

## Noise Exposure Advisory Meeting January 15, 2003

### Attendees:

Jay Bosley	Operating Engineers Local 3
Tad Coatsworth	Sheet Metal Workers Local 104
Bill Edwards	MESA3 Inc.
Ken Esse	ACCO
Charles Fankhauser	Petitioner, Medical Electronics Designs & Instruments
Steve Johnson	Associated Roofing Contractors
Anne Katten	CRLA Foundation
Mark Lloyd	Western Growers
Marshall Massie	Operating Engineers, Local 3
Katy Medinas	Turner Construction for CEA
David Milano	Contractor
Tom Mitchell	Occupational Safety and Health Standards Board
Mark Nelson	Los Angeles A/C Sheet Metal & AC Contractors Assn.
Virginia Siegel	Audiologist, On-site Health and Safety
Scott Strawbridge	Mechanical Contractors Association
Marti Stroup	Associated General Contractors of CA
Ray Trujillo	State Building Trades, Petitioner representative
Chris Walker	Cal SMACNA
Tom Walsh	Basic Resources Inc. (AGC)
Richard M. Warner	ORC
Chad Wright	Laborers' Trifund

Division Staff: Steve Smith, Robert Nakamura, Robert Barish

### Meeting synopsis:

At this second meeting, there was further discussion of the feasibility of adopting the ANSI 1999 standard for audiometric testing environments. Mary McDaniel had sent some test data in an industrial setting showing the actual background levels. These measured levels did not meet the ANSI levels. Virginia Siegel, an audiologist attending for the first time, proposed incorporating the ANSI option of using headphone inserts. The advantages and problems with this proposal were discussed. Most attendees favored this option. Many attendees also expressed support for a revision that would not disallow the use of mobile van testing.

The other discussion regarding extending hearing conservation program requirements for agricultural, construction, and petroleum drilling/processing employees continued. AGC proposed establishing a term of employment threshold of 120 days. The unions generally opposed this because it could exclude the majority of employees. The unions proposed thirty days, and the AGC representative requested time for evaluation. The AGC further proposed that an alternative to noise monitoring of each job be allowed by providing hearing protection, audiometric testing and training based on the type of work and/or proximity to a recognized source of high noise levels. The Laborers have proposed a somewhat similar approach to Federal OSHA, and supported this general approach.

### Background discussion

Mr. Nakamura started the meeting by asking the attendees to make self-introductions of identity and affiliation. He reviewed the fact that the advisory meetings were convened to evaluate two petitions. One was to adopt newer ANSI standards for the allowable levels of background noise in audiometric test environments. The other was to revise the scope of the noise standard in Section 5095 to include construction, agriculture, and petroleum operations in the requirement for hearing conservation programs for employees exposed at 85 dBA and above as a time-weighted average.

## Adoption of ANSI background levels

He asked if anyone present needed to have an explanation of the ideas covered by the first meeting, but no one did. He then informed the group that Mary McDaniel of Center for Hearing Health had sent a proposal that eliminated limits at 125 and 250 Hz, and proposed 26 at 500 Hz, based on data that she collected in one of her test facilities, as an alternative to the ANSI levels. Unfortunately she could not make the meeting, unexpectedly. She had hoped to discuss the proposal with Dr. Fankhauser (the petitioner) before this meeting, and sent him her data as well. Dr. Fankhauser said he had been in Europe, but reviewed the data when he returned on the 14<sup>th</sup>. Mr. Nakamura asked him to share his thoughts on the proposal with the group.

Dr. Fankhauser said that the original proposal created limits for noise at 125 and 250 Hz, and changed the allowable limit at 500 to 21 dB, and these are still good recommendations that he hopes are pursued so that testers can accurately compare tests with standards for normal hearing thresholds. Yes, you could go to 32 dB at 500 Hz but you can't be sure you are comparing hearing to normal values and also the effects on the calibration and audiometric test. The proposed levels at 125 and 250 reflect the fact that noise at the lower frequencies can affect the hearing at higher frequencies. If the new frequency limits are not required, you should at least require a disclosure to be made that the information provided is not meeting the (ANSI) standard.

Ms. McDaniel's measurements just show that she did not meet the ANSI standards. Also, she did the survey with a type I Sound level meter instead of the Type II required by ANSI. Appendix C does allow the use of a Type I meter.

Mr. Nakamura said to the group that it would be useful to have more such data.

Virginia Siegel identified herself as an audiologist, and a former student of Dr. Fankhauser. She noted that the 1999 ANSI allows the use of "Insert Earphones" as another method of reducing the effect of background noise. The ANSI standard allows a more lenient background level with the use of the inserts, but you also get a more effective test because they have a noise reduction rating of 25. This means that the insert phone itself keeps out some of the background sounds. Change the headsets and recalibrate. This method also provides an opportunity to show the employee how to properly insert and use similar types of hearing protection. This would be a disposable insert for each test subject and the insert would be wired like a microphone. They have been used since the early nineties (she brought information on the methodology.) Her proposal is to add another table to Appendix C. She brought information for the group to read.

Mr. Nakamura noted that the use of inserts was discussed at the first meeting, but some people thought it would be expensive, and would require a lot of recalibration.

Ms. Siegel replied that the recalibration would have an annual expense of about \$70.00 and the yearly equipment cost might be \$100.00.

Dr. Fankhauser added that some audiometry equipment manufacturers are now providing for both inside and circumaural test earphones on the same instrument, and these need an annual recalibration for a particular type of earphone. Operators do a daily bioacoustical calibration check or use a bioacoustic simulator. As for cost, it is not expensive if you consider that occupational hearing loss can be totally prevented, there is a cost saving if you consider the cost of a workers' comp hearing claim which can be 3-5000 dollars. To leave things as they are, allows more hearing loss.

Ms. Siegel added that if the low frequency background noise eliminates the onsite option according to the petition, allowing the insert test method would solve the background noise problem. Sending people offsite (to a clinic) would be much more expensive. There is an added factor of better accuracy with insert testing because the circumaural method allows for a compensatory effect that the subject's better ear has during the testing that masks the actual loss.

Mr. Nakamura asked Dr. Fankhauser to confirm that the inserts are in the ANSI standard. He said the standard does include the use of inserts, but he was not familiar with the details of Ms. Siegel's proposal.

Steve Smith asked Ms. Siegel if the standard could be modified as originally proposed if it allowed the insert option. It seemed that mobile and stationary testing stations can meet the higher frequency limits. Possible that the proposal could look at the lower levels for these inserts, and modify the proposal accordingly? She replied that mobile test vans cannot comply with the limits set for 125, 250 and 500 Hz. She uses the inserts regardless.

Dr. Fankhauser noted that the issue is how to meet the requirements of the ANSI standard. For example, moving a van further from a noise source can reduce the background noise levels. Inserts have been used for years now. The insert earphones, as stated by ANSI, are acceptable to do the job, and were considered by the 1996 ANSI committee. They had some concern that they couldn't shift from circumaural to inserts without re-establishing baselines.

Mr. Smith asked if all the inserts provide the same reduction of external noise of 25 dB across all frequencies? Ms Siegel thought they all would.

Mr. Nakamura clarified that the Division would like to know if the equipment needs to be certified or rated by a third party. Mr. Nakamura wanted to clarify with Dr. Fankhauser that his original petition did not include the use of the inserts, but would that be an acceptable change to his proposal now? Dr. Fankhauser said it would.

Mr. Nakamura asked him what he thought an audiologist might object to if this were proposed. Dr. Fankhauser thought the objection would be that the use of the inserts could slow down the procedure and reduce the number of people that could be tested.

Ms. Siegel responded that it might take one minute longer to fit the insert, and there could be the benefit of reinforcing the correct principles of placing hearing protectors with each testee.

Ms. Stroup added that the AGC does not want to lose the on-site testing option and they want to make sure that the proposal does not eliminate on-site testing.

Dr. Fankhauser said an employer can simply choose an audiologist who can meet the standard. Ms. Stroup replied that they support the Siegel proposal and want to be able to use current providers as much as possible. Dr. Fankhauser replied that they can use inserts, relocate the vans, or bring a quieter van. Ms. Stroup noted that the testers don't often market their service on the basis of accuracy, and the average employer would not know how to assess them. Dr. Fankhauser suggested the employer should ask what they are getting.

Jay Bosley supported retaining the mobile test option, and generally allowing an affordable, practical option for testing.

Mark Nelson agreed with keeping the mobile van option.

Katy Medina also supported mobile testing.

Mr. Nakamura summarized that the Division would probably revise the proposal to include the use of the insert option, as covered by ANSI 1999, and a revised proposal would be sent out as soon as possible.

Break

#### Hearing Conservation for exempted industries: term of employment limit

Mr. Nakamura reviewed the status of the proposal for establishing hearing conservation programs for construction, agriculture, and oil drilling operations. A number of specific issues were discussed at the first meeting on the general aspects of the requirement, mainly audiometric testing and noise monitoring. After the meeting, a proposal was submitted by the AGC that would establish hearing conservation for employees who worked on a continuous basis for 120 days or more. However, the operating engineers and the Trades asked to retain the original proposal of having hearing conservation for all employees.

Ms. Stroup discussed the current status of AGC's position. First, employers are very concerned about having to provide testing and track transient employees, so their preference is to track the permanent employees. Fifty percent of their workforce is gone from their employment within 120 days.

Secondly, the constantly changing nature of a construction site would make noise monitoring very

difficult and/or costly. The requirement for having hearing protection should be based on the type of work employees do and whether there would be a high noise exposure or not in that type of work.

Mr. Wright asked to clarify what continuous employment actually meant since it seemed to exclude most of the Laborers. So was that 120 calendar days, working days per year, or by jobsite?

Mr. Smith asked Ms. Stroup if she knew what percentage of the workforce would be excluded but she did not have numbers for that.

Mr. Bosley said that 120 days was too long, and would exclude most of the operating engineers as well. The argument that it is a transient workforce that is too hard to test is not real since drug testing is very common even for the temporary people. They would consider one week as a useful time limit.

Mr. Strawbridge added that there is no such thing as a typical workforce or construction site.

Mechanical contractors may have a permanent group of people and a more steady workforce so it is hard to put hearing conservation into effect.

Mr. Nakamura asked if many types of subcontracted operations or people would be excluded by the 120 day limit?

Mr. Nelson said that in the sheet metal companies, it is primarily permanent employment.

Mr. Edwards, representing SMACNA, added it is no problem to provide PPE and training. As Mr.

Strawbridge said, there is no typical site. Testing each site is the problem, especially when there are many site visits. How can you assess the exposures at every different site, or at all sites? Also, recordkeeping for all the sites would be extremely difficult. If the need to tailor hearing protection to the employee and the level of noise exposure is part of the proposal, it would be a problem for most employers.

Mr. Coatsworth noted there can be a big difference between general hearing protection, like disposable plugs, and fitted hearing protection, and this should be part of the requirement.

Mr. Nakamura noted that hearing protection is not certified like respirators, and it is probably premature to get into the issues about noise reduction ratings; Federal OSHA has even created a type of safety factor calculation for evaluating hearing protection equipment.

Mr. Smith wanted to clarify that employers already have the requirement to provide hearing protection for exposures at 90 dB or more, and the question here is protection at 85 and the other aspects of hearing conservation.

Mr. Nelson asked if that meant that tailoring of PPE with a site is not on the table?

Mr. Smith replied that PPE will protect in the 85-90 range but not all types of protectors are good for higher exposures. Currently if the noise exposure is greater than 90 dBA, you need to assure that the type of PPE provided is adequate for the noise level.

Mr. Nelson said that using commercially available hearing protection is not a problem but individual tailoring of the PPE and full monitoring records for each site visited would be.

Mr. Smith clarified that assuring that employees exposed over 90 are provided with a suitable type of hearing protection is what he meant by customizing, and that is already applicable to all employers.

Dr. Fankhauser emphasized that the exposure is a TWA, not an instantaneous reading. It applies to all workers exposed above the TWA of 85 and even minimal plugs are usually sufficient to get most of them to 85. However, NIOSH evaluation protocols say that the noise reduction rating (NRR) for muffs should be reduced by 33%, for foam, 50%, and for preformed plugs, 75%. There are individual cases where there are special needs for specific occupations or where an individual has lost a lot of high frequency hearing, but that has to be dealt with on an individual basis.

Katy Medinas (Turner, for CEA) supported the 120 days as reasonable.

Richard Warner for ORC, said that the important thing is to find a reasonable way to apply the requirement. Some number of days of employment should be used to make this workable. Trying to apply this to a transient work force would be problematic to implement and to enforce.

Mr. Nakamura asked how the agriculture segment felt about the proposal.

Mark Lloyd said that 120 days would exclude most of the employees, about 75% of the workforce, probably all of the seasonal workers, but he wanted to consult with the membership.

Anne Katten of CRLA said that temporary workers need protection too. The focus should be on the noisy jobs such as tractor operators, plane operators, or packing sheds. There could also be layoffs to meet a requirement for 120 days.

Mr. Nakamura asked if the 120 days exceeds the number of days in the harvesting process? Mr. Lloyd responded that it often would.

Ray Trujillo (Trades) said that at least 75% of the construction employees would be excluded by the 120 days proposal.

Mr. Nakamura wanted to clarify that the 75% do not work for a single employer.

Mr. Trujillo agreed and noted that many of them would be sent from the hall for a job, and some might not make it on that particular job for more than a few weeks and then sent back.

Chad Wright said that the Laborers often spend only a month or two at each site.

Tom Walsh said that Section 3203 would require addressing the noise hazard at a job with PPE and training.

Mr. Wright responded that there should be an audiometric test to determine if HP is adequate and actually working.

Ms. Stroup asked who would do the test and keep the records? It would be best if there were a partnership with labor for ongoing testing and recordkeeping. The 120 days is a compromise that would not cripple the employers' operations with paperwork.

Mr. Wright said that the General industry model doesn't work well for the construction industry. There could be PPE required for certain tasks.

Mr. Bosley responded that the big question is why aren't construction workers getting the same protection from noise as general industry workers. Exclusion of 5 to maybe 20 days may be okay, but 120 days is too long.

Mr. Nakamura asked how the records for drug testing are retained.

Virginia Siegel replied that with drug testing, the records do not have to be compared with previous tests, so it is not a good comparison.

Mr. Nelson objected that the drug testing is a very different process and subject to very stringent confidentiality requirements that keep the employer from seeing them in most cases.

Steve Johnson for the Roofers, added that most drug testing is only done for court in case of an accident and where there is a suspicion of drug use. The unions have also supported that process.

Dr. Fankhauser suggested that the worker could carry their own health record, though he doesn't know what would happen if the worker should lose the record.

Mr. Walker wanted to clarify that this single issue might not put an employer under, but it is just another of a myriad burdens for the employer to deal with.

Mr. Nelson noted that there is a workers' comp liability for recordkeeping. Claims from employees for a 20 year prior exposure to a cancer agent exposure. The burden is on the employer to prove that the employee was not on the jobsite in question. Similarly with noise, the employer could be asked to provide audiometric testing records of many preceding years.

Mr. Nakamura said that in the short term, the number of claims might increase but a tighter rule should cause a decrease in the long term.

David Milano, Sheet metal contractor, asked a number of questions. How to define a building contractor, an employer, a jobsite? There are a wide variety of sheet metal jobs, does that mean keeping records for each job site? Who would keep them? Does the hearing test account for the aging of the worker? What are the costs that Cal/OSHA would have for enforcing this? Since his shop is union, it would become part of the agreement and make him less competitive than non-union employers. All his employees have PPE, once they are given that it is up to them to protect themselves. His cost estimate is \$3.10 per employee, so he wants to make sure that Cal/OSHA enforces it on the non-union competition too.

Mr. Coatsworth noted that he thinks union employees feel more comfortable complaining about problems than a non-union employee does typically.

Ken Esse asked about the case of a sub-contractor who already provides PPE and training on multiemployer worksites? Who would monitor the exposure from other sources? Employees reliably wear the PPE on a jackhammer nearby and gets a noise survey in the shop.

Mr. Trujillo noted that their apprentices are taught about PPE and hazards.

Lunch

#### Alternatives to noise monitoring of each site

Ms. Stroup refined her position saying that exposure monitoring is an even bigger problem due to the site variability and job variability. It would be best to dump monitoring and rely on audiometric testing as sort of a self-policing measure of effectiveness. Employers could work with Cal/OSHA for representative monitoring and come up with a list by job type and needed PPE. Or there could be a tiered approach for jobs. First would be no reason to suspect noise > 85. Secondly with some noise that would need monitoring. Third, sustained noise areas where the noise level is assumed based on reference data. Fourth, high risk like pile driving or jack hammer use. They have had many discussions but are not quite sure how to implement that.

Mr. Smith asked how employers currently comply with Section 5096.

Ms. Stroup said that there is some use of dosimetry, some “eyeballing” based on experience.

Mr. Smith asked her if the proposal from AGC to exempt construction from monitoring as required currently by Section 5097? In terms of the standard, look at (b)1, put in an exception saying that the ag, construction, etc. are exempt from monitoring? But if you are over 85 you do the audiometric testing, training, and provide hearing protection. Define some operations by practice, is that generally what you propose?

Mr. Walker said there is no problem with monitoring in a shop, but onsite monitoring is very difficult.

Mr. Smith said that you are not off the hook for providing protection and so forth, but you would not have to do the monitoring.

Mr. Bosley said that such a proposal would be like goats guarding the cabbage patch. There is no reason why construction needs a special standard.

Mr. Nakamura said that there are variations on this idea. Ms. Stroup said that rather than doing monitoring on everything, you would provide hearing protection based on an assumption of exposure in the same way that engineering controls and hearing protection are supposed to be applied now at 90. The next step up from what she said is to assume that employees are exposed based on the type or work, use of certain types of equipment, or proximity to a noisy operation and provide audiograms, ppe, and training. This is similar to something that Mr. Wright mentioned before the meeting began.

Mr. Wright responded that dosimetry in construction is pretty pointless given the daily variability in exposures. They would prefer to see a “task-based” approach such as in the lead or asbestos standard. This approach has been proposed to Federal OSHA.

Mr. Bosley responded that the problem with any voluntary compliance program is that it can be abused.

Ms. Stroup replied that AGC takes a more positive view of employers, don't presume that they are always looking to get away with something.

Mr. Bosley added that what's simple and fair is fine but not all employers show good faith.

Mr. Nakamura clarified that Mr. Wright and Ms. Stroup seem to both suggest adopting an approach to noise exposures that is similar to controlling lead exposures in construction operations. Assume that certain operations are associated with given levels of noise exposure, or possibly the proximity to a noisy operation, and provide appropriate hearing protection and audiometric testing. The employer also has an option to “test out” by doing noise monitoring to show that the exposures are at 85 or less. It would not be a matter of guessing. You would not be working in a vacuum, you would be working from a set of guidelines that everyone has to agree on.

Mr. Esse asked to clarify the scenario where a plumber would jackhammer once in 2 years, would they need all of the HCP?

Mr. Nakamura said that once the person does the jackhammering, they get included in the hcp.

Mr. Warner related that in his experience on construction sites, 15-20% on day are exposed above 85, but it would be different exposure levels on different days, so it would include 100% of the employees. The weakness with representative monitoring is that you could use it to just included a few people in the hcp who happen to be overexposed on a given day even if all the employees really do the same thing off and on. If the focus is on the task that makes it okay to include in the HCP. The standard can be written so that it is not retroactive. The worker would not have to be included until they are actually exposed by using a jackhammer or something like that.

Mr. Nakamura asked Ms. Stroup if there was a third option for making the evaluation.

Ms. Stroup said that some exposures are known for sure but there may be categories that need to be defined, like the noise from a certain type of equipment.

Dr. Fankhauser noted that monitoring is not an exact science. It would be great if Cal/OSHA and employers, and labor could assess noise levels associated with different tasks, or classes of work.

Mr. Nakamura replied that there is already a lot of data available now from NIOSH. This would probably be a good place to start for establishing noise levels.

Mr. Coatsworth noted that they have an air hammer in the shop that is worse than a jack hammer, but since they are classified as construction, their exposure is overlooked.

Mr. Nakamura concurred and asked if there are further questions on this part of the issue. He asked if people wanted to digest these proposals or if they had more comments.

Mr. Bosley said that he is willing to support this approach but the basic issue of coverage has not been resolved.

Mr. Smith wanted to go through each issue.

Monitoring: there seems to be agreement that there could be an alternative as is followed in British Columbia or the model submitted to Federal OSHA. In that approach, you list tasks and say that they need to be included in HCP unless they test out.

Ms. Katten asked about tasks that are not listed and Mr. Nakamura said that they would be subject to section 5096.

Mr. Esse asked about third party noise sources.

Mr. Nakamura responded, that is why you may have to work with noise zones.

Ms. Stroup said, then if this contractor is working here, and another one is working with jackhammers next to him, does the first contractor have to have hcp?

Mr. Smith responded yes, it is analogous to having a crew at the airport where there is a lot of noise.

Mr. Warner said that you rely on the assessment of professionals.

Mr. Strawbridge asked if an IH has to do the monitoring?

Mr. Smith said there is nothing in the standard that requires that but the person monitoring does need to be competent in noise monitoring.

Mr. Coatsworth said, then if there is one noisy operation at the site, all the crews there need hearing protection?

Mr. Smith said yes.

Mr. Bosley asked if there would be a STEL (short term exposure limit)?

Mr. Smith responded that the short term noise occurrences add to the total noise exposure and the time-weighted average of 85, so short term noise, especially something like a jackhammer, cannot be excluded. There seem to be two possibilities for the group to consider. The first is to identify tasks that are over, or the option is to say that anything over 85 requires the HCP regardless. We will try to write another proposal for the next meeting. People with suggested language should send that to Bob Nakamura by the end of February.

#### Audiometric testing

Mr. Johnson noted a concern that the use of hearing protection would obscure warning signals on a site. Mr. Smith said that would be taken up later in the meeting or the next meeting.

Mr. Smith asked if there were final comments on the existing application of audiometric testing.

Richard Warner asked who would be responsible for testing transient workers? This got some general discussion but no proposals.

Mark Lloyd asked if every agricultural employee would need to be given audiometric testing? Mr. Smith said it would just be the ones exposed above 85.

Mr. Walker asked who would get the audiometric testing if it went to a task based standard? Mr. Smith replied that the employees doing the task would get the audiometric test unless the operation tested out.

Ms. Katten noted that if the requirement goes to a task basis, you would have to really establish who is doing that work and eligible for testing.

Mr. Coatsworth said that under 5100 (a)(2)(A), there should be a record of the specific task and not the classification.

Mr. Bosley said that if a task basis is chosen, there has to be a more workable working term than 120 days.

Mr. Coatsworth suggested 22 days. Mr. Bosley said it would be easier to say 30 calendar days and Mr. Wright concurred.

Mr. Walsh said that he would take that to the AGC for consideration (Ms. Stroup had to leave shortly before this proposal).

Ms. Katten said she preferred the task based vs. number of days approach.

Mr. Johnson said that section 3203 really should cover this already. Mr. Smith said this was too specific for that procedure.

Mr. Johnson replied that if the HCP testing is done now, there will be a lot of employees with hearing loss.

Mr. Smith replied that the testing would only assess additional loss and the purpose is to prevent further loss.

Mr. Milano again called for a cost assessment.

Mr. Smith agreed that anybody with cost information should send that to the Division for this record since it is needed in the rulemaking process.

Mr. Walker emphasized that the Division should consider its ability to enforce this change since compliance with the change would put good employers at a disadvantage if it were not enforced.

Meeting adjourned.