

**MTCA Science Advisory Board Meeting Summary**  
**September 15, 2006**  
**9:00 AM – 4:00 PM**

EPA - Region 10 - 1200 6th Avenue  
Denali Room, 12<sup>th</sup> Floor,  
Seattle, WA

Agenda:

Approve 12/15/05 meeting summary  
Fish Consumption Rate for Asian Pacific Islanders  
Establishing Moderate Levels of Arsenic in Soil  
MTCA Rule Revision – Use of the TEFs for Dioxin and PAHs.

Attendees:

SAB Members Present: Dr. Hank Landau, Dr. Bruce Duncan, Dr. Marjorie Norman,  
SAB Members Absent: Dr. Elaine Faustman (excused)

Agency Staff and Presenters: Dave Bradley, Dawn Hooper, Pete Kmet, Craig McCormack

Audience: Paul Agid, Jim W. White, Linn Gould, BJ Cummings, Denice Taylor, Tad Deshler, John McCarble, David Heineke, Darlene Schanfeld, Ed Jones, Mike Riley, Keith Moxen, Jim Barnette, Marcia Bailey

I. Agenda Review; Review of 12/15/05 Meeting Summary

Ecology reviewed the agenda and goals for the meeting. Ecology noted that members of the audience would be invited to provide brief comments on discussion presentations prior to Board deliberations.

Ecology asked Board members for revisions to the December 15, 2005 meeting summary. The summary will be finalized based on the suggested revisions.

## I. Fish Consumption Rates for Asian Pacific Islanders

### Reference Materials:

Sechena, et. al., 1999

Ruth Sechena; Connie Nakano; Shiquan Liao; Nayak Polissar; Roseanne Lorenzana; Simon Truong and Richard Fenske. **Asian and Pacific Islander Seafood Consumption Study**. May 27, 1999. EPA 910/R-99-003.

Dave Bradley reviewed the status of Board discussions and conclusions pertaining to Ecology's proposal to establish a fish consumption rate for Asian-Pacific Islander (API) community. This site specific rate is intended to protect the API community living near Elliot Bay and the Duwamish River. He asked the Board to confirm whether Ecology accurately portrayed the Board conclusions and acknowledged that Ecology will need to address a broader range of fish consumption rate issues during the formal 5-year review of MTCA such as tribal fish consumption. A record of this review is provided in the September 2006 document titled: Status of Science Advisory Board Review of Ecology's Proposal to Establish a Site-Specific Fish Consumption Rate for the Asian Pacific Islander (API) Community Consuming Fish from Elliot Bay and the Duwamish River. Ecology reviewed broader issues raised by the SAB during previous meetings that discussed the methodology to establish the site-specific fish consumption rate for API populations.

Ecology thanked the SAB for their thorough review of the issues and for their advice, noting that the recommended site-specific fish consumption values are to be used to establish cleanup levels for API community residing or fishing in the Duwamish River corridor and Elliott Bay. Ecology also noted that the API fish consumption rate is not intended to be applied to other high fish consuming populations, such as Native American populations, and that the API rate may not be protective of these other high fish consuming populations.

Audience members were offered an opportunity to comment. No comments were received.

Board members affirmed the accuracy of the record and the conclusions of the Board as stated by Ecology. They also noted that Dr. Faustman had concerns about the methods for establishing the rate and asked that Ecology consider new or additional information as appropriate.

Members present had additional questions or comments:

Dr. Landau asked if the body weight data had been pooled, in addition to fish consumption rates. Craig McCormack responded that body weight data from API study participants that consumed seafood from King County were used to derive an average

body weight. The average body weight derivation utilized U.S. Census based weighting factors so that the average body weight reflected the API ethnic composition of King County.

Quoted from a previous handout regarding body weight:

***The average body weight for all API study participants without applying any weighting methodology to adjust API study data to reflect the King County API population was 63 kg. The average body weight of all API study participants calculated using ingestion rate weighting factors specific to this group was 62 kg. The average body weight of API study participants that consumed any type of seafood harvested from King County calculated using ingestion rate weighting factors specific to this group was 63 kg. Application of weighting factors and whether or not the data set consisted of consumers or consumers AND non-consumers had little impact on the average body weight.***

Dr. Landau wondered whether other fish consumption rates, such as those that may be established by the EPA, would be used as MTCA ARARs, and if so, suggested that Ecology should have an active presence in those discussions. He requested that Ecology updated the Board on the status of EPA tribal fish consumption rates. Dr. Landau noted that a key policy issue Ecology needs to consider in the future is when other population subgroups would be required to be addressed at a site.

Marcia Bailey noted that EPA is continuing discussions to establish a tribal fish consumption rate based on the framework developed by EPA.

In conclusion, the Board concurred that Ecology's recommendation is scientifically defensible as stated:

*To protect the API population who may eat fish harvested from the Duwamish River and Elliott Bay, the MTCA surface water cleanup level equation for sites that contribute contaminants to these water bodies should be modified as follows:*

- 1. Replace the MTCA fish consumption rate of 54 g/day and fish diet fraction of 0.5 (effective consumption rate of 27 g/day) with an effective fish consumption rate of 57 g/day (derived using the fraction of fish harvested from King County by APIs) and a fish diet fraction of 1.0.*
- 2. Use an average body weight for the API population of 63 kg, derived from the Sechena, et al., 1999, study.*

Ecology noted that Dr. Faustman, absent at this meeting, has unresolved concerns about lumping individual ethnic groups and that the sample size is small. Ecology committed to considering additional information as available. Ecology also stated that it will consider the experiences gained through applying the API fish consumption rate as other fish consumption rate issues are studied.

Opening Remarks by the SAB Chair: Dr. Landau, taking an opportunity to make his opening remarks, complemented Ecology on its practice of being consistently fair and open without apparent slant or bias in their presentation and analysis of issues. He also

disclosed, as he has in the past on other issues, that he is currently consulting on sites that involve arsenic related issues.

## II. Status on Establishing Moderate Levels of Arsenic in Soil

David Bradley reviewed the status of Board discussions and conclusions to date in establishing moderate levels of arsenic-contaminated soils as provided in the September 2006 review titled: Status of Science Advisory Board Review of Ecology's Working Definition for Moderate Levels of Arsenic-Contaminated Soils. Ecology reviewed each issued posed to the Board and the status of Board discussion or conclusions for that issue.

Board consensus was that this paper accurately captures the Board's discussions to date with a couple of clarifications:

- Add a statement under slope factor that new information should be considered as it becomes available.
- Under vegetable exposure pathway, change "home grown" to also include "locally grown".

Board discussion ensued on the regulatory status of "moderate levels". This included the questions on the status of recommendations to use a more stringent cancer potency factor.

Ecology staff clarified that "moderate levels" will be used to help the program set priorities for which sites need to be remediated under the normal MTCA process vs. other methods such as through local land use actions. Ecology doesn't think the more stringent cancer potency factor will affect arsenic cleanup levels, which are already based on background but could affect remediation level evaluations. It was further noted that Ecology has not been focused on how to apply these recommendations at cleanup sites with arsenic issues other than area wide, and will need to think about this next.

Ecology provided the Board with a technical memo reviewing the literature on partitioning coefficients for arsenic and lead. This will be discussed at the next meeting.

Jim W. White indicated that additional studies are available on the appropriate chronic RfD and that the Dept. of Health would like to review this information before agreeing with Ecology's recommendation.

The audience was offered an opportunity to comment or ask questions:

- L. Gould, ERDA Environmental, noted that the proposed (moderate) arsenic levels are high and questioned whether these are sufficiently protective.
- Marcia Bailey, EPA, noted that an additional pathway that needs to be considered is soil runoff to surface water. She reminded Ecology of the suggestion made at an earlier SAB meeting to consider arsenic uptake by locally grown and homegrown vegetables.
- Paul Agid noted that these levels could be misinterpreted and it will be important for Ecology to be able to explain this very complex analysis in a way the public

can understand. Asked when rule amendments would be proposed to address area-wide issues. Dave Bradley responded that this will be part of Ecology's 5 year rule review process.

### III. MTCA Rule Revision – Use of the TEFs for Dioxin and PAHs.

Pete Kmet and Dave Bradley summarized, using PowerPoint slides, proposed amendments to the MTCA cleanup regulations and background information. These amendments would clarify how TEFs are to be used for mixtures of dioxins & furans, carcinogenic PAHs and PCBs.

Dave Bradley posed a series of questions to the Board related to these amendments, to ask if the question were clear and what additional information the Board needed to reach a recommendation. In addition to this feedback, the Board reached several preliminary conclusions. The results of this discussion are summarized in an attached document.

#### Audience comments:

Tad Deshler, Windward Environmental, suggested an additional question needing to be addressed for PCBs—how should the risk posed by dioxin and non-dioxin like congeners be addressed?

Dave Heineke, Rayonier, noted that rationale for rule is common mode of action, but there are other chemicals that also have common modes of actions. What's the scientific basis for not treating these other chemicals similarly? In response, Dave Bradley noted that this issue was discussed in the Vanderberg et al paper and they concluded that insufficient information is available for other chemicals to assign TEFs.

B.J. Cummings, DRCC, expressed a concern that the Board comments should be within the existing MTCA legislative and rule policy framework and not be advising policy changes.

#### Next Meeting:

October 23, 2006.

Meeting adjourned.

Summary Approved by SAB: October 23, 2006