

Minutes for the October 24, 2017 Contaminated Media Forum

Conditional Closure Update

1. The institutional controls registry (ICR) database is undergoing redesign and redevelopment to track a greater level of detail. The Florida Department of Environmental Protection (FDEP) is asking the person responsible for site rehabilitation (PRSR) to submit shape files of restricted areas with conditional closure packages. The maps will be shared with the Southwest Florida Water Management District (SWFWMD) and integrated into well permitting software. FDEP is actively working to integrate these maps in other water management districts.
2. Miami-Dade Department of Environmental Resources Management (DERM) suggested sharing the maps with the Florida Department of Health (FDOH). FDOH is often involved in permitting wells. Miami-Dade also asked how wells are dealt with that have flow rate or diameter below those needing a permit. FDEP responded it assumes no meaningful consumption from these wells. Miami-Dade offered to share data regarding consumption from non-permitted wells.
3. Use of local ordinances continues to be challenging. Individual ordinances are variable and the language is different so they must be considered on an individual basis. A layered approach may be used, where more than just the ordinance may be required to prevent exposure.
 - a. Municipalities do not always have the legal authority to restrict the installation of groundwater wells. Local ordinances may not be able to withstand a legal challenge and residents may gain the right to install wells.
 - b. An ordinance that requires hook-up does not prevent installation and use of a groundwater well. Therefore, these ordinances are not usually sufficient to be the sole groundwater use restriction.
 - c. If groundwater wells were pre-existing before hook-up residents may not have to abandon their wells.
 - d. Homeowners' association (HOA) covenants could factor in. However, they could be changed without the consent and knowledge of the FDEP. If wells were subsequently allowed, residents could be exposed to contamination. An HOA covenant must say FDEP approval is required to allow installation of the well.
4. Some local ordinances are being built into the ICR map. It is not currently available. Water line information will also be added so distance from the water line can be estimated.
5. The Florida Department of Transportation (FDOT) has a memorandum of understanding (MOU) with FDEP for petroleum sites. FDEP is in negotiations for an MOU to cover other contaminants. However, FDOT does not appear interested in expanding the MOU.

Conditional Closure Considerations

6. Delineation must be completed to the lowest applicable cleanup target level (CTL). The full horizontal and vertical extent of contamination must be known in all media. Delineation is required because FDEP must know where the contamination is located.

7. Controls must be protective and durable. They should be protective of direct exposure to soil, especially in surface soil. Soil below 2 ft also needs to be addressed, but there is more flexibility. If there is a leachability issue, a non-permeable cap may be required.
8. Irrigation water screening levels are available. They are estimated in such a way that if groundwater concentrations are below these values, it is reasonable to assume no adverse effects will occur from use of the water for irrigation. If groundwater concentrations are above the screening levels, it does not mean there is a problem. Instead, it indicates a more site-specific assessment may be required.
9. Stormwater features can affect a groundwater contaminant plume and cause it to move when it was stable. Therefore, stormwater features should be evaluated before being installed so FDEP can ensure they will not affect the groundwater plume.
10. Generally, a site can't conditionally close with exceedances of surface water standards and/or sediment quality assessment guidelines (SQAGs). This is because surface water and sediment are driven by ecological risk and there is little that can be done in the way of controls for ecological risk. Alternative surface water standards are not usually an option. The criteria are promulgated as standards. Any change would require reclassification of the water body. SQAGs are consensus-based guidelines, not standards. If SQAGs are exceeded, bioassays can be performed to see if the sediments have a biological effect. Background values are also allowed as cleanup criteria.

Contaminated Site Discussion (site definition, background, large parcel)

11. The definition of a contaminated site is straightforward when there is an identifiable release, discharge, or point source. It is less clear for sites with long or diverse histories, former agricultural land (or other large tracts), and old landfills.
12. A Chapter 62-780, Florida Administrative Code (F.A.C.) site rehabilitation completion order (SRCO) is for the entire site and requires cleanup for the entire site when cleanup is needed. This can be difficult for re-use or re-development because a project may not include the entire site area. FDEP is looking at alternatives when cleanup does not include the entire site. The option currently available is called a voluntary cleanup completion order. It is similar to a SRCO, but is not for the whole site.
13. There is an updated definition for background in Section 376.301, Florida Statutes. The word "anthropogenic" was added to the definition of background. However, there is not really a change in application or interpretation.
14. It is not valid to state that a concentration is background without supporting data. Demonstration of background is required on a site-specific basis. It is difficult to demonstrate background concentrations using samples from the contaminated areas of a site. Samples must be taken outside the contaminant plume to determine what the background should be.
15. Regional background provides a range of contaminant concentrations and indicates what background concentrations are expected. However, these studies do not have the resolution to determine background on a site-specific basis. Even if there are regional background data, background must be demonstrated at a site-specific level. If site concentrations are consistent with regional background, samples would need to be taken off-property and show non-affected properties support the regional background number.

16. DERM stated urban or county background should not become state-wide background. It would not be appropriate to extrapolate the concentrations in some areas (e.g. urban or industrial areas) to the entire state. In essence, it could increase the risk in rural communities by leaving contamination above local background because the concentrations are background in industrialized areas of the state.
17. Screening of large parcels in strict accordance with Chapter 62-780, F.A.C. is seldom practical. It is possible to use incremental sampling methodology (ISM), but ISM is dependent on the decision unit. It is unclear which sampling method is appropriate to assess or screen a large parcel greater than 50 acres. FDEP wants to author a Large Parcel Screening guidance to make assessment more feasible. FDEP suggested it may be possible to use ISM as a prescreen and then subdivide the same parcel in smaller decision units for additional ISM or discrete sampling.

Cleanup of Legally Applied Pesticides

18. FDEP does not typically compel cleanup of farms and golf courses. The PRSR approaches FDEP and requests a SRCO under Chapter 62-780, F.A.C. to redevelop the land to residential or similar use. It is then suggested by the PRSR that FDEP can't enforce cleanup because the pesticide was legally applied.
19. There is a misunderstanding that responsible parties don't have to cleanup a pesticide-contaminated site pursuant to Chapter 62-780, F.A.C. There is no broad agricultural exemption under Florida law. There is a Federal law, but there is no such provision under Florida law and nothing that prevents Florida from being more stringent.
20. Historically, the FDEP takes the position that cleanup is on a case-by-case basis. The definition of discharge include misapplication. If it was misapplied it could cause a cleanup and PRSRs cannot claim legal application. Rinse/mixing areas are also not legal application, but are considered a discharge.

Discussion on 1,4-Dioxane

21. Environmental Resource Management (Mark Lafranconi) presented a discussion on 1,4-dioxane. The United States Environmental Protection Agency (USEPA) has designated 1,4-dioxane as likely to be carcinogenic to humans. USEPA found that 1,4-dioxane was not genotoxic. The available data were inadequate to establish a mode of action (MOA) and, therefore, USEPA could not conclude a threshold method is appropriate. A one in a million risk value was calculated for drinking water of 0.35 µg/L.
22. After 2013, the tissues from the National Toxicology Program (NTP) study used by USEPA were reassessed using modern pathological standards. The results were published in two papers by Michael Dourson. The papers explore the cytotoxicity of 1,4-dioxane. The presence of cytotoxicity is considered by Dourson as evidence of a threshold mechanism.
23. USEPA will be re-evaluating toxicity of 1,4-dioxane as part of the Toxic Substances Control Act (TSCA) process. However, it is unclear if toxicity values will be reassessed.
24. Richard Becker from the American Chemistry Council also gave a presentation on 1,4-dioxane induced rodent liver tumors. The presentation is based on a paper by Becker et al., 2017. The purpose of this paper is to create a numerical score that reflects scientific confidence in the proposed MOAs. The belief is that it will

- improve the way different hypothesized MOAs are compared to one another. Evolved Bradford Hill considerations are used to establish causation.
25. Mutagenic MOA and cytotoxic MOA are compared. There is low likelihood that a mutagenic MOA is active. There is a high likelihood there is a cytotoxic MOA.
 26. It was asked whether the department would entertain a white paper promoting 1,4-dioxane as a threshold carcinogen and allow the non-linear reference dose as the toxicity value. The department replied they would entertain the proposal, but Chapter 62-780, F.A.C. lists a hierarchy and order of preference for toxicity values. A white paper from the PRSR is third on the tier of preferences.

Site-Specific ACTLs

27. Chris Teaf (HSWMR) discussed site-specific alternative cleanup target levels (ACTLs). There are opportunities for site-specific cleanup levels using assumptions specific to your site. A PRSR can bring forward any site-specific parameter as long as it can be justified and the site can be restricted to use to those parameters. This helps produce relaxed criteria for sites with restrictions on use.
28. Keith Tolson (Geosyntec) asserted it is the PRSR that brings forward the site-specific factors to change in developing ACTLs. He asked whether updating one parameter triggers and update of all parameters. FDEP responded that if one non-site-specific updated value is chosen, all non-site-specific values should be updated. There have been cases where there is selective presentation on what values should be changed. If FDEP agrees to an ACTL, they want to be sure that they can support all the assumptions and state it is a better value. If it is a site-specific change, but no non-site-specific values are updated, then the default parameters may not need to be updated.
29. It is important to note that default parameters are consensus-based values with a high level of scrutiny and review. It is hard to take one study to overturn a body of data. FDEP has to evaluate if the proposed ACTL is adequately protective. They must include all knowledge they have to date.

Benzo(a)pyrene (BaP) and other PAHs

30. Chris Teaf stated benzo(a)pyrene (BaP) and other polycyclic aromatic hydrocarbons (PAHs) are relevant because of the changes in the toxicity value on the Integrated Risk Information System (IRIS). They are a driver at a number of sites. Dermal absorption of these values need to be updated. PAHs need coverage in the Chapter 62-777, F.A.C. discussions.

Additional remarks

31. DERM would like FDEP to move forward with Chapter 62-777, F.A.C. rulemaking. It has been over 10 years since the CTLs have been updated. Additionally, environmental and citizens groups should engage in any Chapter 62-777, F.A.C. discussions.