WASHINGTON STATE DEPARTMENT OF ECOLOGY

MTCA Science Panel
March 25, 2010
Meeting Summary

Location

University of Washington, Botanic Gardens, Seattle, WA

MTCA Science Panel Members present

Dr. Bruce Duncan
Dr. Elaine Faustman
Dr. Rosalind Schoof

Ecology staff present

Dave Bradley
Martha Hankins
Peter Kmet
Craig McCormack

MTCA Science Panel Members absent

Dr. Teri Floyd
Dr. Mike Riley

Audience members

Fred Felleman, WAVE Consulting
Larry Dunn, LEKT
Jim W White, WA DOH
David McBride, WA DOH
Nagesha Kannadaguli,Ecology

Meeting Summary

Remarks by Chair Duncan

Dr. Duncan noted he will be taking a temporary reassignment to EPA headquarters until the end of July.

Rulemaking Update (Martha Hankins)

Martha reviewed a roadmap of rule topics being discussed by the various committees and explained the roles of these committees.

Science Panel members asked Ecology to provide them with the materials being provided the other committees to help provide perspective for topics being discussed by the Panel.

Panel members also requested they be provided background reading materials on future Panel topics well in advance of future meetings to facilitate their preparation for these meetings. Examples cited included sediment background and fish consumption.

Audience comments

Larry Dunn noted that how background is defined under MTCA for sediments is a key issue tribes are concerned about.

Topic 1: Early Life Exposure

Presentation by Craig McCormack, Ecology.

Questions

Panel members preferred to address the questions presented in earlier meetings.

1. **Is the EPA supplemental guidance consistent with current scientific information on early life susceptibility to carcinogens?**

   Response: Yes. There is sufficient and sound technical information and state/federal regulatory guidance regarding children's susceptibility and the potential for early-life exposure to chemical carcinogens. This should be considered when revising the MTCA regulations.

Discussion

The Panel noted that information Ecology provided to the Panel indicates eight states are currently factoring in early life susceptibility to carcinogens when establishing cleanup levels. They also noted that both the USEPA and CalEPA have invested a lot of resources on this issue and both have concluded children's susceptibility to carcinogens needs to be considered in risk assessments.

2. **Based on available scientific information & analysis, do members of the Science Panel agree that in order to address children's increased susceptibility to carcinogens early-life exposure age adjustments should be considered for all carcinogens (regardless of mode of action)?**

   Response: Yes. Early-Life Exposure to Chemical Carcinogens: Looking at Benzo[a]Pyrene as an Example for Update to the Model Toxics Control Act Cleanup Regulation, Table 1 provides examples of early-life susceptibility to carcinogens that act by several modes of actions. The Panel recommends that the life stage adjustments be applied as a default to all carcinogens unless early life stage adjustments have been considered in developing the cancer slope factor or unit risk factor.

Discussion

Members noted that the USEPA's approach to limiting this adjustment to mutagens is inconsistent with EPA's own decisions on how some pesticides are being evaluated. The Panel also noted that among the scientific community, or even within EPA, there is no consensus on the definition of mutagenic, so it would be difficult to implement EPA's approach without defining the term mutagen.

3. **The U.S. EPA and the California EPA have assessed and developed age groupings to help evaluate childhood exposures to environmental contaminants. Ecology has concluded that the analyses of both agencies support the application of weighting factors to address potential increased susceptibility to carcinogen exposures occurring prenatally and during postnatal and juvenile life stages. Both agencies apply age related factors to adjust the cancer potencies to consider early life susceptibility for infants and children. Although the age groupings between the agencies vary slightly, the adjustment factors are the same. Does the Science Panel agree with Ecology's conclusions that the two approaches are consistent with current scientific information on early life stage susceptibility to carcinogens?**

   Response: Yes. The Science Panel has reviewed Ecology's evaluation and agrees with Ecology's conclusions on the age intervals and age-specific adjustment factors.

Discussion

The Panel noted that there doesn't appear to be a scientific basis for favoring one approach over the other. Although the age groupings between the agencies vary slightly, the adjustment factors are the same. For the U.S. EPA the age adjustment factors are termed: Age Dependent Adjustment Factors (ADAFs);[1] for Cal-EPA the age adjustment factors are termed Age Sensitivity Factors (ASFs).[2]

Audience Comments

Larry Dunn (LEK Tribe) and Jim White (DOH) both indicated they agreed with the Panel's recommendation.

Working Lunch-Legislative Update (Pete Kmet)

Pete noted that the legislature had reached the end of it's 60 days session without agreement on a budget. At this time it is hard to predict what the impacts will be on Ecology in general and TCP specifically if they cannot reach agreement on a supplemental budget.

Other bills affecting TCP that were introduced that failed to gain support for passage include a bill moving the Pollution Liability Insurance Agency into Ecology.

While TCP didn't have significant policy bills this session, Ecology overall was successful on several environmental policy issues including banning use of copper in brake pads, banning use

[1] Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens. U.S. Environmental Protection Agency, Risk Assessment Forum, March 2005. EPA/630/R-03/003F.
[2] Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II, Technical Support Document for Cancer Potency Factors, June 2008, Public Review Draft, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment.

of bisphenol A in children's products and an expanded electronics recycling program. There is also still pending before the legislature a bill that would expand the MTCA hazardous substance tax to fund storm water improvements. If this passes, it will help relieve pressure on the Toxics Account, potentially freeing up more money for cleanup.

Topic 2: Proposed Changes to Inhalation Risk Equations

Presentation by Craig McCormack, Ecology. Refer to handouts for slides presented.

1. **Does the new EPA guidance provide a solid scientific foundation for evaluating revisions to the MTCA rule?**

   Response: Yes

2. **Is there additional scientific information that Ecology should consider during the MTCA rule update:**

   Response: No

Discussion

The board discussed concerns that several of the inhalation toxicity values may not be based on inhalation studies.

Topic 3: Method A: Changes to Cleanup Levels Based on New Toxicity Information

1. **Should the MTCA definition of carcinogen include chemicals identified as such by IARC and NTP, in addition to those in IRIS?**

   Response: The current EPA cancer guidelines are consistent with current scientific information. Ecology should also consider determinations by IARC and the NTP (in addition to EPA classifications). These scientific organizations are generally recognized as authoritative sources for identifying carcinogens.

Discussion

Members agreed that if Ecology chose to use a three-part definition (EPA or NTP or IARC), this would be consistent with current scientific information. However, members also noted that the IARC and NTP review different data when reaching their conclusions. Consequently, one would not expect the two lists to be identical. It was also noted that IARC doesn't recommend slope factors. Without this, it will be difficult to develop cleanup levels for these substances.

2. What other sources should Ecology consider for toxicity values when there are no values in the IRIS database?

Response: Any value that has been developed through an open process and been subjected to review and comment should be a valid source of toxicity values. If a value hasn't been subjected to this, Ecology should consider conducting a public review process before using these values.

Discussion: The Panel noted that some of the values in the regional screening tables are based on values developed by NJ and California that have undergone an extensive development and review process. Other values haven't had this level of review. Ecology should carefully consider the source of the value before using it.

Another caution expressed by the Panel is that values developed by different organizations may have been developed using methods that differ from those in the EPA cancer guidelines. Ecology should understand the methods/technical basis underlying the values before using them.

The Board concurred that HEAST should be removed as a source of toxicity values.

Audience comment

Jim White noted that while the IRIS values are considered the best values available, many of these values are approaching 20 years old and have not been updated. Subsequent values developed by others may have a better scientific basis.

Looking ahead

Martha Hankins provided a brief preview of sediment issues that will be coming before the panel.

Discussion:

The Panel requested that when the freshwater sediment values are provided to them for review, Ecology provide a comparison between the factors considered in developing the freshwater vs. marine values such as data sources and species selected.

It was also requested that a case study be presented illustrating when human health exposure controls vs. toxicity criteria.

It was noted that the uptake of chemicals from the sediment to biota is a key issue and the board will want to understand Ecology's approach to that.

Meeting summary approved on August 25, 2010.