October 16, 2014 Contaminated Media Forum meeting minutes

There was no objection to the meeting being recorded on tape.

Attendees introduced themselves

Jorge Caspary welcomed everyone and gave a brief update on recent Division activities.

Agenda topic #1 – Eco Risk Guidance

The guidance document posted on the Division web page since April is the consensus product of the February Work Group effort. It covers Florida species-specific issues and outlines the decision points to determine if the ecorisk process is warranted. As a guidance document, the objective is to keep it flexible to be able to handle site-specific details, the quality of habitat and other environmental conditions. Very few comments have been received, but one comment pertained to allometric scaling. EPA confirmed that allometric scaling isn’t really used any more so those in attendance agreed that the guidance should be revised to drop this discussion. All guidance documents are living documents and subject to clarification. This guidance is considered ready to remove DRAFT status.

Action item: Keith Tolson volunteered to prepare language to address ecorisk applicability for managed water systems considering existing rules for stormwater permitting as a separate document.

Agenda topic #2 – Leachability Guidance

Laurel Locket provided comments just before the meeting started that have been forwarded to everyone for review and consideration. These comments were discussed and include:

(1) striking “weight of evidence” because if you meet rule requirements “weight of evidence” is unnecessary,

(2) the University of Florida is evaluating EPA adopted leaching procedures as to applicability to specific wastes and reuse options. This guidance will not address these other methods as they are not presently included in Chapter 62-780, F.A.C., but once DEP has a chance to evaluate this information, a separate guidance may be developed. The Rule specifically allows Fate & Transport models, but is silent on alternative leaching analytical methods. A comment was also made that no Florida labs currently have the capability to achieve the needed method detection limits of 10 ug/l for SPLP of radionuclides and out-of-state labs must be utilized.

(3) impact of elevated background concentrations and circumstances for further work after establishing; if site releases increase concentrations above the established background concentration, further work will be needed for leachable soils and possibly groundwater impacts.

(4) IC to protect against potential movement of leachable soil to a location of greater potential harm (say from a site with a deep water table to one where the water table is close to the land surface); FP&L prefers the IC notice of the existence of contaminated soils to alert contractors who will be digging. Although direct exposure would be the immediate concern, good public policy requires that leaching be included as digging a ditch can change leaching behavior.

(5) purpose of DEP requirement for one year of groundwater monitoring if we require professional engineer certification of cap construction. Purpose is to verify that the constructed cap is effective and that no unknown additional contaminated media exists.

(6) soil collection and sample analysis for soils in the water table smear zone/below the water table if not specifically required by rule. Rule specifies vadose zone soil sampling only but leachable mass below the water table could be important. Discrete versus ISM sampling was also raised. DEP committed to discuss further internally.

Action items:

CMF comments regarding these new comments are due in 30 days (November 13, 2014).

DEP agreed to discuss internally the IC need for soil leaching, soil sampling within the smear zone/below the water table for leachable mass, and discrete versus ISM data.

Agenda topic #3 – Direct Exposure CTLs

The draft guidance document has not been revised since issuance and there has been no resolution on the issue of how deep to apply Direct Exposures (DE) CTLs. The CMF is requested to propose a depth value (2-15 feet) and how to address handling issues for soils excavated and left at the surface. “Is post excavation delineation needed?” is a related but separate issue. For risk assessment evaluations, how would you predict what volume of soil would be raised and left at the surface for a future unknown event? The CMF majority agreed that soil excavation for a pool or configuring yard topography did not necessarily include hauling the dirt off property and the soil could be reused onsite. The distinction for this guidance is to allow soil contamination below a specific depth to remain without a requirement for a restrictive covenant. Currently, the use of two feet of clean fill over contaminated soil includes a restrictive covenant. Should there be a difference between residential (between apartments and houses?) and commercial land uses? Discussion included the possibility of multiple tiers of ICs, 0-2’, 2-15’, and deeper, and using a deed notice rather than a deed restriction. The Florida Statutes specifies the use of controls for contaminated soils deeper than 2 feet to make sure people are aware the contaminated soils are present. There is the concern that any control/notice affects property value. This guidance pertains to DE alone and leachability will apply irrespective of depth.

Action item: The CMF is to provide comments with rationale on this guidance by October 31, 2014.

(Questionable Action item: Saranko suggested that someone tally what other states do, but no one volunteered….)

Agenda topic #4 – Probabilistic Risk Assessment

DEP has received two PRAs that are progressing faster than the CMF has been able to decide on a path for the issues. Consequently, DEP has made decisions/accepted proposals (did not want to set a precedent and want ability to change decisions) and wants the CMF input (should the Department change these decisions?) to develop a sound process. The two cases: a wood treater for uncertainty in dioxin bioavailability (triangular distribution less than 1.0 - tentatively 0.8 or 0.9) and arsenic at a golf course for differences in professional judgment in regard to exposure frequencies and data (soil ingestion rates - resample annually with 80% correlation, age at start of exposure - 1-6 distribution based on migration data).

Specific discussion topics:

1. [Forward vs backward calculation of Probabilistic Risk Assessment (PRA)](#_Forward_vs_backward) – CMF accepted process description as proposed in the 8/25/2014 Draft. DEP would accept a backward calculation, but needs some assurance that it is correct. To ensure the backward calculation is valid, a forward calculation should be run for comparison.
2. [PRAs based upon both variability and uncertainty distributions and 2D-PRA approaches](#_PRAs_based_upon) – The discussion focused on how to use uncertainty to modify an initial value. It was agreed that variability and uncertainty are two different concepts and should be addressed separately. Uncertainty can be addressed in a two-dimensional PRA or by substituting distributions with point values and running iterations to determine the range of uncertainty (“poor-man’s” two-dimensional PRA). It is unclear how uncertainty will be regulated by the DEP. An uncertainty percentile has not yet been chosen for regulation, but DEP stated it would be an upper percentile. A suggestion was made to use uncertainty in management decisions to justify higher cleanup numbers based on uncertainty in protectiveness. The discussion ended with a suggestion to use a sensitivity analysis to identify the parameter that drives the uncertainty.
3. [Distributions (uniform, triangular, etc.) based on professional judgment due to lack of available data](#_Distributions_(uniform,_triangular,) – DEP needs a justifiable basis for selecting a particular distribution.
4. [Distribution for toxicity values and toxic equivalency factors](#_Distribution_for_toxicity) – The language comes from EPA documents and use of distributions for toxicity values and TEFs is not recommended at this time. TEF distributions are not recommended for use in an uncertainty analysis. However, data surrounding the TEFs are adequate for a sensitivity analysis.
5. [Exposure start age and focus on protection of children for other exposure factors](#_Exposure_start_age)- There is scientific support for two options: children start age set to 1.0 for mutagenic compounds or use migration age data for children age 1-6. Children who have been living at the site since birth should be included in the migration distribution.
6. [Adjusting the soil ingestion distribution](#_Adjusting_the_soil) – Resampling the soil ingestion distribution was considered. The concern was that resampling could collapse the distribution around the mean. The distribution shouldn’t be resampled to the point where it is no longer a distribution. A summary of the exposure factors handbook was presented with soil ingestion based on three types of studies: biokinetic modeling (trace-element mass balance for children that should be used with caution as the values are back-calculated from the amount of lead kids ingested), activity-pattern (hand- to- mouth), and survey-response (are not reliable at all). Tracer element studies are best but still show a lot of variability in underlying assumptions such as very short periods to two weeks or use of a biased population. The best short-term studies and their extrapolation to a one-year term were then discussed. The exposure factors handbook does not discuss PRA. A subgroup will be created to develop a white paper on the soil ingestion rate distribution for PRA.
7. [Relative Bioavailability (literature-based variability distributions versus site-specific bioavailability studies)](#_Relative_Bioavailability_(literatur) – This discussion started with the current assumption of bioavailability set to “1” and considered lowering bioavailability as an estimate of uncertainty. Concerns for developing the uncertainty distribution that were mentioned include: the shape of the distribution (e.g. triangular with agreed upon values for each side), animal to animal differences, specific media sampled, professional judgment, and congener-specific uncertainties. A workgroup will be formed to review the data and recommend an uncertainty distribution.

Action item: The CMF is to collect data and prepare a White Paper with their recommendation on soil ingestion and bioavailability. Nicole Fortenbery will lead the soil ingestion task (This task may want to include exposure frequency with allocation between indoor and outdoor activities) and Teaf/Saranko will lead the bioavailability task. Brian Dougherty will send out a follow up email to include others not participating today.

Agenda topic #5 – IC Procedures Guidance

This document is a working copy with recent changes to clarify controls and cover alternative controls. Work on the DOT MOU and Ports MOU will affect future changes. The Department could use help on the DOT MOU issues. Groundwater delineated areas would serve as a control but will require revisions from both Waste and Water Divisions; this work is currently on hold.

Action item: The CMF is to provide comments on this guidance by November 26, 2014.