motivate employers to get exposures down as low as they can.

Steve Smith said again, we been asking you to send in your data. Show us what your levels are. This is what we need to support why we want to craft something one way or the other. You've said you were going to give it to us.

Olhiser said glad to give it to you, but what data do you want? Do you want raw data that we've collected over the years? Do you want employees' names blocked out? It is simple to request the data; it is more complicated to provide it. I could provide a number of employer's information that I've gathered over the years.

Steve Smith said just provide us the data that you think supports the language that you want to have in there. You want the 25; you want us to give the 5 years. We need the data that shows that these jobs are at this level. The other gentleman said they have data for one or two jobs, and this is why we don't think we can do this. It really helps us to have that exposure data, but we don't need employee names and that kind of stuff. We just need to show examples of what kind of jobs you are doing, what the exposure levels are, and also if you have ideas of what this is going to cost you to go to this 5 hour a day cut—tell us. Try to give us this data within a month. We'd like to have it by the first week of November so we can start making some tweaks here and have data that supports the language we want to put in here.

Scholz suggested that if there was insufficient clarity on what we want and if it makes things easier, come in with the data and we'd review it and select only the relevant parts together to copy. When it goes to the Standards Board, we have to be able to justify everything.

Napier said that turnaround times on lab tests would be two times as long and three times the cost.

Brockman said that for a blasting job requiring 8 hours of work, if restricted to 2 hours of work at a remote location, you are still going to pay your guy 8 hours a day. You've quadrupled the costs. Years ago OSHA set up how we should monitor, so that's what we do to avoid citations. Now you are proposing to drop the PEL to 10, and I'm in the industry that has the highest exposure. Dry abrasive blasting. You are sitting there saying just show us the data and maybe we won't have to go there. Well, we don't really have the data because that is not how the industry has been set up for all these years. My data is anecdotal based upon a couple of decades on the job. The guys who have good hygiene don't have to worry about it. The guys that don't, you've got to weed them out. They are unemployable. Getting the air level down inside the containment is not really the driving factor. I don't have a lot of data to give you though.

Scholz said we want the air monitoring data that you told me you had on the phone. If you also have data on how much lead was in the paint, how long the shifts were, any characterization of the ventilation. Those sorts of things would really help us.

Brockman said maybe they had stuff for recent jobs, but it is not going to go back.

Scholz said give us what you can. A little bit is a whole lot better than nothing.

Steve Smith said it doesn't have to be documented for decades. Just what you think is representative of your concerns. That's what we are after—examples.

Brockman asked where was the data that said we need to be at 10. I feel like you are telling the industry you are guilty unless you can prove yourself innocent.

Steve Smith said we are just asking for your advice on how this is affecting you. Do you have some examples that show these are really the levels you are experiencing.

Scholz said that over the last few years a case had been built that blood lead levels need to be 10 or lower, and that in order to achieve that, the health department recommendations were that we had to set the PEL somewhere between 2 and 0.5. For feasibility reasons, we've put a draft number out at 10 instead of those even lower numbers. We've been discussing this now for three years. We'd be happy to provide you with the data backing these numbers.

Brockman said he was late to the party, but it looks like you've already made your mind up. It's going to be 10, come hell or high water. It's the feeling I'm getting.

Scholz said you shouldn't get that feeling for abrasive blasting. We are very much aware of the issues you guys face. We are looking for constructive engagement from the industry on this issue. We've gotten some, but not enough. We haven't gotten much data to support any kind of carve out, which is what you are asking for. When the Standards Board promulgates a standard, it needs to be protective as possible and still reasonable. That is what they are going to be looking at. If we do set a PEL for abrasive blasting at 25 and not 10, why are we doing that? How is that justified? If that is as low as feasible, we need help justifying that number.

Kosnett said on training, and Steve, you are correct, the person has to be above the action level. But on page 24 of the general industry standard, it says training for people exposed at or above the action level or who conduct a threshold amount of lead work. I want to raise the issue for consideration that an employee who does a job for less than 8 hours a month without being exposed above the action level, yet they are working with lead. Like someone who is polishing brass. Or someone doing wet scraping or wet cleanup not above the action level because there is no air exposure but there could be considerable hand to mouth exposure. And they are doing that less than 8 hours a month, so they wouldn't get the training. I'm wondering if these people still shouldn't get some training.

Steve Smith said this is the level derived at the earlier meetings. There was a lot of agreement on lowering the 30 day requirement to 10 days. That's why we are sticking with this as best we can. It is not perfect on either side; people didn't like that 10 day number on either side when we first agreed upon it back in 2012. I know you want another bite of that apple but I don't see that we are going to go there.

Kosnett moved on to a point about signage on page 26 of the general industry standard. It says *the employer shall post the following warning signs in each work area where exposures are at or above the action level, and in each work area where a threshold amount of lead work is conducted.* Remember threshold amount of lead work has a time consideration of 8 hours. Would you agree that if you are only going to do it for 7 hours, you still should have the sign?

Steve Smith said the comment is noted but this has been agreed upon since 2012.

Gregory asked if the Division would be willing to attempt a one year trial period to explore with the abrasive blasting industry the implementation of better hygiene practices before any of these other changes were implemented.

Scholz said there should be more discussion with the abrasive blasting industry.

McAllister had 5 questions:

1. In medical surveillance, are the physicians and laboratory reports actually available to the employees as they actually come out from the physicians and labs? Do they get to see the real deal? 3204 says yes. Steve Smith's answer: Yes. McAllister said it might be a good idea to reinforce that.
2. The same goes for employee availability of exposure monitoring results, including the statistical variance? We are going down now a lot and some methods may not be as accurate as previously so the variance for the results are going to be important to employees. They will be interested in what might have been or very well could have been. Steve Smith's answer: On page 29 of the general industry standard it says, environmental monitoring, medical removal, and medical records required by this section shall be made available upon request. McAllister demurred, stating the proposed regulation goes beyond requests; the medical information, he said, has to go to the employees. Steve Smith agreed this was true, but in regard to blood lead tests only.
3. Regarding acceptance of historical or objective data for trigger tasks for small employers whose organizations have established valid data, is objective data still not accepted? Scholz answered that historical data is accepted for trigger tasks but objective data is not accepted; we haven't changed that language. McAllister responded that then you will continue to see the same amount of non-compliance from all of the small painting employers.
4. Are you going to keep (c)(3) in? Scholz answered yes. McAllister opined that this provision was a sort of lead-in to respirator use, which Scholz acknowledged.
5. The percent lead in the paint? There is still no requirement to do that? That is probably the most important thing an employer has to know in construction. Scholz said currently the IIPP requirement to assess hazards was viewed to cover the need for that knowledge.

Brockman congratulated Scholz for conducting the meeting with a sense of humor [most of which has been edited out of these minutes-ed.].

The meeting was adjourned a few minutes after 3 PM.