



MTCA / SMS Advisory Group & Sediment Workgroup

Meeting Notes

Monday, July 26th, 2010

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

Meeting Synopsis / Summary

This was the seventh MTCA / SMS advisory group meeting. Three topics were vetted and discussed: sediment management standards, proposed revisions to cleanup levels / toxicity values and an update on the vapor intrusion pathway work. Ecology also provided a brief overview of what's happened to date, what's been said and a path forward.

What's happened so far and next steps – Ecology gave a brief overview of subjects covered to date (sediments, vapors, remedy selection, institutional controls, new scientific information / toxicity values hierarchy, lead cleanup levels, Method A cleanup levels, rule framework, fish consumption, terrestrial ecological, and ground water discharge to surface water). Next steps – the plan is for Ecology to take a break this summer and continue work on rule revisions. This sabbatical would then be followed by perhaps 1-3 additional meetings this fall (Oct-Nov timeframe). *Comments* – several asked about the proposed schedules and timeframes. A question was raised about the CR-101 that was filed and whether that could, from a legal standpoint, be applied to two rules (both sediments and MTCA). There were also questions about the cost / benefit and economic analysis. Ecology explained that that economic analysis would likely start this fall sometime.

Sediment management standards – Ecology provided a brief overview of work to date. Ecology also asked if the proposed rule revisions are on track and are aligned with overall goal of “harmonizing” MTCA / SMS. Draft rule language was also circulated. This included definitions of various terms (e.g. sediment, biologically active zone, etc.), terminology (e.g. maximum allowable level), ecological risk narrative and MTCA / SMS integration. *Feedback* – in regard to defining sediment “subareas”, it was suggested that Ecology use the Port Angeles cleanup as an example. Specifically, for Port Angeles, the liable party was first asked about what they feel they are responsible for. This area was then cleaned-up. This was thought to be a good way to keep things moving.

There was also a lot of discussion about the proposed definitions / rule language for “sediment” (including “wildlife”), “biologically active zone”, “maximum allowable level” and the ecological risk narrative:

- *“Sediment”* - a concern was raised that using low / high tidal boundaries to define “sediment” would significantly increase the “site”. The “site” is that area that would need to be cleaned-up. It was also noted that from a historical standpoint, “sediment” has not been defined by tidal boundaries. Lastly, Ecology explained that the “wildlife” term within the sediments definition does include the benthic / aquatic community.
- *“Biologically active zone”* – Ecology explained that this includes both surface sediments and depth (> 10 cm). However, several felt that the proposed definition was confusing. Others also said that this would now mean that you would need to demonstrate that there’s aquatic life > 10 cm depth. This was viewed as a substantive and burdensome change.
- *“Maximum Allowable Level (MAL)”* – some felt that this concept would negate or take away the current natural recovery option and 10-yr restoration timeframe. Ecology explained and reiterated that the current natural recovery option is not being “taken away”. However, Ecology explained that the current rule needs to be clarified as there’s contradictory language about when and how to use natural recovery.
- *Ecological risk narrative* – Ecology vetted proposed rule language. *Comments* – it was noted that ecological risk assessments can be very expensive, particularly for small sites. It was therefore suggested that Ecology clarify how to conduct “small site” ecological risk assessments. A concern was also raised about use of “may potentially inhabit a location” in the proposed definition for “upper trophic-level ecological receptors”. It was suggested that Ecology clarify, as it was viewed as too vague and amorphous. *Other comments* – it was noted that in most cases, human-health risks will “trump” ecological risks. Key point – there are significant differences in human-health and ecological risk assessments; therefore, it was suggested that Ecology consider this point while crafting rule revisions. However, it was also noted that ecological risks are much higher than human-health for some substances (e.g. copper, TBT, etc.).

Next steps – sediments – Ecology requested written feedback on the proposed rule revisions by August 15th, 2010. Ecology plans to mull over feedback to date and work on revisions over the summer and into the fall. Next meetings are tentatively scheduled for this fall (October-November).

Cleanup Levels – Ecology provided a balcony view snapshot of proposed revisions. Five subjects were vetted: carcinogen definition, toxicity hierarchy, early life stage, inhalation risk and concurrent exposure. *Carcinogen definition* – Ecology’s analysis has found that the proposed changes would have little to no impact on the number of substances that would be deemed a carcinogen.

- *Toxicity hierarchy* – key change – the rule will no longer reference HEAST. Also, if there are no IRIS values for inhalation unit risk, then Ecology will use the Cal EPA values.
- *Early life stage* – Ecology explained that there was general support for applying early cleanup level adjustments to substances with a mutagenic mode of action (MOA).
- *Inhalation unit risk* - the MTCA air phase cleanup level equations (Section 750) will be revised. Key change – the averaging time (AT) will now be 75 yrs (current AT = 70 yrs).

- *Concurrent exposure* – Ecology plans to collapse / combine current rule options of “standard” and “modified” into one option. Concurrent exposure (soil ingestion + dermal (skin) adsorption + inhalation) would be required for all substances. However, Ecology’s analysis of inhalation risks found that they are not significant. Therefore, inhalation will not be incorporated into the concurrent exposure pathway.

Next steps – cleanup level revisions – Ecology requested written feedback by August 23rd, 2010.

Vapor Intrusion – Ecology provided a brief update. This is a work-in-progress.

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)

Introduction

09:15 Hrs

Start meeting – Tamie Kellog. Introductions (group member and audience). Martha Hankins, Ecology – overview and introductory comments. Process and feedback shapes rule making. Status summary / next steps – 8 page handout – please make sure you review this. Ecology has solicited feedback from a diverse spectrum (e.g. tribes, private sector, other government, etc.) over the last 1-2 years. Next steps – Ecology needs to focus on input received to date. There will be a 1-2 month pause. Question – are you interested in reconvening again in the fall for 1-2 meetings? How does everyone feel about this? What about the level of detail for various pieces? Ecology is still working on this. Some issues (e.g. vapor intrusion, fish consumption, petroleum cleanup levels, etc.) are still under review. Please keep in mind that there’s a lot of work in progress behind the scenes. Status summary – brief overview discussion of issues vetted to date:

- Sediments,
- Vapors,
- Remedy selection,
- Institutional controls,
- New scientific information / toxicity values hierarchy,
- Lead cleanup levels,

- Method A cleanup levels,
- Rule framework,
- Fish consumption,
- Terrestrial ecological, and
- Ground water discharge to surface water.

Comments / Questions (Group members)

- ***Institutional controls*** – proposed changes may impact state owned aquatic lands. Would like to review.
- ***Integrating MTCA / SMS*** – has draft rule language been vetted to this group? Ecology – it's in today's handouts.
- ***How will proposed rule changes impact current projects?*** Proposed changes may impact cleanups in progress (e.g. Boeing cleanups). Ecology – go with current rule until it's revised. There is a grandfather clause (Section 702(12)) within current rule that speaks to these issues.
- ***What's the plan for the fall meetings?*** Ecology – 3 full meetings, one ½ day. Will these be joint meetings (sediments group)? Ecology – yes, most likely. There will likely be informal comment period between first and second meetings.

Audience Comments

- ***What are proposed schedules/ timeframes for releasing rule language?*** Specifically, fish consumption, sediments, etc. Ecology hopes to circulate preliminary draft rule this fall, followed by CR-102 next spring (2011). Process issue – the CR 101 that was filed did not identify sediment management standards – it only spoke to MTCA. Therefore, the CR 101 that was filed is not valid for sediments. You cannot file one CR-101 for two rules (sediments / MTCA). Ecology – we can discuss this off-line.
- ***When will Ecology start cost / benefit economic analysis?*** Ecology – this fall.
- ***Will there be a discussion on the cost / benefit economic issues?*** Ecology – to be determined. Cost / benefit analysis is part of CR-102 rule filing. You will have a chance to review.

Sediments Rule Revision Update

10:00 Hrs

Chance Asher, Ecology (PowerPoint Presentation). Last meeting (June) – request for more details about process, work and results to date. Handout has draft rule language (attachments A – D).

- Overview of what's happened to date, where the sediments group is at and next steps (this summer).
- General question – do the proposed rule revisions meet overall goal of “harmonizing” MTCA / SMS? Are there fatal flaws or “red flag” issues?
- Other deleterious substances – this discussion is on hold (this issue is still under internal review).
- ***Issues*** – (1) human-health / background, (2) MTCA / SMS integration and (3) ecological risk narrative.

- **Human-health / background – feedback to date:** use natural background as the target or goal for sediment cleanups. Other feedback: implement source control (storm water, NPDES discharges); resolve liability and recontamination issues.
- **Resolving liability – proposed framework** - site “units”, partial settlements for site units, baywide funds for shared contamination and innocent landowner provisions for recontamination.

Comments / Questions (Workgroup members)

- **Has Ecology developed guidelines or a framework for defining sediment cleanup “subareas”?** Ecology – we’re looking at both chemical signatures and different levels of contamination. However, we’re open to suggestions. Port Angeles template / example – met with liable party up front to determine what they feel they are responsible for. Key question – what area do you (liable party) feel that you are responsible for? This type of process should be considered as it worked well for Port Angeles. Good way to get things moving.
- **Balcony view comment** – the “devils in the details”. This is a bit of nerve-wracking proposal. A lot of moving parts. We need to think this carefully and review.
- **Natural vs. regional or “area” background** – Ecology needs to define these terms prior to moving forward. Regional is a vague term. It’s not clear what this means.
- **Is Ecology working with or coordinating with Puget Sound Partnership (PSP) on broader policy issues?** Ecology – no, we’ve not vetted issues through PSP.
- **What is the proposed timeline for resolving definitions of background (regional, area and natural)?** Ecology – fall meeting. Balcony view - seems like everyone is on board with these concepts; however, need to see details.
- **Does Ecology have the expectation of meeting natural background?** Ecology – cannot answer that. We have so many different embayments. It may take decades to reach natural background. Comment - You (Ecology) need to figure this out. You need to post or craft sediment cleanup standards that are realistic or achievable.

Audience Comments

- **Source control – stormwater** – there’s been a movement within the industry to use bioswales, etc. Please clarify regulations so that bioswales meet the criteria of an engineered solution / remedy.
- **Regional background** – who will define this? Is this on first PLP that initiates cleanup? This may result in stall tactics, etc. Ecology – yes, we’ve heard that Ecology should bear the burden of defining regional background.
- **Defining regional background** – is Ecology planning to define background by man-made (anthropogenic) sources? Ecology – no, we’re not looking to split regional background by anthropogenic sources or those hazardous substances that bioaccumulate.

----- BREAK 10:46 Hrs -----

----- RE-CONVENE 11:05 Hrs -----

Draft Rule Language – Sediment Management Standards (cont.)

Ecology recognizes that you probably have not had sufficient time to fully review meeting materials. Please review when convenient. We can take some question today. Ecology does not expect detailed feedback today.

Comments / Questions (Workgroup members)

- **Sediment definition – does “wildlife” include the aquatic / benthic community?** Ecology – yes.
- **Sediment definition – ephemeral stream discharges – is this sediment?** Please check California definition.
- **Do sediment management standards apply to both biologically active zone and surface sediments?** Ecology – yes. **Comment** - mean higher high tide was typically used to define sediment boundary. Why not leave sediment definition as is? Proposed definition vastly expands what sediment is. This has not been fully vetted. This is an important issue – we need to discuss.
- **Do not see sediment definition / boundary linked to tide line (high or low).** Is that correct? Ecology – in practice, yes. Sediment boundary has not been historically defined by tidal boundaries. However, there has been some confusion what standards (sediment or MTCA upland soil) apply to intertidal zone sediments.
- **Is “site” going to be clarified or re-defined?** Ecology – not yet; however, we may. We’re open to comments.
- **Minimum cleanup level vs. screening level / maximum allowable level (handout – Attachment B).** What exactly does this mean? Ecology – we need to set protective levels for benthic community. Maximum allowable level is “umbrella” term that applies to all receptors / pathways. Cleanup “screening level” is one piece of maximum allowable level.
- **Didn’t we agree to redefine / clarify “site” for sediment standards rule?** Ecology – we’re trying to define site under SMS. Comment – any change to this term could have huge consequences. Likewise, leaving as is may be problematic as well.
- **Will natural recovery still be allowed?** Proposed rule revisions seem to take this away (10-yr timeframe). Ecology – yes, it’s in the current rule. There is some conflicting wording in current rule (fundamental objective is to meet SMS). Ecology is trying to clarify.
- **Maximum allowable level (MAL) - this is a substantive change.** Why is this coming out now in 7th meeting? Ecology – these proposed changes are draft. Our goal is clarify current rule. The current rule, in some places, says you can meet chemical screening level (CSL) @ time = 10-yrs. However, in other areas of current rule, the wording is contradictory / inconsistent.

- **Tribal perspective – it's very important to implement cleanups that meet standards upon completion.** For example, tribes do not want to wait 10-yrs (natural recovery timeframe) to harvest shellfish. Also, biologically active zone – in reality, this may extend below 10 cm depth. Ecology – does revised “sediment” definition help? Please review.
- **Goal is to bring SMS in line with MTCA, i.e. reasonable restoration timeframe.**
- **Ecology comment – just to clarify, again, we are not proposing to eliminate natural recovery.** We're just trying to clarify endpoints, bounds and goals. Current rule is confusing.
- **Sediment 10-cm rule** – this has historically been defined through guidance. However, now it's being defined in rule? This is a substantive change. DNR is concerned about this. DNR has historically provided comments about 10-cm biologically active zone. You will now need to demonstrate that there's aquatic life below 10-cm depth. This is a problem and is a fundamental / substantive change.
- **Biologically active zone definition** - second sentence incorporates 10 cm depth; however, 3rd sentence contradicts 2nd sentence. This is confusing. Not clear about logic and how all this is wired-up.
- **What is the purpose of 10-cm default?** Ecology – stakeholders have asked us to do this. Comment – don't write into regulations criteria that are meaningless / undefined. This isn't helpful.
- **In concept, use some type of default depth and require testing below that depth.**
- **There is value to a default; however, it should be a maximum depth and not a minimum depth.**
- **Biologically active zone – don't have a problem with deeper depths. However, should we have or apply different criteria over depth?**
- **Drop the marine / freshwater terms from biologically active zone definition.**

Ecological Narrative

Problem / issue - ecological receptors / impacts are not sufficiently addressed in current rule. Impacts of bioaccumulation and toxic effects on higher trophic levels are not fully considered. Proposed solution – provide, in rule, an ecological “narrative”. This narrative will hopefully resolve these issues. Is the proposed level of detail correct? Is Ecology on target?

- **Bioaccumulative substances (e.g. dioxins / PCBs) are ubiquitous; therefore, phrases like testing “may be required” are meaningless.** Also, there are significant differences between how you evaluate human-health risks vs. ecological risks. In most cases, human-health risks will “trump” ecological.

- **Copper and tributyl tin (TBT) are more toxic to ecological receptors than humans.** Human-health risk may not trump eco in all cases.
- **Proposed ecological narrative definition is too vague and hard to understand**, e.g. “may potentially inhabit a location”; or, “have historically inhabited”. This is too open-ended and not useful (e.g. how far back in time do you go?). Please clarify. Please be clear about expectations and requirements.
- **Ecological risk assessments – please keep in mind that they are expensive.** For small sites, this is an issue. Ecology should provide standards for small sites. It’s not cost effective for small sites to do costly and time consuming eco risk assessments. What you cleanup to is an issue. Please define for small sites.
- **Will interim actions be defined?** Ecology – this has yet to be discussed.
- **Permanence language – this seems to be a change from current SMS rule.** Will this lead to a lot of “dig and hauls” (more dredging)? The “template” for upland cleanups is dig and haul. Concerned that this may lead to dredging as the preferred cleanup action for sediment cleanups.
- **Evaluating cleanup action alternatives – what exactly does this mean?** Please clarify.
- **Editorial note – Ecology does have the right to make “substantive” changes.** However, Ecology should be clear and transparent where “substantive” changes are made.

Closing Comments / Statements

Can you provide comments to Ecology by August 15th, 2010? Ecology will be making revisions between now and fall. It would helpful if stakeholders could provide comments on proposed sediments rule language now.

- **How does Ecology attorney general (AGO) review fit into proposed timeline / schedule?**
Ecology – feedback to date from AG’s office is figure out details first, e.g. how to do it. In other words, AG’s office is OK with releasing and vetting draft rule language.

--- LUNCH 12:27 Hrs-----

---- RE-CONVENE 12:55 Hrs -----

Science Policy & Cleanup Levels

12:55 Hrs - Dave Bradley, Ecology (PowerPoint Presentation). Balcony view of proposed cleanup level changes to date.

- **Cleanup levels changes may impact cleanup actions.** Ecology wants to make sure that everyone is briefed and understands proposed cleanup level revisions.
- **Carcinogen definition** – general agreement that this should be updated.

- **Cleanup levels** – general agreement that cleanup standards need to be updated. However, concerns about using Cal EPA toxicity values. General support for using EPA early life stage guidance.
- **Question – do proposed cleanup level revisions make sense?** If no, then why not?

Carcinogen Definition

- Reasons for update – EPA (2005) cancer risk guidelines. Also, Ecology needs to be consistent with current scientific information.
- What difference does this make? Not much. This is probably not a substantive change. For example, Ecology's apply current / proposed carcinogen definition to 100 substances (2007 CERCLA priority hazardous substance list). Results – very little change. Most substances would still be deemed a carcinogen under the proposed definition.

Toxicity Hierarchy

- Changes are based on EPA (2003) OSWER directive as well as implementation issues over the last 10 years.
- Rationale - consistent with EPA guidance.
- One key change – the rule will no longer reference HEAST (IRIS is the “gold” standard).
- Use of Cal EPA values – they are the only source, in some cases, for inhalation unit risk factors. Ecology compared Cal EPA / U.S. EPA oral slope factors for 60 substances. Results – average slope factor difference = 1.6; therefore, this seems OK (not order of magnitude variation).

Early Life Stage

- General support for applying early life stage adjustments to carcinogens with mutagenic mode of action (MOA).
- Credible and convincing scientific evidence for early life stage
- Range of opinions on whether to apply early life stage to all carcinogens. Ecology's decision – implement EPA policy (apply early life stage adjustments to a limited suite of carcinogens).

Comments / Questions (Workgroup and Audience Members)

- **Comment – proposed changes in 708(8)(a) - cancer slope and inhalation unit risk factors – why the parallel structure (cleanup / remediation levels)?** This seems redundant. Please clarify. Ecology – will check this.
- **Regular updates to Ecology CLARC (Cleanup Level and Risk Calculation database)** – glad to hear that CLARC will be regularly updated. This is key issue.
- **CLARC updates** – please clarify what to do when cleanup levels change. This can really create problems.
- **Cal EPA toxicity values** – check references / studies for key substances.
- **Is early life stage being implemented in terms of a framework?** In other words, as science progresses, the list of substances that would meet the criteria for early life stage cleanup level adjustments would grow as well. Early life stage adjustments will not be made to all carcinogen cleanup levels. Is that correct?

Inhalation Risk Assessment Guidelines

- Current rule is outdated – not consistent with EPA (2009) guidance.
- Proposed action – revise MTCA Section 750 air cleanup level equations. Incorporate inhalation unit risk into Section 708 criteria.
- One key change – MTCA Eq. 750-2 - averaging time (AT) will now be 70 yrs (current = 75 yrs).

Comments / Questions (Workgroup and Audience Members)

- ***Are there different inhalation unit risks (IURs) for residential / industrial land use?*** Ecology – no.

Concurrent Soil Exposure

- Current rule – concurrent exposure (soil ingestion + dermal (skin) contact) only applies to petroleum.
- Current rule is confusing and redundant.
- “Modified” Method B is rarely if ever used.
- Proposed action – collapse / combine “standard” and “modified”. Require concurrent soil exposure for all substances (not just petroleum).

Comments / Questions (Workgroup and Audience Members)

- ***Why has inhalation been dropped from concurrent exposure?*** Ecology – our analysis has found that standards based on ingestion + dermal are probably good enough, particularly at one in a million cancer risk. If you vary pathways, then what you find is that ingestion and dermal drive risks. Inhalation really doesn’t have that much impact on cleanup levels.

Next Steps

Ecology requests your feedback on proposed cleanup level revisions, by August 23rd, 2010.

Vapor Intrusion

14:19 Hrs Pete Kmet, Ecology (summary table handout).

- Draft vapor intrusion guidance (Ecology) completed (completed, Fall-09).
- Ecology science panel concurs that inhalation / vapor intrusion is a pathway that needs to be addressed in rule.
- Vapor intrusion workgroup feedback is being used to craft rule language. Key issues – inhalation toxicity, screening levels, background, compliance monitoring and getting to an NFA (no further action).

Comments / Questions (Workgroup and Audience Members)

- ***How do you distinguish / differentiate between indoor air / ambient VOC concentrations and soil / g.w. VOCs?*** Ecology - this is a tricky subject. There are no easy answers. Proposed background protocol is to subtract ambient VOC concentrations.

- ***It's very hard to meet proposed indoor air cleanup standards.*** For example, at dry cleaner sites, it's next to impossible. No matter what you do, there's likely to be ambient VOC levels that exceed standards.
- ***What are the compliance monitoring requirements?*** How do you get out of vapor intrusion pathway? Ecology – it varies, this is under review.
- ***Do you feel, from a timing standpoint, that you can move forward?*** There seems to be a lot of questions. Also, how will these vapor intrusion standards impact independent sites? How much is rule and how much is guidance?

Closing Summary

14:51 Hrs Martha Hankins, Ecology

Fall – one to three meetings. Most likely meet mid-October. Ecology will circulate “preliminary” draft rule mid-November. Is one month review of draft rule language doable?

14:56 Hrs – Adjourn Meeting ----- Thanks Everyone!!!!!!