



Geotechnical
Environmental
Water Resources
Ecological

May 17, 2013

Via Email: Elizabeth.J.Callahan@State.MA.US

Ms. Elizabeth Callahan
Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup, 6th Floor
Boston, MA 02108

Dear Ms. Callahan:

**Re: Comments to Public Hearing Draft
Proposed Amendments to the MCP, 310 CMR 40.0000**

We are respectfully submitting the following comments on the draft proposed amendments to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). Our comments are organized by seven separate topics, similar to how the proposed amendments were presented.

Permit/Tier Classification & Numerical Ranking System

40.0510: Tier I Criteria

(2)(f)(3). Consider removing requirement to include a cost estimate in the Conceptual Phase II SOW since its purpose is unclear.

40.0520: Tier I Criteria

(2)(b). One of the four proposed criteria that will dictate whether a site is classified as Tier I at one year after notification is the existence of an open IRA requiring remedial action. There could be some compliance burdens in cases where IRAs are encountered at some point after one year, requiring classification as Tier I, but are then subsequently closed. This would result in sites alternating from Tier II sites to Tier I sites and back to Tier II sites again. This would result in additional administrative requirements beyond those already required to comply with IRA provisions (e.g., IRA Plan).

(2)(b). We recommend explicitly stating that "Assessment-only" IRAs [40.0414(1)] would not trigger Tier I status.

40.1403: Minimum Public Involvement

(6)(a,b). We recommend explicitly stating whether Legal Notice and public notice letters are required for Tier II sites.

Activity and Use Limitations

40.0020: Violations of a Permanent or Temporary Solution Statement

- (2). The provision that “any violation” of an AUL will result in the invalidation of the Permanent or Temporary Solution Statement is a vague and overly restrictive.

40.1074: AUL Requirements for Metes and Bounds

- (2)(a)(2,4). We recommend keeping the requirement to include the metes and bounds description of the Property and, if different, AUL area. This would allow the AUL to contain pertinent information within the document without having to find the deed.

40.1080: AUL Requirements if Change in Site Activity or Use

- (2)(d). If there is a change in site activities or uses, the 60-day deadline (within completion of response actions) is too short to prepare and record an amended AUL and/or prepare and submit a revised Permanent or Temporary Solution Statement. We recommend a deadline of 120 days.

Vapor Intrusion

Our comments regarding the vapor intrusion related amendments have been incorporated into comments that are being submitted by NAIOP.

Background/Historic Fill/Soil Management

40.0006: Definition of Historic Fill.

The current definition limits metals and/or SVOCs as contaminants that may be associated with historic fill. It is common to have residual levels of petroleum, pesticides/herbicides, or other contaminants associated with fill material that otherwise may not be considered a “release”. For example, the definition of anthropogenic background allows for petroleum residues attributable to normal operation of motor vehicles. If this petroleum-containing, anthropogenic background soil was excavated and used as fill at another location, it should still be within the definition of “historic fill”.

40.0006: Definition of Historic Fill.

The definition criteria of being contaminated prior to placement and not being a result of illegal disposal of waste material at the time of placement are typically very difficult to verify. The burden of proof for demonstrating historic fill is too high. Lack of this knowledge should not preclude identifying material as historic fill.

Burden of Proof for Identifying Extent of Anthropogenic Background and Historic Fill

MassDEP has suggested at Supervisory Advisory Committee meetings that the proposed anthropogenic background and historic fill definitions will allow for more professional judgment on identifying these conditions, and not necessarily require compliance with the existing MassDEP-derived background values in soil for “natural soil” and “soil containing fill material”. Presumably other lines of evidence, including conceptual site model considerations, will be the tools for identifying anthropogenic background and historic fill.

In the absence of generic background concentrations for comparison, will MassDEP be expecting site-specific background data from surrounding properties to support identification of anthropogenic background and historic fill? The various access and legal issues of sampling on adjacent properties to confirm anthropogenic background and historic fill will in many cases be unnecessary (based on other sufficient lines of evidence), impractical, and an ill-advised use of resources. In addition, based on the proposed definitions and regulatory changes, it does not appear that identifying extent for anthropogenic background and historic fill beyond a disposal site / property boundary will be required. One of the criteria for identifying anthropogenic background is simply "attributable to historic fill". So, if you have historic fill, by definition you also have anthropogenic background.

MassDEP should address implementation issues associated with the proposed definitions, perhaps via a workgroup or draft technical update, to identify what the Department is expecting in terms of burden of proof under the current and proposed regulations and guidance policies.

Closure/Response Action Outcomes

Change in RAO Terminology

The proposed amendments change the existing terminology "Response Action Outcome" to new terminology "Permanent Solution" and "Temporary Solution". This is an appropriate change that is more descriptive and promotes a more transparent and readily understandable process to the general public.

40.1012: Closure Conditions

- (3)(c)(1). One proposed "Condition" under a "Permanent Solution with Conditions" includes the recommendation of Best Management Practices for non-commercial gardening in a residential setting to minimize and control potential risk qualitatively evaluated pursuant to 310 CMR 40.0923(3)(c). This is an appropriate change to the MCP, and reflects the disparity between the existing calculation of risk for fruit/vegetable consumption associated with residential gardening (overly conservative plant uptake and consumption) and the likely de minimis risk due to low uptake of contaminants by plants and low consumption frequency/quantity. Further guidance will likely be necessary to understand what BMPs are appropriate.

Risk Assessment & MCP Standards

40.0983: Derivation of Additional Method 1 Groundwater Standards for Use in Method 2.

- (2)(a). Text should be edited to say oil and/or hazardous material associated with 20% of a Reference Dose. In addition, the non-cancer health risk equation should identify that the Hazard Quotient is set equal to 1.0 and that the RAF should represent water oral exposures.
- (2)(b). The cancer health risk equation should identify that the RAF should represent water oral exposures.
- (3)(a)(1). Text should identify this equation is based on non-cancer health risk. In addition, the RfC equation should incorporate a conversion factor in order to calculate an indoor air concentration in units of ug/m³.

40.0984: Derivation of Additional Method 1 Soil Standards for Use in Method 2

- (2). Equations should identify that RAFs represent soil oral and dermal exposures. In addition, equations should be consistent with Groundwater Standards equations with regard to including the HQ as a term in the equation.
- (3). Separate cancer risk equations should be provided for each of the soil categories. In addition, the cancer risk limit term in the equations for Groundwater and Soil Standards varies from "CRL" to "10-6" to "Risk" and should be consistent across equations.

Revisions to Method 1 Standards / Updated Toxicity Values

The revised 1,4-Dioxane GW-1 standard is based on an ORS Drinking Water Guideline; however, this standard requires SIMS analysis to detect levels of concern in water. MassDEP should provide additional guidance on when to look for 1,4-dioxane as part of a Site investigation because this compound can be ubiquitous in groundwater.

The produce consumption pathway has been eliminated from the S-1 soil standards. Revisions to the MCP amendments have included discussion of a qualitative assessment of the gardening pathway in order to determine risk from this exposure pathway. MassDEP should provide additional guidance on how to qualitatively evaluate this exposure pathway for purposes of closing out a site.

The revised lead soil standard is 200/300 mg/kg. The value of 200 mg/kg represents the 95th percentile natural background value; however, the derivation of the 300 mg/kg standard is unclear. It would be helpful if additional documentation were provided for the derivation of this soil standard. In addition, these soil standards are not consistent with USEPA's soil cleanup level of 400 mg/kg for a residential backyard, which is based on EPA's IEUBK model. Please provide additional documentation to support the use of a MassDEP derived soil standard instead of soil standards developed using USEPA's IEUBK model.

The proposed vanadium standards in soil and groundwater are significantly lower as a result of the use of a proposed RfD based on EPA's PPRTV for vanadium other than vanadium pentoxide. The current standard is based on an IRIS value developed for vanadium pentoxide. As a result, it may be critical for site investigations to determine what form of vanadium is present at a site. Therefore, it would be helpful if MassDEP provided additional technical guidance on vanadium analysis at sites. As a result of proposed lower risk-based concentrations for vanadium, the soil standard is based on natural background for vanadium and the groundwater standard is based on the PQL for vanadium. MassDEP does not currently identify a "fill" background value for vanadium; however, it will be important to review background data sets to identify whether a higher background value for vanadium is associated with fill material in light of the proposed lower standards for this compound. It should also be noted that USEPA's regional screening level (RSL) RfD for vanadium is not as conservative as MassDEP's proposed value. The USEPA RSL value is based on an adjusted vanadium pentoxide toxicity value.

The proposed thallium toxicity values are set equal to USEPA's screening level PPRTVs. These toxicity values are significantly more conservative than toxicity values previously used which have been withdrawn from IRIS. However, MassDEP acknowledges there is greater uncertainty surrounding these screening level provisional values. MassDEP should provide additional guidance for sites where thallium exposure indicates significant risk based on a highly uncertain screening level thallium toxicity value. Screening level toxicity values such as these are helpful

to show that a compound is not associated with significant risk however where thallium is associated with significant risk response actions will be required based on this highly uncertain screening level toxicity value.

NAPL and Source Control

40.1003: Source Elimination or Control

- (5)(c)(4) One of the proposed criteria for achieving a Permanent or Temporary Solution is “the absence of any DNAPL constituent concentration greater than 1% of its solubility limit”. This provision is not appropriate. Does it apply to soil or groundwater or both? Does it only apply if DNAPL has been observed? This provision has the potential to categorize any DNAPL site as “uncontrolled” since it is not likely that DNAPL would be present without also having a 1% solubility exceedance.

Use of the threshold 1% of solubility appears to be somewhat arbitrary and is not practical. In some cases, this threshold is less than MCP cleanup standards for groundwater. For example, 1% of naphthalene’s solubility is 320 ug/L whereas as the MCP GW-2 and GW-3 standards for naphthalene are 1,000 and 20,000 ug/L, respectively. Consequently, naphthalene at a concentration of 320 ug/L would indicate the presence of a source requiring remedy even though this concentration is much less than cleanup standards protective of indoor air and ambient surface water.

40.1012: Sites Where an AUL is Required

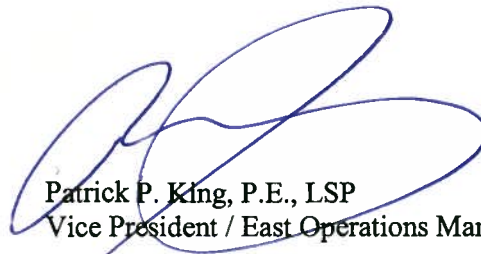
- (2)(d) One of the proposed criteria for which an AUL is required is “at any disposal site for which a Permanent Solution is achieved and Stable LNAPL is present.” This provision needs clarification. LNAPL is defined without a reference to any thickness so it would appear that this provision would require the use of an AUL on sites where even just a sheen of LNAPL is observed in the subsurface. This seems overly restrictive.

Thank you for the opportunity to submit comments on the draft proposed amendments to the MCP.

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