

Cal/OSHA Advisory Committee for Revising the
Occupational Exposure to Lead Requirements
in California Code of Regulations Title 8 Sections 1532.1 and 5198
January 17, 2012 Minutes

Attendees:

David Harrington, CDPH Occupational Health Branch
Dan Napier, CIH, CSP
Kate Smiley, Associated General Contractors
Randy Reyer, EnerSys
Ruben Barba, Laborers 67
James Seward, American College of Occupational & Environmental Medicine
Robert Harrison, California Department of Public Health
Holly Brown-Williams
Janice Prudhomme, DOSH
Ray Meister, CDPH OLPPP
Pat Coyle, CDPH OLPPP
Julie Pettijohn, CDPH OLPPP
Vianey Mendez, Exide Technologies
Gerard Manley, RSR/Quemetco
Ismael Padroza, Trojan Battery
Jerry Bailey, US Battery
Dennis Jordan, Alameda County Lead Prevention
Mary Deems, CDPH OLPPP
Mallori Spilker, EUCA
Michael Kosnett, Univ. of Colorado School of Medicine
Susan Payne, CDPH OLPPP
Frank Redle, Association of Environmental Contractors
Eric Rozance, Phylmar Regulatory Roundtable
Burt Olhiser, Painting and Decorating Contractors America & Society for
Protective Coatings
David Weinberg, Wiley Rein LLP for Battery Council International
Hans Boersma, Occupational Safety and Health Standards Board
Barbara Materna, CDPH OHB
Mel Breashears, Asbestos Workers Local 16
Perry Gottesfeld, OK International
Rupali Das, CDPH Environmental Health Investigations Branch
Karen Hipkins
Peter Robertson, CalTrans
Eric Rozance, Phylmar Regulatory Roundtable
Jeremy Smith, State Building Trades
Paul Papanek, Western Occupational Environmental Medical Association
Howard Spielman, CIHC Health Science Associates

Michael DiBartolomeis, CDPH OLPPP
Dave Payette, SMUD
Melvin Green, SBCSD
Fred Ganster, Exide
Terry Campbell, US Battery
Corey Vodvarka, Exide
Julia Quint, HESIS (ret)
Vickie Wells, San Francisco DPH
Jay Weir, AT&T
Robert Blink, WOEMA
Jo Forchione, PG&E
Bruce Wick, California Professional Association of Specialty Contractors
Dorothy Wigmore, Worksafe
Michael Ely, Association of Environmental Contractors
Mitch Seaman, California Labor Federation
Steve Davis, La Croix Davis LLC
Pam Dannenberg, California State Association of Occupational Health Nurses
Mohmade Sheykzadeh, Cal/OSHA Consultation
Fran Schreiber, Kazan Law

Introduction

The meeting was called to order by Bob Nakamura who thanked attendees for coming. He introduced the Chief of DOSH, Ellen Widess.

Ellen Widess thanked all for attending. She described her long standing involvement in programs to reduce lead exposure for children and workers and stated that DOSH and this administration are committed to getting changes in the lead standards. She noted that the lead standard has not been revised very much since OSHA adopted the first lead standard in 1978. There has been a lot of research on the toxicity leading to the 2007 article by Barbara Materna of the Occupational Health Branch (OHB), and others here, that recommended increasing surveillance, lowering the removal level, by pointing out very serious and well documented risks to workers, including vascular and renal damage and more. .

Subsequently, OHB recommended changes to the lead standards in 2010 and contracted with the Office of Environmental Health Hazard Assessment (OEHHA) to model the relationship between air lead and blood lead so that OHB could make a health-based recommendation for a PEL. The OEHHA final report is not ready yet, but the work of evaluating the lead standards can continue. At the first meeting it seemed that most agreed it wouldn't be difficult to achieve the 20/30 BLL target, though there was some concern in parts of industry about the feasibility. Evidence shows that blood leads are harmful at the 20 level, and take home lead is still a problem for families of exposed workers. DOSH would like to have consensus but that is not necessary to start the rulemaking process.

Bob Nakamura informed the group that minutes were being made as required by administrative law, and asked that anyone making a comment state their name each time for the record. Self-introductions were then made by attendees.

Review of the issues from the first meeting

B Nakamura asked Barbara Materna to review the Occupational Lead Poisoning Prevention Branch (part of OHB) lead exposure data.

Barbara Materna presented a handout showing lead levels, by industry, with a chart showing the numbers that would be affected at the proposed levels. This was California data obtained by their participation in the ABLES program. ABLES refers to the state blood lead programs coordinated by NIOSH and stands for Adult Blood Lead Epidemiology and Surveillance.

BNakamura then reported that the Division had produced language for medical removal protection (MRP) of one BLL at or above 30 µg/dL or two BLLs at or above 20 µg/dL for discussion. He said that DOSH staff had also reviewed the proposal to discontinue ZPP testing, because of its expense and the limited information, and consulted with Federal OSHA. This was done because changes to Cal/OSHA regulations must not make the standard less effective than the Federal counterpart. Also, after the first advisory meetings, some stakeholder comments to DOSH showed that they did not understand how OHB is related to DOSH. He asked that someone from OHB explain their organization.

Michael DiBartolomeis, Chief of the Occupational Lead Poisoning Prevention Program (OLPPP) in the Occupational Health Branch (OHB) encouraged participants to look at the OLPPP website, wealth of info. He explained that DPH and DIR are in two different agencies in California. DOSH and OHB are quite separate too; OHB is to DOSH like NIOSH is to Federal OSHA. OLPPP tracks blood leads, and has a large dbase receiving blood leads since before 1991. There is now universal reporting electronically. OLPPP actively investigates even those BLLs under MRP levels because employers might be able to use help to investigate what happened. They have 15 staff; not enough to handle 60,000 reports that come in each year. Sometimes OLPPP asks Cal/OSHA Consultation program for assistance. But if an employer is in the system for awhile and has not made needed changes, they may ask for enforcement to step in.

OLPPP works with whoever needs their assistance, and they respond to technical questions. There is confusion about how the program is funded. OLPPP is funded by the fees paid by employers who use lead, or alter or disturb lead. Only companies with ten or more employees are required to pay the fees. A company can apply for a waiver of the fee; there are about 2000 fee waiver requests per year. The fees are not tied to Cal/OSHA regulations or the number of cases that OLPPP manages. OLPPP fees are based on the Board of Equalization formula, in statute, based on company size and the industries where lead poisoning is more prevalent. This is revised annually based on the cases that are seen.

The review of new health effects began at least 10 years ago when some of the OLPPP staff reviewed the literature and began meeting with the American College of Occupational and Environmental Medicine and others here today, culminating in the 2007 review article. This involved looking at the old and new information, especially epidemiological studies showing the effects of lower levels of lead. The toxicology of lead and array of effects have been known for some time but what is new is the information on effects at low levels.

Almost 2 years ago, OLPPP contracted with OEEHA in Cal EPA because they have experts in using pharmacokinetic models that predict what happens when someone is exposed to lead. The models are based on physiology; what the body does once lead gets into the body and are complex. OLPPP asked and paid for external peer review, including the scientist who developed the model OEEHA used. It has gone through one round of external peer review and DPH review. OEEHA is now revising the report; the next version will be returned to external reviewers for comment.

OEEHA is not producing a PEL or AL, but a range of values based on air and ingestion exposures.

OLPPP staff will take the data, consider the science, and propose a PEL and AL. They are waiting for

that report and hope to have the OEHHA person present it, and they are hoping for spring (April/May). It will be available once it gets through the internal review processes. The report needs to be officially released by OEHHA then it will be available on the CDPH website.

Steve Smith reviewed the discussion from the first meeting. He described the assessment by Federal OSHA of the ZPP issue, it was proposed that ZPP testing was unnecessary at low levels of blood lead, so the requirement could be eliminated for low levels, and the standard would rely on physicians to make recommendations about using it for those exposed at higher levels. The Fed OSHA preliminary response was they would still like to see some form of ZPP testing at 20 or above, so the language for today's draft reflects that; it would have ZPP if the employee blood lead reaches 20. Changing the medical removal level raised the issue of the needed accuracy of blood lead testing. DOSH staff contacted Federal lab experts who said that most clinical labs are now required by CLEA to meet an accuracy of +/- 4 µg/100ml + 15% (the standard currently specifies 6) but there is also a proposal at the Health and Human Services Dept. to lower the testing standard to +/- 2µg/100 ml.

Other subjects discussed included triggering medical surveillance requirements with something other than exposure at the Action or Permissible Exposure Level, such as a de minimis surface level in the work areas. Also, there was a proposal to trigger airborne monitoring with a total of ten days of employee exposure instead of the current thirty.

Discussion

Randy Reyer, said that the BCI was not aware of the meeting last year, but has met with Cal/OSHA. BCI represents companies that manufacture, distribute, and recycle lead batteries – with several plants in California. BCI has expertise on how to manage lead in a workplace. Since the lead standards in late 70s, the average level is now below 20, resulting from efforts by industry. Standards can affect workers and businesses: people may be prohibited from working, and companies may close. OSHA regulations must be economically and technically feasible, reflecting best and most recent science. CPDH removal recommendations are inappropriate because they are based on a public health mandate which is different from OSHA's, which is to set a sensible policy, not to use epidemiological data (individual vs. whole population). The 2007 paper is a review. Cal/OSHA must do its own review to assess if it is technically or economically feasible. OSHA must find out if appropriate testing equipment is available. PELs are historically tied to removal so we appreciate having PELs in the same rulemaking. There is a potentially severe impact for California businesses and workers. Some employees may have to leave jobs for lead levels not caused by or related to workplace exposure.

BCI has three recommendations:

1. Use 2008 European Commission recommendations set at 40 (30 for pregnant women), because they are based on industrial, not population standards.
2. Combine rulemaking for PELs with removal rulemaking.
3. Have tiered standards, recognize differences in workplaces and provide incentive to do right thing

Paul Papanek said WOEMA believes the priority should be to change the medical surveillance issues. As for ZPP, they caucused briefly about this, recognized that OSHA requires ZPP if air levels are above 30 and they know ZPP doesn't budge if blood lead below 30 - so a reasonable recommendation is to use 30 instead of 20, and that could facilitate getting a workable standard on ZPP.

Julia Quint said the issue in the hazard alert from CDPH and draft NTP review is that pregnant women have reduction in fetal growth at 5 µg/dL, so she is concerned that the MRP is higher. Will a fetus be

protected, and what are the recourses for pregnant women? Her understanding is that EPA and ATSDR and others who've reviewed lead toxicology, also looked at recent reviews of data and agreed on this very serious outcome.

Gerard Manley said he runs a secondary smelter with about 230 employees. They are a member of BCI, but has his own statement on the standard. He wants workers to be removed at one test at 30 or two at 20, and they shouldn't be allowed to return to work in exposed areas until BLL is below 15 for 3 consecutive months, and only if okayed by doctor.

Michael Kosnett said he speaks for a broad majority of medical and scientific community that support this proposal; there is evidence of harm, e.g. high blood pressure, poor cardiovascular outcomes, at less than 20. This is not a stringent proposal. In fact, if it was based on estimated risk assessment with safety margins, this would not pass muster. One calculated with margins of safety would be much stricter. He endorses the spirit of what is intended by CDPH and Cal/OSHA but certain phrases/words need to be revised. There may be a typo on MRP section (k)(1)(A)2, i.e. the last two monthly and a follow-up blood sampling implies three tests but it is a single test above 20 followed in one month by another. Vickie Wells said San Francisco City/County has no problems with the MRP levels. In the past 10 years there were only two cases - both non-occupational. She is concerned about the frequency of blood lead testing for new employees. In their case, requiring blood lead testing every 3 months based on only 2 cases not from occupational exposures, would have more workers refusing to be tested. How often would employers have to re-offer if they decline? This creates additional time and cost for employers. Right now this would be triggered by a new unknown AL, or other triggers, which could be problematic. Mike Ely said he represents the Association of Environmental Contractors, the largest group of employers and workers with lead exposures. Their position is that the proposed changes are reasonable and prudent.

Terry Campbell, US Battery, Corona said 24% would be affected. Their executives are already looking at moving, maybe to Mexico. 160 employees in California would be left behind; the number affected by the current proposal would be about 24 percent (about 30). Most of those people are long-term employees; legacy employees exposed long before the standard was in effect and losing them, even on a temporary basis, would be devastating.

Fred Ganster said Exide has a plant here in CA. Exide recycles and makes batteries, 5 secondary smelters in NA, one recycling in CA. The rule would affect about 37 of 127 employees at their Vernon recycling plant, a significant impact. He also asked, why change the lab approval from CDC to OSHA? What criteria will OSHA use?

S Smith responded that at the time that Fed OSHA promulgated the Lead in Construction (LIC) Standard they made the change from CDC to OSHA approval so the change would be for consistency with the construction standard. Currently, the approval mechanism is through OSHA not CDC so technically this is not a change from the current situation.

Burt Olhiser said the existing standard is very confusing; he's hoping air monitoring gets removed. Anecdotally, employers in the architectural field who voluntarily tested employees at his recommendations before and after a job, which the standard doesn't require, find elevated levels going up to 15 and 20. So employer asked what to do about that? 2 of 14 went from 3 or 4 to 20 so they were very concerned. There is a huge hole in terms of protecting workers, no one does air monitoring. Doing pre- and post-job BLL testing is a much better indicator.

Robert Blink said there have been a number of good comments - as an occupational medical doctor he knows you get resistance if you want people to get blood drawn frequently. Employee behavior needs to be considered. The Western Occupational and Environmental Medical Association (WOEMA) would

agree that programs with high quality could have a lower frequency of testing. For the issue of legacy lead levels, whether from a current employer or not, there could be a phase-in in the early years of a revised standard.

Discussion

D Weinberg said there is uncertainty in the data Dr. Materna and others developed. There are 8 storage battery and 9 secondary smelters in CA, and between 6 and less than 9 that are in the general range of data. BCI doesn't have CA-specific data, which Cal/OSHA needs for determination, but the general range of data from members is that about 20% of employees have blood leads over 20 out of about 13,000 nationally in the battery industry. In secondary smelters, about 25% - obviously there are variations among companies, in CA too, and among job categories and tasks people are doing. This is one reason we think is important to deal with PEL and its role in same rule-making. Feasibility determinations are challenging so the issue is whether the standard Cal/OSHA needs to apply is substantially the same as CDPH. Maybe we have to distinguish between programs and activities.

D Gold asked him, when you said can't get those blood leads down to 20 for long-term employees, what have you tried to do? Was there any attempt at MRP or OHS programs?

D Weinberg said they had a meeting with CDPH and Cal/OSHA in June when Dr. Boreiko their toxicology expert, presented information about the effect of longer term bone leads and some modeling data. If someone has a blood lead of 30 and has been on the job for 30 years, because of storage of lead in bone vs. blood, the likely time to get down to 15 would be 36 months.

D Gold asked, what about the time to reach 20?

D Weinberg said he doesn't have that. The other point they would make is that employees in the national battery industry who've been on job for up to 47 years, tend to be supervisors who can't be replaced if not available to perform tasks.

R Reyer said they manage on a local basis looking at individuals, where they work, etc. They try to adjust exposures with supervisory and engineering controls. But in older workers it's hard to get them down quickly so they try to manage best as possible. At the same time they must account for other regulations when working with these workers (e.g. discrimination).

D Gold asked is the goal to get down to 20?

R Reyer said they each have different goals but they prefer not to discuss specific targets at this moment.

M DiBartolomeis said they asked OEHHA to look at chronically-exposed workers with different scenarios. It is a key piece of data we'll have with the report.

Dan Napier said it seems in the OLPPP data, there are 380 people and all have medical symptoms, a relatively small number of affected people. Otherwise they are normally healthy?

B Materna said the effects we are concerned about for which we requested a drop in MRP are chronic. For many, symptoms aren't seen right away. CDPH does investigate BLLs but doesn't do individual exams and many people are not entitled to annual exams, which is another reason to drop the MRP level. There may be fewer than 284 eligible for MRP.

P Papanek said these numbers capture only the tip of the iceberg. In LA, he has seen about 16,000 phlebotomized. If testing was required at the AL, that would be above 100,000. It's great to see some employers can achieve some feasibility.

M Kosnett added that Cal/OSHA should consider that a legacy of high exposures shouldn't be a reason to prevent protecting workers from having these elevated levels now.

D Weinberg said the problem is what the legacy data has said. Cal/OSHA has to evaluate the state of industry as a whole; a major disruption in the competitive structure of industry is not feasible. NTP programs had considerable sensitivity at their meeting sorting out current blood leads and feasibility discussions. There are different standards for CDPH and Cal/OSHA.

E Widess repeated the request for specific California data. We note your point about economic disruption so we want to know the number of employees and the number with specific blood lead levels.

De minimis trigger

S Smith moved to the de minimis trigger issue and asked Barbara Materna to review that.

B Materna said they refer to this as uncoupling air monitoring from blood lead level testing. First, surface contamination builds up pretty quickly and isn't always evident. Workers are exposed through hand to mouth activity. Experience shows that elevated blood lead levels are possible from ingestion exposures. Blood lead testing is the best way to know whether protections are working because air levels vary a lot, and there are difficulties in doing air monitoring correctly. The recommendation is that workers that use, alter or disturb lead containing materials be enrolled in a medical surveillance program. The trigger should not be based on air lead levels. The definition comes from the regulation for our lead fees; it's not health based but a convenience definition. One pound in a year as the basis for solder exemption for example. For construction, initial BLL testing for level 1,2, and 3 trigger tasks or exposure at or above the AL. V Wells had raised a concern about workers with intermittent lead disturbance work being enrolled in a medical surveillance program forever. There is added language to deal with that. See subsection (j)(1)(B)(4). The recommendation is that if a worker has fewer than 8 hours exposure within 30 days and work practice controls are in place, they are exempted from medical surveillance requirements. Also, in the General Industry standard recommendations, if there is intermittent exposure per (j)(1)(E), exposure has ended, and post-exposure BLL is less than 10 µg/dL, then the employer need not provide medical surveillance until exposure resumes.

D Napier said he is concerned about using a percentage because it doesn't always predict the exposure when the material is worked on. Air monitoring is necessary, and some trigger tasks need to be reviewed because they are not set for the right protective measures. H Spielman concurred.

S Smith said air monitoring is not being removed, but this recognizes that a lot of employers don't do it anyway, so they don't have to apply the other requirements of the regulation.

V Wells said you expect variation in construction but not as much in general industry. This might include public safety people qualifying on a shooting range, or carrying their ammunition.

B Materna said a lot of employers don't do air monitoring and then do not provide blood lead tests. An example where ingestion occurs and the air levels are low is the handling of cable, scrap metal. OLPPP had a case of a metal sorter with a BLL of 55 µg/dL even though cutting cable resulted in low air levels. The job itself involved handling things that had lead all over it; e.g. with cable cutting. The cuts made with the new machinery were great because the equipment was sharp. But later they found that blood lead levels got higher over time when no air monitoring was being done because initial air monitoring results were low. So you could feel secure with initial air levels low but blood leads could be going up.

R Ryer said the issue is more about educating users to follow guidelines, and that doesn't seem to be happening.

B Materna said they do outreach now. OLPPP has new materials about why lower blood lead levels matter. They also have projects to identify employers who aren't testing, such as painting contractors, because only a few are in the blood lead registry even though there are thousands that are out there. We need a standard that kicks in at the right level as well. Construction is particularly hard because they don't do air monitoring.

E Widess said once a standard is adopted that is protective and based on good science, Cal/OSHA will have massive outreach to work with partners, etc. Just because people don't comply doesn't mean we shouldn't protect workers. For example, with farm labor, we are reaching more employers, but not all. Patricia Coyle said that based on OLPPP experience, small employers can be encouraged and will do blood lead testing but balk at air monitoring. Blood testing gives them information at a lower cost about whether programs are working or not.

P Papanek said once a trigger is set, it will be easier to get employers to draw blood lead and determine if they have a problem and then act on that. WOEMA refrained from recommendations about the trigger because OLPPP was dealing with that.

B Materna said there are still a lot of requirements in the standard triggered by the PEL. But this alternative is separate from air monitoring and attempts to give clear guidance to the employer that this is a workplace where lead is used, or material with lead is altered, and it can get on surfaces. The point is employers know they have lead materials in their workplace and they should know their employees can be poisoned. If the levels stay low, they'll be doing less frequent testing, and at a lower cost than air monitoring. The idea is to capture additional workplaces where workers could be exposed, and get those levels into the teens and 20s. OLPPP is open to ideas about how to do this.

Pam Dannenberg said the occupational health nurses have conversed with WOEMA and support something in this direction. It is important for people to get tested, and to work with workers who don't want tests by explaining to them why it's important. Many affected employees speak other languages so that needs consideration, but the health effects are severe.

V Wells supported the idea but doesn't think a definition helps identify people who need testing. An assessment of a workplace including air monitoring and surface contamination is important and air monitoring won't identify all. But this one will get people tested who don't need it, and twice a year isn't infrequent. There is no way to opt out, and no benefit from the negative finding.

D Napier said reliance only on blood lead monitoring creates a data hole. Lead exposure is not simple, it is a complicated problem; you need modalities like air monitoring.

B Materna clarified this is not about eliminating air monitoring; this is an additional trigger, separate from that.

J Weir said they have similar concerns with the number of times they would have to test blood in a year. In California, they have about 4000 employees that could touch some lead cable. We do air testing etc. but need another way to do things to opt out of programs. We want to see the scientific background for basing programs on 1 pound and a 5000 level. We have found it is possible to control exposures with lowering thousands of feet of cable at once, by doing it wet, monitoring the manholes, and washing out manholes after it's done. We try to do all we can, but if you add this, we will be spending money we don't need to.

MKosnett said the Green Chemistry Initiative may encourage employers to find alternatives, for example copper ammunition.

D Gold said email suggestions for other ways to trigger assessment to Bob Nakamura or Barbara Materna. Not to be dependent on air monitoring is a suggestion. Those with lead programs may have

other ways, and it would be helpful to know for the next iteration. Medical professionals may know of companies doing a good job on this and it would be helpful to get those suggestions.

Lunch

V Wells said dropping the MRP level may pull in some non-occupational exposures. If the BLLs do not come down, the employer would have to deal with removal, and retesting expenses.

H Spielman said this is an unusual case, but lead ceramic material was being deburred, the air exposures were about 10, and the blood leads were below 10. It seemed that this form of lead was not being absorbed. This should be an example of an exception to the general assumption.

David Harrington said in the case of handling the ATT cables, there was no altering or disturbing, their issue would be hygiene. But when cable is pulled for replacement with fiber optics there are very high exposures. Good contractors want to hear about the specifics about catching all the companies. The biggest concern for OLPPP is that many exposed workers are not actually being seen now.

Hygiene practices

S Smith asked Barbara Materna to review the hygiene proposals.

B Materna said requirements for hygiene only kick in under the current standard if the work area is above the PEL. Significant surface contamination can occur even in supposedly clean areas.

Investigations in the field have shown contamination on surfaces such as the microwave and eating tables. University of Massachusetts, Lowell studies testing workers' hands, and other studies of areas where people are not over the PEL, have shown that the lower exposure workers have had higher contamination on their hands, lead in their cars, and brought lead home because they weren't the ones focused on for lead exposure prevention since exposures not over the PEL. Wherever lead is used or disturbed at the de minimis trigger, there should be basic hygiene practices in place - no eating, drinking or smoking, etc. in the work area, and an employer should ensure that workers wash up before breaks and at the end of the day. These should take effect earlier, and there should be lead warning signs. Periodic sampling in the "clean" areas by colorimetric tests or surface wipes to get an instant read where people are eating. The de minimis level could change based on discussions. There is also a new section about clean eating areas. In the current standard, when over the PEL in general industry, the lunch rooms need ventilation. Regular cleaning is added but not ventilation where it is not over the PEL. It stresses that the employer is conscious of where employees are eating, making sure they are not tracking in lead, and washing before eating. Construction is basically the same, but we will leave surface testing methods for later.

R Reyer said for general industry, it will trigger a need for locker rooms, (clean and dirty), uniforms. These are additional expenses to control lead exposures.

B Materna said only if you exceed the PEL; in other areas below the PEL, extending where you have to pay attention to hygiene. Where there is disturbance of lead, not at PEL, implement these basic hygiene practices.

S Smith said that the existing lunch room requirements will stay based on the PEL with a lower level for hygiene practices triggered by the de minimis. They want fairly clean eating areas.

V Wells said in the case of public safety people, since police officers and sheriffs carry bullets with them, would every place they go have to be tested?

H Spielman said that colorimetric testing is controversial.

D Harrington said that NIOSH has an approved wipe sample method, Full Disclosure, that has a lower detection limit of 18µg, and NIOSH licensed a company to market it.

S Smith added some of the level of quantification depends on what OEHHA reports. We should defer some things like how precise colorimetric needs to be, etc.

H Spielman and D Napier said that construction work would need a lot of temporary sites, and no clear way to test eating areas. Jerry Bailey agreed.

D Gold said we want to get back to the intent of the proposal which is to make sure that where contamination on surfaces may contribute to ingestion, employers provide people with clean eating areas even if not over PEL. Cal/OSHA always has a problem if we diverge from federal standard. We are trying to avoid that so we left in lunch rooms. We want to protect people from ingesting the lead. For the next proposal, it is important to distinguish triggers as Vickie said. The de minimis gives us a way to exempt out certain things, but it doesn't work for police officers carrying guns. We need is to hear what does work to protect workers where there may be significant lead contamination. When people sit in foundry room next to a mold pour, with nothing clean in the vicinity, how do we protect them? You won't sample the concrete forms people sit on so the question is how to protect them? Blood leads in general have gone down since lead was taken out of gas, but we want to protect workers. You've all had experiences in foundries etc. so how do we protect? Provide disposable place mats?

Think about ventilated lunch rooms, suggest something better.

H Spielman said his experience shows that the state of the art is to do wipes in lunch areas to assess surface contamination. For a guideline, 40 is low because it is based on a child's exposure at home, over 24 hours, and this might be too restrictive for industrial settings. For outdoor levels, on horizontal surfaces for the most part we find if it's under 800, blood leads in employees seem to be fine. These are not the only source of potential exposure. But using children's' limits are just too low for industrial situations.

M Di Bartolomeis: asked if the surface lead was okay at 800, what was the blood lead?

H Spielman said it was basically under 10.

V Wells and Jo Forchione noted that employees who work with lead are often mobile, and might eat anywhere.

D Harrington said there is a NIOSH approved method available for hand cleaning that could be used as a training tool and reinforced at tail gate training.

G Manley said that colorimetric detection keeps getting better and better. It's a moving target. When lead is detected, employers need to have a quantitative limit instead.

B Materna referred to the green handout about control methods and work practices in construction. The EPA RRP rule has recognized that these have become standard practice for the industry - LEV on power sanders, wet methods, etc. The LIC standard doesn't specifically state that these things are required. Burning off lead paint to remove it and other high risk work practices are no longer used and shouldn't be used any more. The goal is to drive employers to use these feasible methods, which are required by other rules already, unless the employer can demonstrate that they are not effective or feasible.

T Campbell asked what constitutes "demonstrate" for the employer?

B Materna said there is usually some kind of written documentation, evidence that for whatever reason, certain tools can't be used and written evidence that other safer work practices were evaluated. You can argue that the standard already requires these methods to be considered before resorting to respirators but laying out methods widely used is useful and acknowledging that there are situations where they can't be used.

B Olhiser said the proposal seems to prohibit open sand blasting and if so, it's dead in the water. Would a Cal/OSHA inspector make a judgment call about feasibility? That was considered before and not used.

He has worked on places where they had to use acetylene torches, sandblast areas under containment. They had people in respirators, did the monitoring, and everything was fine. The work practices were done well.

V Wells asked how this would apply to very small jobs, like building maintenance where you might cut an 8 inch square area in the ceiling to fix a water leak. You don't post signs, or bring in ventilation for that small an area as you would for seismic bracing where you penetrate lead contaminated paint. There needs to be a dividing line for where it applies, or doesn't.

M Kosnett said it is reasonable to include limits, but he agrees with the basic principle. CDPH programs have been around for 20 years and they learned a lot. Rather than just saying to have general engineering controls, this gives direction based on their experience. Where feasible language allows flexibility, this is a principle specifying what OLPPP has learned.

Jeremy Smith reminded the group that there are take home exposures to families that need to be considered also. Remember that lead is not a new exotic material that nothing is known about, there are at least 50 years of scientific knowledge and study. P Dannenberg concurred.

D Gold said Cal/OSHA makes determinations of feasibility all the time. We look at industry standards and what people are doing and make a determination. If the employer doesn't agree, the employer can appeal it.

It's important that we get the best regulatory language we can. How do we reduce employee exposure to lead and do better than back in 1978? We want to acknowledge all the specific feedback and all the work CDPH put into this in trying to move us forward. We really appreciated you taking a first cut at it. Now we want to get to Cal/OSHA regulatory language. We want people here to send not only criticisms but also solutions. Where are the real hazards? Where is the exposure? Where have we moved since 1978? Then there was only open abrasive blasting but now there are alternatives. They don't work all the time, in all cases but let's keep working to reduce people's exposures by taking at least the good practices and encouraging employers to use them. We may be looking at different things like air sampling but let's get back onto that track, take the good stuff CDPH has started. We have hand washing in construction now, and that is relatively new. All these things are little steps moving forward, the question is how to build on them. Send comments in so we can start putting something together so we can get down to brass tacks at the next meeting.

H Spielman suggested an appendix with suggestions of engineering approaches to help you get there should be made. There are precedents for that.

P Papanek recommended considering pediatric lead poisoning along the lines of where blood leads come in under a set level, there could be an exemption, e.g. where they are around 10. We should go with the proposals where epidemiology becomes the trigger for hygiene as opposed to present practice.

Bruce Wick said that, related to what Jeremy Smith said, this issue involves more than just the workers. There are families to consider. He has talked to associations that do remodeling, and the regulation is considered a failure because the employers who train and follow the regulations lose the bids to employers who don't and give cheaper bids. A major part of this is education. There should be massive family awareness. Lead paint concern is strong because people don't want to take chances with their kids. But, when a contractor says his bid is \$1500 more because they comply with the regulation, the homeowner says they don't believe it. The message that exposure causes more harm than we used to think is not getting out to the public. If they don't believe it, then pushing the regulatory change will be a problem. We should go ahead with changes but also have to have a strong campaign to educate the public so that homeowners and workers will be more receptive.

S Smith asked if there is interest in having separate meetings for general industry and construction?

D Weinberg said they should be together. The OEHHA science report will drive the PEL, and the rest of the proposal. BCI wants time to look at the scientific evidence there, aside from policy. Others will have things to say about it, like people from Europe, Dr. Kosnett, and others so we may need to have a separate science meeting.

Fran Schreiber said in terms of having a scientific discussion of whatever OEHHA produces, she would say that most people in this room don't have PhDs. OEHHA is a reliable source. We don't need a separate science discussion. To move the process forward, we should consolidate and not have separate meetings that would drag things out. A science discussion among many of us who are laypeople is a waste of time.

S Smith said when we get recommendations we will provide them to interested parties, so you can submit comments. We will decide after reviewing them.

V Wells said there are lots of groups out there who were not covered by lead standard in the past but may be concerned about the standard now. Cal/OSHA needs to do outreach to them so that they have a chance to provide input.

H Spielman said from an IH perspective the meetings shouldn't be separate.

P Papanek as the original petitioner supports having the meeting together.

Meeting adjourned