MTCA / SMS Advisory Group & Sediment Workgroup

Meeting Notes

Meeting #3, Monday, January 11th, 2010

Port of Tacoma Fabulich Center, 09:00 – 15:30 Hrs

Meeting Synopsis / Summary

This was the third MTCA / SMS advisory group meeting. Three topics were previewed: 1) sediment cleanup standards (background), 2) institutional controls / periodic reviews (MTCA Section 440) and 3) cleanup levels / risk related issues.

Sediments / background issues – Ecology provided an update on the January 7th, 2010 Sediment Workgroup meeting. At that meeting, the Sediment Workgroup reviewed data from two sites: Lower Duwamish and Elliott Bay. Findings – regional background wasn't higher than natural background in some cases but was higher in other cases. Important caveat – the data used was from the Ecology database and not meant as a comprehensive study. The background concentrations determined are for example purposes only and do not constitute any decisions by Ecology. Path forward – Ecology will be working with Greg Glass on statistical issues (statistical methods for deriving background, treatment of non-detects, etc.). Ecology will also continue with the option 1 vs. 2 discussion (natural and regional background). Feedback - workgroup members expressed concerns on a variety of issues. In terms of the study data, workgroup members expressed concerns about treatment of non-detects, the various statistical metrics and chemical speciation (e.g., arsenic). As for the background issues, several felt that it was hard to understand the difference between area and regional. Some felt the standard should be natural background; however, others felt this was not workable as it would expand (exponentially) the "site" definition. Lastly, the Colville Confederated Tribes expressed concern about the option 2 approach (regional background) for freshwater systems (e.g., Lake Roosevelt).

Institutional controls / periodic reviews – Ecology provided an update on how the Uniform Environmental Covenants Act (UECA) requirements would be incorporated into the regulation. Details on when institutional controls (IC) are required and new requirements for periodic reviews were also provided. Lastly, draft rule language was also provided. As for ICs, new requirements for upland sites were outlined; however, it's unclear how ICs would be implemented for sediment sites. Feedback – workgroup members recommended that Ecology develop a "one-call" or GIS-type database that would track ICs. The need for tracking and proper documentation of ICs was also recommended, as well as penalties for those that do not comply. Lastly, in terms of periodic reviews, workgroup members recommended that Ecology avoid use of the EPA "model" as it does not allow for genuine feedback.

Human-health risk and cleanup levels – Ecology provided an update on the science of early life stage exposure and how it would potentially impact cleanup levels (e.g., Method A tables). Ecology also provided an update on lead toxicity. As for early life stage exposure, Ecology explained that for carcinogens (e.g., vinyl chloride), the impact (carcinogenic response) of early life exposure may occur later in life. A growing body of scientific information and regulatory guidance indicates that early-life age adjustment should be applied to carcinogens to account for children's susceptibility. EPA (Nov-05) has recommended applying early life stage exposure (age-specific differences) to cleanups levels for 12 carcinogens, (including vinyl chloride and B(a)P). As for lead toxicity, Ecology indicated that historical assumptions about safe blood lead levels (e.g., 15 ug/dL) are now no longer valid. The current science indicates that you would need significantly lower blood lead levels (e.g., 2 ug/dL) to protect human-health. Feedback - workgroup members indicated that they were unclear as to the question Ecology was posing. Specifically, it wasn't clear if Ecology was going to adjust all carcinogen cleanup levels for early life stage exposure. Others felt that the amount of scientific data on early life stage exposure was limited and Ecology should therefore not adjust cleanup levels.

Acronyms

- MTCA – Model Toxics Control Act (Chapter 173-340 WAC)
- SMS – Sediment Management Standards (Chapter 173-304 WAC)
- H-H – human health.
- TEE – terrestrial ecological standards (MTCA Section 7490)
- PMEP – permanent to the maximum extent practicable (MTCA 360)
- RIFS – remedial investigation / feasibility study (MTCA 350-360)
- TCP – Toxics Cleanup Program (Department of Ecology).
- SEPA – State Environmental Policy Act
- APA – Administrative Procedures Act
- TPH – Total Petroleum Hydrocarbons
- GHG – green house gases
- PQL – practical quantitation limit (laboratory)
- PLP – potentially liable party
- ICs - institutional controls (ICs, MTCA Section 440)
- REL – remediation level (MTCA Section 355)
- G.W. – ground water.
- UECA - Uniform Environmental Covenants Aft

Introduction

09:10 Hrs

Martha Hankins, Ecology – good morning everyone – convene meeting – please sign in. This is the third MTCA /SMS advisory group meeting. Some business: meeting materials mailed out in two mailings (Dec 31st and January 6th). Meeting materials posted on the web site. Agenda for today - three topics – sediments and background, institutional controls (MTCA Section 440) and early life stage exposure.

Introductions - Craig McCormack, Ecology, who is working on human-health issues. Tammy Kellog, (Kellogg Consulting) and Jessi Massingale (Floyd & Snider) will be facilitating future meetings. Also Fu Shin Lee, Ecology, who is working on sediment issues.

- ***Is everyone OK with printing out your own materials?***

Introductions

How do you feel about the three issues today? Which is of most interest (1 = sediment background, 2 = institutional controls / periodic reviews, 3 = cleanup levels / risk related issues)?

Workgroup Members

- Tim Brincefield, EPA, all 3
- Will Ernst, Boeing, all 3
- Patty Boyden, Port of Vancouver, first 2
- Wendy Steffensen, N. Sound Bay, #1 & #3
- Tom Newlon, #1 & #2
- Kris Hendrickson, Landau, all
- Kim Takasaki, USACE, first 2
- Dave McBride, WDOH, #1 & #3
- Patty B., Colville Tribe
- Don Hurst, Colville Tribe
- Chris Waldron, Pioneer, #1 & #3
- Lionel Klickoff, DNR, #1 & #3
- Larry Dunn, Elwha / Klallam, #1
- Alex Smith, Lane Powell, all
- Heather Trimm, People for Puget Sound, no preference

Audience

- Leslie Conner, Port of Tacoma, #1
- Linda, #1 and #3
- Paul – all 3
- Nancy Winters, HDR, #1 & #3
- Neil Morton, GeoEngineers, #1
- Jessi Massingale, F&S, #1
- Ken Johnson, Weyerhaeuser, 1
- Tamie, Kellogg; Kellogg Consulting

Dave Bradley, Ecology
09:26 Hrs

Introductory Comments

- ***Issue integration – hitting a number of issues.*** *Three themes or "strands" emerging: risk, background and implementation. These three issues cut across all media – sediment, vapor, soil, water. Implementation, remedy selection, institutional controls need to be incorporated for protective and pragmatic cleanups.*

- ***Path forward – work issues; draft rule language later this year (early to mid-spring).*** *Review alternatives. Revise draft rule language. Ambitious schedule. Adjust as we go based on input from the advisory groups.*

- ***Any thoughts about how things are working so far? How are the logistics****? Please speak up. Don't hesitate.*

Comments / Questions

- ***Where are the meeting notes from the last meeting?*** *Was going to send out yesterday. Hope to post by end of week. Floyd Snider will be facilitating future meetings.*

09:40 Hrs

Sediments and Background

Chance Asher, Ecology; Supervisor, Sediments Unit

Update, January 7th Sediment Workgroup Meeting:

- Reviewed two case studies: Lower Duwamish and Elliott Bay. The data was used for example purposes only. The "background" values used do not reflect an Ecology position on what type of background or what constitutes background for the rule revisions.

- Difficult to determine all point source influences. Other questions - what data should be used? How far "upstream" or from the shoreline?

- Regional background is not higher than natural for some chemicals; however, may be higher for other chemicals.

- Choice of metrics, methods of comparison and treatment of non-detects important when comparing to background.

- ***Elliott Bay data – arsenic, mercury and total PCBs.*** Not much difference between natural and regional median background for arsenic; more difference for mercury; large difference for PCBs. However, choice of metrics is an issue (median, 90th percentile, etc.) ***Important point - used existing data.*** To really do this right you would need a properly designed study to collect samples to answer this specific question. This is not "be-all" or "end-all" data set. Only a handful of samples.

- ***Future discussions – sediment data set.*** Continue discussion of options 1 vs. 2. The definition of "background" is critical. The Sediment Workgroup will expand discussion of these two options from cleanup standards to remedial alternatives and implementation. Will research viability of area background, risk levels and compatibility with water quality standards.

- ***Will be working with Greg Glass on statistical issues.*** This may take some time to sort out, e.g. which statistical metrics you use to define background.

- ***Areas of adjustment – cleanup standards, remedy selection / implementation and resolution.*** How do you establish cleanup standards for contaminated sediments? How do you account for background? What exposure assumptions should you use? It is important to start considering options for implementation, which goes beyond just setting cleanup standards. Are there areas of flexibility already built into the SMS that can be revised or clarified that will allow the PLP to meet the cleanup standard? Remedy selection, engineered / institutional controls, remediation levels, Sediment Recovery Zones, other risk levels, recovery time frame. Resolution – how do you know when you are done? Compliance – location, concentration and time.

Questions / Comments

- ***How were area / regional background calculated for Elliott Bay?*** This was an exercise done quickly with existing data – not necessarily a recommended approach. The data that was used was > 400 meters from point sources. The entire shoreline, dredge disposal area and Renton treatment plant outfall were treated as point sources. ***What about area?*** Area is site-specific. ***Consultants do not understand difference between area and regional background.*** What defines these two? Duwamish - consultants looked to Elliott Bay data. Consultants cannot understand area – why move up to regional? This is a problem. How do you define?
  Elliott Bay data – if you compare 90th percentile and median, then there is more difference; therefore, assumption of no significant difference is less valid.

- ***Regional vs. area background – Duwamish - resulted in a huge consumption of resources, which has yet to be fully resolved. Likelihood of obtaining natural background is unlikely.***

- ***Will a value of zero be assigned for all anthropogenic substances?*** No. "Natural" includes anthropogenic, e.g., globally distributed. Be careful about PCBs – check existing literature and studies.

- ***How you treat non-detects depends upon chemical and situation. Need to establish consistent process and statistical metrics.***

- ***Other issues – chemical speciation and bioavailability, e.g., arsenic (organic vs. inorganic).*** Your body reacts to both differently. Ecology needs to keep this in mind. Non-detects are not the only issue on the table. You will need to do some analysis. Non-detects can really skew data, e.g. dioxins.

- ***As cleanup levels get lower and lower, more sites will be defaulting to background. You need to establish realistic objectives and how the data will be collected and analyzed.*** How would you define background? Statistics – we seem to want to re-invent the wheel. Excellent document is RCRA g.w. document, which was just revised. MTCA rule – less specificity – some basics on what is natural background. Different for some media; however, basic definition should be the same for all media and how you calculate would vary.

- ***It really boils down to definition – what is regional? What is the difference between natural and regional?*** Want to make sure regional background definition works statewide, e.g., Colville Tribe and Lake Roosevelt.

- ***Natural background is a good goal but what you can actually accomplish is more meaningful. Area background should be discussed more.***

- ***The issue of the differences between freshwater and marine needs more discussion and representation. The physical, hydrodynamic, and geographical differences are significant.***

- ***Lake Roosevelt - freshwater environments – physical difference between marine / fresh water is huge.*** Lake Roosevelt – the "site" (contaminated sediment area) – is equivalent to area and regional background. Hydrodynamic area is 150 miles long and 2 miles wide, with free-flowing streams included. ***Would like to see a presentation on Lake Roosevelt – freshwater sites are extremely important!*** Lake Roosevelt is a series of hydrodynamically-defined and linked freshwater systems. The "hydrodynamically defined" phrase in the regional background definition is incompatible with Lake Roosevelt or other enclosed systems. ***Open water marine embayment's should not be the only "model" or template for proposed sediment rule revisions. This is a statewide issue.*** There's been far too much focus so far on marine systems. Ecology needs to be sensitive to something other than marine systems. Ecology needs to take point and leadership on making sure that the needs and voice of all stakeholders are heard.

- ***Perhaps there are some common issues between Duwamish and Lake Roosevelt with potentially different implications.*** Would be interested in evaluating / discussing both marine / freshwater sites. It's not just fresh / marine – there are a lot of other issues, e.g. source control.

- ***Duwamish is a riverine system; however, a lake (e.g. Lake Roosevelt) is static closed-system.*** Cannot apply area / regional background to inland freshwater lakes. There's no circulation / movement of sediments in freshwater lakes. Can background be determined for lakes?

- ***How did you define point sources? What were you defining? Are storm drains point sources? Stormwater is a point source. The goal of this effort is to come up with something that is scientifically based; as opposed to "cook-book" that can be manipulated.*** We need to trust the science.

Announcements

- Web site materials for today – not posted just yet (e.g. background table); however, will be posted ASAP.
- Lunch at 11:30 Hrs.

Comment / Questions (cont).

- ***Don't care if it's natural, area or regional background; however, for Puget Sound marine cleanups, if you assume that cleanup to natural background is beneficial, then that's a false premise. Which number you pick for cleanups makes no difference.*** If you want "aspirational" standard, then how you define "site" is an important issue. ***Implementation is the most important issue.*** Easier to just keep natural background as the goal; however, Ecology needs to determine a pragmatic approach to implementation. There is no difference between regional and area.

- ***What you cleanup to does make a difference, e.g. dredging***. No it doesn't. The reality is that for the final cleanup, something less is done. Finality for the PLP is key. Consequently, if a standard is set that is impossible to meet, it poses a problem. Negotiation is what will be used to get to a final cleanup.

- ***The reality is that the difference between natural, area and regional isn't that important because the numbers will likely be unachievable.*** The "site" (contaminated sediment) will have much higher concentrations. What number you pick or settle for really doesn't make that much difference.

- ***Ecology should clearly define and be up- front about standards.*** There should be no "back-room" deals.

- ***The whole concept of area vs. regional background is only relevant if you are able to predict future conditions / concentrations.*** Background will change over time. Need to ensure that the remedy selection and implementation parts of the rule work with whatever decision is made about regional / natural background. Source control will result in re-contamination. You need to account for future conditions.

- ***Vapor intrusion guidance – does allow for ambient evaluations and you are allowed to subtract-out background effects.*** Perhaps we should consider this for the sediment background discussions.

- ***Ultimate long term cleanup goal should be natural background.*** Cleaning up to area or regional is not consistent with goals of Puget Sound Partnership and tribes. Vapor background – this in

reality is different than hydrodynamic effects within urban embayments. Atmospheric (vapor intrusion) circulation of contaminants is different. If you cleanup to below background, then concentrations will decrease over time.

- ***Pareto principle (80 / 20) – big complicated sites are more the exception rather than the rule.*** Most of the sites (80%) have common needs. Don't get too caught-up in getting details for unique sites (20%). Need to do a comparative analysis for all media – consistency is important. Use a logical process. What are we trying to protect? What do we need to do in remedy selection? These are key questions. We need to focus on site cleanup.

- ***Lockheed West site sediment cleanup – EPA will not require source control – concerned about adjacent sites.*** Regional approach is needed. Ecology has taken a "bay wide" approach, but need to focus on adjacent sediment sites recontaminating each other. However, this "bay wide" approach has not been codified within regulations.

- ***Bellingham Bay – bay wide approach – some sites are not contaminating each other.*** However, other sites have been brought together and it takes a lot of time, e.g. R.G. Haley and Cornwall sites (commingled g.w. contamination discharging to the bay). Both sites are being moved along jointly – there is benefit in this.

- ***If regional background approach is implemented, then those concepts (regional cleanups) should be incorporated into the regulations.***

- ***Does the concept of a regional background / bay wide approach transcend sediment cleanups?*** Maybe; however, you do not have the same source control issues for upland cleanups. For example, Lower Duwamish – you are only required to comply with NPDES standards; however, this does not address the needs of the entire area.

- ***How would you implement bay wide approach?*** This is a resource issue and not a rule-making issue. This is really an Ecology management issue. There is a difference between a bay wide site approach vs. baywide regulatory approach – have a strategic bay wide approach but have individual cleanup sites. Similar to what Ecology is doing in Fidalgo Bay.

- ***Ecology should focus on source control (e.g. stormwater) as that is a significant problem.*** Ecology should prioritize resources by the scale of the problem. Resources should be dedicated to large scale problems, e.g. source control for urban embayments. Is source control going to be a regulatory issue (NPDES) or a cleanup issue? Liability is a problem if it is a cleanup issue.

- ***Duwamish – PLPs have paid for high-quality sampling within the river; however, no funds for upland sampling.*** No evaluation of source control – no samples collected.

- ***San Francisco Bay – this is a good model or template on the role of regulatory authorities.*** The role for cleanup authorities is to get responsible parties to area background. Once you get below area background you are into a whole new set of issues. Regulations don't work and interface that well once you get below area background.

---- LUNCH 11:42 HRS ------

---RE-CONVENE – 12:06 HRS----

Issue Re-Cap

Easel notes – Martha Hankins – issues reviewed.

Institutional Controls & Periodic Reviews

12:20 Hrs

Pete Kmet, P.E., Ecology Policy Unit

Meeting Materials

- PowerPoint presentation
- December 31st , 2009 mailing included MTCA Sections 420 and 440 proposed rule language.
- Uniform Environmental Covenants Act (UECA).

Key Questions – Balcony View

Ecology posed a number of questions to advisory group members and asked for feedback on issues, including:[1]

- Impact of releases on multiple properties, e.g. right of way, publically owned land, etc.?
- Institutional controls (IC's) for sediment sites?
- Financial assurances?

Detailed Issues

- ***Universe of sites -*** 11,000 sites in Ecology's data base with over half (~ 6,500) sites cleaned up – 500 with ICs.

- ***What are ICs?*** Measures that are taken to prohibit activities that might interfere with site cleanup. "Affirmative obligations" – requirements for additional cleanups, etc.

[1] See the cover memos for details of questions posed by Ecology.

- ***When is IC required?*** When concentrations exceed cleanup levels; or, when industrial cleanup levels are used; conditional point of compliance; TEE – when cleanup is based on certain conditions, e.g. commercial / industrial property; when otherwise required.
- ***UECA (2007 Legislative Session) –*** provides structured process for environmental covenants, e.g. establishing, amending, terminating, etc.
- ***Periodic reviews to date –*** Ecology now has dedicated staff; ~ 500 reviews completed; 23% failure rate, e.g. IC's not implemented, remedy not protective, additional site characterization, etc.
- ***Periodic review – major changes*** – includes voluntary cleanup program (VCP) sites; new 5-yr trigger starts when UECA is recorded; EPA coordination; enforcement obligation.
- ***ICs – key changes –*** UECA provisions for upland cleanup sites; however, not sure about ICs for sediments (?). Would like some discussion on this.
- ***Off property ICs, e.g. ground water, vapor, etc. and right of way (ROW), e.g. roads, utilities, etc.***
- ***Providing greater detail on "good faith" effort is problematic because it puts Ecology in the middle of a discussion between cleanup proponents and off-property owners, etc. This would unnecessarily complicate an already difficult situation.***
- ***Financial assurances – Ecology feels this should be strengthened; some inconsistency issues.***

Comments / Questions

12:50 Hrs

- ***How will Ecology enforce financial assurances?*** That's the real issue. How do you ensure compliance?
- ***What documentation do PLPs have to submit to Ecology to verify ICs?*** Did not see that in draft rule language.
- ***If property transfers, then a new certification should be recorded.*** You need paper trail. Also, you need penalties if PLPs do not comply.
- ***Public review should be spelled out.*** Do not use EPA process – they don't do it right. All EPA does is ask for comments. There's no genuine public review process. You need to allow time for public review.
- ***To be clear, EPA does include interviews with affected stakeholders in their periodic reviews.***
- ***Financial assurances – VCP sites – objective is to redevelop properties – preferable to do it up front.***
- ***Need some documentation of how financial assurances costs are determined.*** Should be open process. This is a tricky issue. Financial assurance sits for most sites can probably be derived from a simple formula.
- ***Existing sites should be grandfathered-in.*** Proposed rule language does not invalidate existing agreements.
- ***Covenants should run with the land.*** Future (or current) property owners should not be allowed to change land use and ignore ICs - this is a real problem.

- ***How do you identify what properties have restrictions?*** Need "one call" or GIS-type system within Ecology; or, some kind of database. Need "one-stop" shopping to figure out who is responsible for what. IC documentation can be hard to track down and verify.
- ***DNR managed lands –*** IC expressed in terms of use, e.g. lease or easement.
- ***Financial assurances – key problem is that companies come and go.*** Financial assets can quickly disappear. DNR has concerns about this.
- ***Up-front payment – that's just for VCP sites; or, is that for agreed order and consent decrees?*** Primarily for VCP now; however, if up front works, then may apply to formal oversight sites.
- ***ICs for sediments are problematic because there are no standard lines of demarcation. Also, sediments may be owned by someone other than PLP.*** Lastly, navigation (e.g. federal channel) and anchorage rights can create additional problems / challenges.
- ***Do we know now well ICs are working at sediment sites?*** Not sure. No reviews. Don't know. Anecdotal - Eagle Harbor sediment cap has been breached by anchorage.
- ***Why allow ICs on publically owned land?***
- ***Penalties should be considered /enforced if ICs are breached!***
- ***Written opinions will be done as resources are allowed –*** you are violating your own regulations. ***This (written opinion option) is required by UECA.*** Ecology does not have any options.

Audience Comments

13:24 Hrs

- ***BNSF Skykomish site – financial assurances required – comparable to a RCRA site; however, this level of complexity may not be necessary for small sites, e.g. VCP.***
- ***Slight changes in rule language may not be necessary or helpful.*** If no significant changes, then skip revisions.
- ***Periodic reviews – proposed rule language - it reads or feels like a "one size fits all"-*** not that helpful.
- ***"Looseness" of the proposed rule language – number of "wide open" clauses that need to be clarified or refined.***

Cleanup Levels and Risk Related Issues

13:42 Hrs

Dave Bradley, Craig McCormack, Ecology Policy Unit - Note: see PowerPoint Presentation.

Comments / Questions

- ***Are we (group members) expected to provide written comments? What's the process? What does Ecology want?*** This is "early input" only. Ecology is not "stuck" by proposed deadlines / dates.

Dave Bradley – Ecology – Cleanup Levels and Risk-Related Issues

Meeting Materials

- PowerPoint presentation
- January 7th , 2010 mailing included cleanup level equations and information to illustrate how new scientific information and guidance might impact MTCA cleanup levels.

Key Questions for January 11th Meeting

Ecology has identified several risk assessment issues for consideration during the rule making process. Many of these issues relate to both the MTCA and SMS rules. The January 11th meeting was designed to provide a high-level orientation. We hope this will help lead to a robust discussion at future meetings. With that in mind, Ecology distributed three questions for consideration by the committee.

- Do the materials provide you an initial sense of the issue? If not, what questions do you have for Ecology?

Based on informal survey at the end of the discussion, it appears that members have a better understanding of the issues. However, these are complex issues with many nuances and committee members have varying degrees of experience on these topics. Ecology will take this feedback into account when preparing the discussion materials for the March 22nd meeting.
We suspect that additional information will be needed to support a full discussion of these issues.

- What additional materials/information would you find useful on these issues?

For example, would more numbers be helpful? More details on the basis for the numbers? Information on practical implications – detection limits, background levels, treatment levels? Approaches used by other states?

One or more committee members provided the following suggestions:

- As cleanup levels drop (or get reduced), you need to look at analytical limits.
- Reducing cleanup levels could have unintended consequences that have yet to be evaluated.
- How would revised cleanup levels impact cleanup requirements at different sites?
- How would revised cleanup levels be applied to past cleanup actions? What is grandfathered in? How would new cleanup levels be considered during period reviews?
- Please provide information about background levels.
- Provide information on federal requirements and cleanup levels established by other states.
- Provide details on new studies that were used to derive updated toxicity values.

- All of these issues have been discussed and debated at the federal level. Have you or your organizations prepared analyses and comments on federal proposals? If so, could you provide them to Ecology for consideration in this process?

Risk-Based Cleanup Levels Using New Toxicity Values

Ecology is reviewing the current toxicity values published by EPA and other authoritative bodies. We are evaluating whether we need to update the MTCA cleanup levels. There is new toxicity values for approximately 30% of the chemicals included in the Method A tables. The meeting materials included tables that include several options that illustrate how new toxicity information might be used in updating cleanup levels for arsenic, benzene, benzo[a]pyrene and trichloroethylene.

Committee Comments / Questions

- ***Are you talking about changes to Method A tables only?*** We are focusing on changes to the Method A tables. However, the new toxicity information already applies to cleanup levels calculated using the Method B and C equations. Consequently, the discussions about the Method A tables also serve to illustrate how the new toxicity information would those calculations.

- ***If new toxicity is available, then shouldn't cleanup levels be revised?*** New toxicity information will result in revisions to the cleanup levels calculated using the MTCA equations. However, in some cases, the cleanup level is based on an applicable requirement (e.g. drinking water standards), background levels or analytical limits. In those cases, the new toxicity information may not translate into revised cleanup levels. The interplay between these factors is chemical-specific. Examples of how the different requirements fit together will be discussed at the March 22nd meeting.

- ***Please provide details on the new studies that were used to derive updated toxicity values.*** Several members stated that it is important to understand the strengths and weaknesses of these studies. Ecology agrees and will provide additional details. However, it is important to note that Ecology's policy is to use IRIS values without conducting additional review (beyond EPA's review). We do not have the resources to re-evaluate the IRIS values once they are published by EPA.

- ***It would be helpful if we could discuss (next meeting) how decisions are made about toxicity values that are not in IRIS.*** Ecology agrees that this is an important issue. The current rule states that the Health Effects Assessment Summary Tables (HEAST) as a source of toxicity values when there is no applicable IRIS value. However, EPA no longer supports HEAST (in terms of updating the values). Several EPA Regions and the Oak Ridge National Laboratory (ORNL) currently publish Risk Based Concentrations (RBCs) that incorporate newer toxicity values on a quarterly basis. In many cases, the scientists preparing these tables have determined that more recent toxicological values developed by California EPA or the Agency for Toxic Substances and Disease Registry (ATSDR) provide a more appropriate basis for risk assessments than the HEAST values. The discussions on updating the Method A tables will illustrate how these sources of

toxicological information can be used. This discussion may point to changes in the hierarchy of data criteria included Sections 708 (7) and (8).

- ***We need to be aware of the state of the science. How much uncertainty is there?*** *For example, TCE toxicity – some of the original toxicologists who reviewed wrote independent letters about the questions that were asked. A lot depends upon the questions that are asked. You need to ask the right questions.*

Age-Specific Differences – Early Life Stage Exposure

Ecology is currently reviewing recent scientific studies and regulatory guidance on early life stage exposure to carcinogens. EPA published guidance on this issue in March 2005 that applies to a subset of carcinogens with mutagenic (direct acting) effects (12 substances, e.g. vinyl chloride (VC) and B(a))P). The California EPA adopted similar guidelines that apply to all carcinogens. Application of the guidance would result in risk-based cleanup levels that are 3-5 times lower than current cleanup levels.

Committee Comments / Questions

- ***The amount of data that we have to quantify true impacts of early life stage exposure is limited.*** Like many risk assessment issues, there is a lot of uncertainty on this issue. Given the large implications for cleanup actions, Ecology should consider those uncertainties when making its risk management choices. That's why EPA focused on chemicals with mutagenic (direct acting) impact.

- ***Which cleanup levels are you (Ecology) required to change? What is optional and what is not?*** Is the science credible? Don't just focus on the numbers (cleanup levels) and whether they go up or down. Scientific panels formed to review the EPA and California EPA guidance have concluded that there is a credible scientific basis for these types of considerations. Ecology recognizes that it is important that our policies have a solid scientific foundation. Consequently, we are working with our science panel on this issue (e.g. Dr. Elaine Faustman, Rosalind Schoof, et al.). Based on previous meetings, the panel appears to believe that there is a credible scientific foundation for these types of adjustments.

- ***California background study – is this all areas – what is this?*** Ecology is stilling working to obtain additional details on this study. However, information was presented at an ASTSWMO meeting on a background study conducted in California. Based on the PowerPoint presentation, it appears that samples were taken from multiple areas (both urban and rural). Consequently, it is unclear how this information fits within the MTCA terminology of natural and area background. The values presented in Ecology's January 11th presentation were taken from the ASTSWMO PowerPoint presentation.

- ***Is Ecology proposing to adjust all carcinogen cleanup levels for early life stage (age dependent) exposure? Or, would this age adjustment apply only to the 12 mutagenic (direct acting) substances*****?** Ecology is still evaluating two risk management questions. The first question is whether to apply the early life stage exposure adjustment cleanup levels for the 12 substances identified by EPA, e.g. VC, B(a)P, etc. (including others determined to act by a mutagenic mode of action). The second risk management question is whether to apply the early

life stage adjustment to all carcinogens (e.g. Cal EPA policy). We will be asking for the committee's opinions on these two questions at the March and April meetings.

- ***This is a significant issue to be aware of. It will have a significant impact on cleanup levels.***

- ***In terms of cleanup levels, Ecology needs to be as stringent as EPA. The science is there.*** This is a risk-management decision. Are there other issues that need to be evaluated / considered?

- ***Does this (age dependent exposure) apply only to drinking water?*** The age-adjustment issue is applicable to all media. The information on ground water cleanup levels was presented to illustrate the issues and implications. For example, the risk-based soil cleanup level for benzo[a]pyrene under the current rule is 0.1 mg/kg. Application of the early-life adjustment approach would result in a soil cleanup level of 0.02 mg/kg.

Lead Cleanup Levels – Soil and Other Media

Current Method A lead level of 250 ppm (circa 1991) is based on blood lead level of 15 ug/dL and impacts to neurological development. There is a lot of new toxicological information on health risks posed by lead exposure that has been developed since the 2001 rule revision. In particular, there are a number of studies that point to lead health risks at blood lead levels below 10 ug/dL.
Questions / Comments on Lead Issue

- ***What's the question? What are you asking? The January 11th meeting discussion was designed*** to orient the committee on this issue. The rulemaking question that will be discussed on March 22nd (and possibly future meetings)

What revisions to the Method A cleanup levels for lead (if any) are needed? The following information will be used:

- Current scientific information on adverse effects below blood lead concentrations of 10 ug/dL and the inability to identify a threshold for adverse effects;
- Uncertainty and variability in soil-related exposures and the contribution of non-soil lead exposures to overall lead exposure;
- Current methods and policies used to establish MTCA soil cleanup levels and comparisons to approaches used by other state and federal agencies;
- Background concentrations present in Washington; and
- Incremental implementation costs and benefits associated with a revised standard.

Questions / Comments

- ***Lower number is not necessarily a better number. What's the overall cost / benefit?*** Several members stated that we need to have these discussions. For lead, a lot of historical exposure is lead-based paint, which really is less of an issue now. If costs and benefits are not aligned, then lower number doesn't make that much sense. As noted above, consideration of incremental benefits and costs is part of the regulatory question. This type of evaluation is also required under the Administrative Procedures Act (APA).

- ***We don't have time to get into the supporting toxicity for each and every chemical. Ecology agrees.*** Lead and B(a)P will likely require more detail than most other chemicals where revisions are based on updated IRIS values. However, even for these limited chemicals, Ecology will be relying heavily on scientific reviews performed by EPA or various scientific review panels. It is also important to keep in mind that Ecology is hoping to focus the committee discussions on the risk management choices associated with using the current scientific information.

- ***Is the same exposure model used for all chemicals / substances? Or, does it vary?*** Child lead model used for lead only.

Audience Comments

- ***What can we learn from previous adjustments to cleanup levels, e.g.,. dioxins, PAHs.*** How much impact on site cleanups? What substances are drivers?

Wrap-up – Are You Ready for the Feb 22nd Meeting?

- Larry Dunn, Elwha - good.
- Lionel Klickoff, DNR- I'm uncomfortable.
- Chris Waldron, Pioneer – good. Nice to have preliminary information.
- Don Hurst, Colville Tribe - a bit confused. How low is too low?
- Pattie B., Colville - need more information.
- Dave McBride, WDOH – need more discussion, this is a big deal.
- Kim Takasaki, USACE – examples and case studies would be helpful, e.g. ICs for no children.
- Heather Trimm, People for Puget Sound - two committees in parallel is troublesome. Should be married-up.
- Patty Boyden, Port of Vancouver – good primer today. Changing cleanup levels is a big deal. Challenge now is reviewing complicated information.
- Alex Smith, Lane Powell – how is Ecology going to apply this new scientific information?
- Kris Hendrickson, Landau – 1 & 3.
- Will Ernst, Boeing – preview is good; however, would be helpful if we had insight into what's next.
- Tim Brincefield, EPA – lost track of what the question is and where we are going.

Closing Announcements

15:23 Hrs

- Meeting notes – will be posted to web ASAP.
- Stay tuned for follow-up e-mails.
- Two different groups – trying to have a process that is respectful of everyone's time.
- Vapor intrusion – FYI – off-line meetings / discussion will be held to try and flesh-out what goes in the rule.

Questions / Comments

- ***Are group members providing useful feedback?***
- ***Written comments on proposed rule language would be helpful.***
- ***Lead – how is EPA dealing with this? World Health Organization (WHO)?***

------- 15:30 Hrs -- MEETING ADJOURNED – THANK-YOU EVERYONE!----------