

**MTCA Science Advisory Board
Minutes from May 21, 2003 Meeting
@US-EPA Office in Seattle**

Board Members Present: Dr. Bruce Duncan; Dr. Elaine Faustman; Dr. Hank Landau; Dr. Marjorie Norman (attended in part)

Ecology Staff Present: Dave Bradley; Curtis Dahlgren; Dawn Hooper; Pete Kmet

Others Present: Jim White (DOH); Kris Hendrickson

Annual Meeting

Chair Landau welcomed members and thanked them for their continuing participation. Dr. Landau noted that he has been serving on the SAB for 15 years.

Dr. Landau noted that Board member Dr. Richelle Allen-King has been appointed as a Darcy Lecturer for 2003 by the National Ground Water Association and is currently on a lecture tour in Europe. He noted this was quite an honor as only a few individuals have been awarded this opportunity to date.

Dr. Landau read the Board's charge from the statute and noted that this is a broad charge. He also noted that while Ecology periodically brings issues before the Board, the Board is not limited to Ecology's agenda, and may choose to address other issues. For example, the Board may want to revisit some of the assumptions used as the basis for previous recommendations based on actual field experience. Dr. Faustman noted that toxicologists are constantly looking at the assumptions they use and that Dr. Landau's suggestion is consistent with that approach. Dr. Duncan noted that some of the assumptions in the MTCA rule, while conservative, were designed to encourage site-specific testing and that this is working well.

Dr. Landau also noted that while previous Board recommendations have been based on a consensus and that this has worked well, this does not preclude disagreement.

Members then disclosed potential conflicts of interest as required by the Charter.

Dr. Duncan: Works for EPA on ecological issues.

Dr. Faustman: No longer receiving grant monies from DOE. Does receive grant monies from EPA and NIH. Also is a member of several committees and corporate advisory boards on food-related issues.

Dr. Landau: Is a private consultant that works on a variety of environmental issues.

Dr. Norman: Her previous employer, Foster Wheeler Environmental, was recently purchased by Tetra Tech plans to leave the company in June and start her own consulting firm. Her largest client is Chevron and is currently working on a site in Alaska.

Area wide Project Briefing by Dave Bradley

Dave Bradley provided the Board with a briefing on the area wide project using a series of power point slides. Questions and responses follow:

Q. Slide 4. What is meant by “traditional”?

A. The normal MTCA listing, study, decision document, cleanup, delisting process. There is concern by the task force that this process doesn't fit with available Ecology resources and community expectations. The task force appears to be moving in the direction of addressing these sites through a different process, even if the end point would be the same.

Q. Slide 6. Is the focus on just lead and arsenic? Why not other contaminants like PAHs and other pesticides?

A. The focus is now just on lead and arsenic. However, what comes out of this may be able to be used to address other area wide concerns.

Q. Slide 7. Were Native Americans on the task force?

A. No, but have tried to keep interested tribes informed of the discussions.

Q. Slide 8. Was soil sampling done?

A. Soil sampling was initially planned in the Yakima area but not done due to political pressure.

Dr. Landau noted that this is unfortunate because soil sampling could have actually been beneficial by reducing the area of concern.

Q. Slide 8. Why active agricultural operations weren't included, especially migrant farm worker housing?

A. The focus was on historical arsenic and lead pesticide use, so current pesticide use was not addressed. To the extent that migrant farm workers live in housing in areas potentially contaminated by historic lead and arsenic use, this is addressed.

Dr. Landau added that migrant farm workers may bring their children into the fields with them while they work and this needs to be addressed. There was agreement from the Board that this exposure does not appear to have been addressed as a result of excluding active agricultural operations.

Q. Slide 8. Why was ground water excluded?

A. Soil profiling work to date indicates that arsenic and lead do not appear to have migrated downward beyond a few feet. So ground water contamination did not appear to be an issue of concern.

Dr. Landau noted that this is an important consideration because if ground water contamination is a concern, the proposed remedy to cap off contaminated soil will do little to stop leaching. The Board agreed this was a concern and recommended additional work be done in this area.

Q. Slide 10. Is exposure of children the greatest concern? What about adults, especially pregnant women?

A. (Jim White) We believe children are most susceptible due to increased exposure potential (kids tend to play in dirt) and because their smaller body weight. Pregnant women are thought to be of lesser concern because of the lower exposure potential.

During subsequent discussion there was agreement amongst the Board that children are of most concern based on current knowledge.

Dr. Faustman noted that little work has been done on the health effects of contaminants on the elderly. There is growing concern that lead may be an issue with older women because women in menopause and as they age loose bone mass and lead sequestered in their bones is released.

Q. Slide 12. What does a "low to moderate" level of contamination mean?

A. Probably more easily defined in terms of what it isn't. It isn't the smelter sites themselves and the immediate area; it isn't pesticide mixing areas. Its areas where contamination has come to be located due to aerial deposition (for smelters) and through agricultural application. Low means less than the Method A unrestricted land use soil concentrations. Concentrations can still exceed As cleanup levels by an order of magnitude or more in these areas.

Q. What's the basis for the 20 mg/kg value for arsenic in Method A?

A. It is based on soil testing done early in the program as part of the Asarco Tacoma smelter studies.

Dr. Landau noted that subsequent studies have found arsenic background to be 5-10 mg/kg. Also, that if one looks at potential human health and ecological concerns, this value could be more stringent.

Q. Are acute exposures to these levels of concern?

A. (Jim White) We don't think so because this would be a result of pica behavior and, while pica behavior in children can occur, it appears to be rare.

Dr. Faustman noted that we are learning that pica behavior is not as rare as once thought, with some work indicating that as much as 10% of the population may

exhibit this behavior. If this is taken into account, concentrations of arsenic in the low 100's mg/kg may be an acute concern. Dave added that ATSDR has indicated they have seen apparent health effects in children exposed to soil arsenic concentrations around 500 mg/kg in the Denver, Co. area.

Q. Slide 16. Is bioavailability the same for all sources? This may make a difference in determining what concentrations of concern are.

A. Unknown. This may be an issue appropriate for follow-up.

Board discussion ensued on the difficulties of conducting bioavailability studies and interpreting the results. There are a myriad of factors that can affect the results of such a study. Dr. Faustman noted that the NAS has recently released an extensive review of the literature on bioavailability studies and may be helpful in designing any future study. Dr. Duncan added that while a bioavailability study might help with human health exposures, it would not necessarily address potential ecological concerns. Nor is there likely to be sufficient information in the literature on these different sources to make distinctions for ecological concerns.

Q. Slide 16. Do these estimates include the beach areas along the Columbia River affected by the Trail B.C. smelter and beach areas in the Spokane River affected by old smelter and mining operations?

A. No, there is not that level of precision in these estimates yet.

Q. Slide 18. The legend for the Tier 1 map is confusing and needs clarification.

Q. Slide 19. Is the plume in the vicinity of the Everett Asarco smelter discontinuous as shown on this map?

A. This is based on air modeling and has not been confirmed by soil sampling.

Q. Slide 23. Is anyone looking at the effectiveness of current educational programs?

A. Seattle-King Co. and Tacoma-Pierce Co health departments are in the process of looking at this issue.

Q. Slide 22. Is there also a goal to get these sites out from under MTCA?

A. The task force does not appear to be heading in the direction of exempting these sites from MTCA. The concern is more that it could be a long time (several decades) before all contaminated properties are addressed and there needs to be steps taken to reduce exposure in the interim. It should be noted that some individuals on the task force and members of the public do not feel that these concentrations of any concern at all. One person (Yakima Doctor?) noted that he had not seen elevated blood lead levels (above 15 ug/dl).

Board discussion ensued on whether they felt these concentrations were at levels of concern. Dr. Faustman noted that the latest study indicates that they

are seeing adverse impacts from blood lead concentrations as low as 3-5 ug/dl. Taking a preventative approach is consistent with national approaches to other issues of health concern and is an approach that is widely accepted in the scientific community. Dr. Duncan noted that the levels of concern for both arsenic and lead are going down over time as we learn more about them, so it is unlikely future work will show higher concentrations are OK. He also offered to reconvene the SAB's ecological subcommittee to address specific issues of concern.

Q. Slide 31. Are there any plans for biomonitoring to verify the effectiveness of the proposed approach?

A. (Jim White) What little money there is that is available has been CDC grant money and this may be going away next year. Currently, there are no state funds allocated for this next biennium.

The Board thanked staff for the briefing and agreed that their comments should be made available to the Area-wide Task Force as soon as possible.

Other Updates

Pete Kmet then briefed the Board on a number of topics to bring them up to date with current events.

Ecology Budget: Pete provided a table comparing the Governor's, House and Senate proposed budgets, since no budget has been approved yet. He noted that all three budgets would result in a cut to Ecology's overall budget of about \$10 million and 75 positions. The Toxics Cleanup Program will need to cut several positions as a result, but we are hopeful we can manage these cuts through vacancies that occur as a result of normal turnover. However, our contract funds will be significantly reduced.

Site Cleanup Progress: The state continues to make steady progress in the cleanup of contaminated sites with 57% of the 9,356 sites found to date now classified as no further action. We also have seen a steady decline in UST releases and most UST facilities have been tagged to receive product.

Legislation: Pete provided a summary of legislation passed in the 2003 session. Of note is that there were no amendments to MTCA, although a number of bills did have language referring to MTCA or could affect remedial actions under MTCA. One of the more significant bills is SB 5787 which authorizes the use of the leaching tests allowed under the MTCA rule in 401 certifications. Ecology is also directed to do a study identifying and assessing the effectiveness of leaching tests for evaluating impacts of imported fill on surface waters. Pete noted that Ecology intends to hire a consultant to help with this review and any suggestions the Board has for issues to include in the scope of work are welcome.

PBTs: Pete provided a copy of a briefing paper on PBTs prepared by Mike Gallagher, Ecology's PBT coordinator. Pete noted that Ecology may ask the Board for advice on aspects of this effort in the future.

Rule Implementation Status: Pete provided a list of publications that Ecology has issued since passage of the MTCA rule in February, 2001. He indicated our focus has been on internal and external training and responding to questions. Most questions received are very basic. The concerns some had expressed that the rule revisions would have dire consequences have not materialized. Cleanups are continuing to progress on the same pace as before the rule revisions. Pete also provided a list of issues presented to the SAB in late 2001, indicating which ones Ecology staff have been working on. He anticipates a number of these issues coming before the Board for advice later this year.

Being no further business, the meeting adjourned at 5 PM.

Minutes prepared by Pete Kmet and Dawn Hooper.

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