



AMERICAN COUNCIL OF ENGINEERING COMPANIES  
*of Maine*

Mr. George Seel  
Director, Division of Technical Services  
Bureau of Remediation and Waste Management  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017

RE: ACEC Comments on “Remediation Guidelines for Petroleum Contaminated Sites in Maine”

The Maine Chapter of American Council of Engineering Companies (ACEC) members of the Maine Department of Environmental Protection Task Force (DEP Task Force) reviewed the DRAFT “Remediation Guidelines for Petroleum Contaminated Sites in Maine” published for public comment dated August 14, 2009. The following presents a summary of our comments.

1. **General Comment.** While the remediation goals and approach to cleanup are well written and clearly presented, one inconsistency is that it is not clear if this document is written from the perspective of a site owner with a release or from Maine DEP staff handling sites. We feel it should be written from the site owner’s perspective and clearly define what an owner should do when they encounter a release and what the Departments response and requirements would be. For example, in a release of less than 300 gallons of fuel oil from a home heating oil tank (Section 3), we would think the first item would be to make sure they notify the DEP of the release and then remove oil saturated soils. Or once remediation is completed, a report should be submitted to the DEP documenting the limits of excavation, sample results, amount removed, etc. These types of inconsistencies are prevalent throughout this guideline.
2. **Page 5, Section 1.2.3.** These guidelines are not applicable to hazardous substances commingled with oil contamination. However, the Maine’s Remedial Action Guidelines (RAGs) do not provide hydrocarbon fractions for soil cleanup levels. Therefore, it may be helpful to either provide hydrocarbon fractions in the RAGs or clarify in this document that hydrocarbon fraction remediation guidelines presented therein should be used in conjunction with the procedures and guidelines presented in the RAGs at commingled sites.
3. **Page 6, Section 3.** This section applies to home heating oil releases less than 300 gallons. Should this section be applicable to all surface releases? What about the case of greater than 300 gallon surface releases or releases from commercial sites? This is not addressed in the guidance. What about the case of releases to the subsurface environment through leaking underground storage tanks or underground injection wells? These cases should be addressed in the guidance document (or Section 3 should be removed from the guidance).
4. **Page 6, Section 3.2.2.** It would be helpful to provide more guidance on what is meant by “field headspace results start to decline significantly” in determining limits of excavation. This term is ambiguous and should be further clarified.
5. **Page 7, Section 3.2.4.2.** Should this section be applicable to all sites within 1,000 feet of a Public Drinking Water Supply Well?
6. **Page 7, Section 4.** Maine Law (38 M.R.S.A. Section 470) requires that all groundwater be classified as no less than Class GW-A except as reclassified by the Maine Legislature. While we

are not experts in this law, it appears that this section may be in conflict with Maine Law. Additional guidance needs to be provided as to the legislative implications of this section. We feel it would be helpful to add additional language (or a separate section) as to applicability of releases that fall outside of the applicability of this section (i.e., releases in urban areas with public water supply).

7. **Page 8, Section 4.2** – Additional guidance needs to be provided on what to do when sites meet these exceptions (i.e., deed restriction). In addition, the DEP should provide a link to a map of non-attainment areas within Maine.
8. **Page 9, Section 4.3.2.3, Footnote 4** - This footnote may be interpreted to relieve responsible parties from monitoring requirements when Point of Use Treatment systems are employed. The monitoring of private wells impacted by oil discharges should be continued to document the efficacy of cleanup efforts and determine when Point of Use Treatment may be discontinued. In addition, additional guidance should be provided to determine when to sample groundwater for arsenic as referenced in Section 9.9 on Page 23.
9. **Page 10, Section 4.3.2.5** - It is not clear if the Department is requiring monthly sampling under this section. If so, this seems to present an undue financial obligation for the majority of sites. Unless an imminent hazard is identified, quarterly sampling is appropriate. Furthermore, it seems excessive to suggest monitoring of groundwater for an additional 12-month period after the site is determined to meet action levels during the initial 12-month study period. In this circumstance, a responsible party could potentially be expected to conduct groundwater monitoring over a 24-month period for a site that may never exhibit concentrations in excess of action levels following the completion of remediation activities. It is our recommendation that sites be sampled quarterly for four consecutive quarters following the identification of groundwater concentrations which exceed the applicable action levels. If concentrations do not exceed the applicable action levels, monitoring may be discontinued and remediation may be considered to be complete. On a case-by-case basis, additional groundwater monitoring may be recommended. However, sites with no quantifiable concentrations in samples collected during the initial 12-month quarterly sampling program should be considered to be categorically remediated and no further sampling should be required.
10. **Page 14, Table 2** – Using scientific notation can be confusing to the general public. The DEP should consider using standard notation for all its tables in this document.
11. **Page 15, Section 5** – This section should clarify what exposure scenarios this section evaluates.
12. **Page 15, Section 5.1.1.1** - Guidance should be provided on how to classify residential exposure in urban areas. In addition, consideration should be given to the fact that though these areas may be paved currently, there is no covenant requiring the maintenance of this pavement and that these areas may be unpaved in the future.
13. **Page 15, Section 5.1.1.3** – This section applies only to outdoor commercial workers. To be consistent with the Maine DEP RAGs, this category should apply to all commercial workers.
14. **Page 18, Table 3** – The values presented for PAHs are very conservative. For example, the background concentration of benzo(a)pyrene documented in urban soil is 10X the action level specified in Table 3 ([metaenv.com/files/bkgd\\_pah\\_paper\\_v1.pdf](http://metaenv.com/files/bkgd_pah_paper_v1.pdf)). Massachusetts DEP identified benzo(a) pyrene in “natural soil” at 2 mg/kg which is approximately 100X the action level presented in Table 3. (<http://www.mass.gov/dep/cleanup/laws/backtu.pdf>). Switching over to the Massachusetts EPH/VPH analytical methodology may cause significant regulatory issues, particularly for sites in urban areas, which may hinder the completion of remediation efforts. Either the MERAG PAH guidance should be revised to be consistent with analogous state-level

regulatory levels or provisions must be made to categorically exclude those soils which have been impacted by non carbon fraction range EPH-related sources. For example, sites impacted by runoff from active roadways or soil sample matrices containing degraded asphalt, coal, coal ash or wood ash.

15. **Page 18, Table 3** – As noted above, the PAH values for the construction worker scenario are substantially lower than the PAHs values for the residential scenario for some constituents, notably light-end non-carcinogenic PAHs. This is presumably due to the combination of low VF and use of the RfC for naphthalene as a surrogate toxicity value. However, it is not realistic that vapor inhalation is the most substantial (i.e., risk-driving) exposure pathway for SVOCs. We recommend that DEP re-evaluate the parameters that were used in the modeling and the toxicity values to determine if uncertainty in the derived values can be reduced.
16. **Page 18, Table 3** – While compounds are similar, these results seem inconsistent with the Maine DEP RAGs for hazardous materials. While the scenarios seem to be the same, the cleanup levels (while similar) are not the same. It would be helpful for there to be consistency between these guidelines and the Maine RAGs.
17. **Page 19, Section 6** – This section should include additional background to introduce this section and provide information as to when this section is applicable to petroleum releases.
18. **Page 20, Section 8.1** – This section should define what DEP considers residual contamination as well as put in definitions section. It should also require a deed restriction be placed on a property that has contamination in exceedance of the cleanup standards for any of the use scenarios.
19. **Page 20, Section 8.1** These guidelines should be, to some degree, consistent with those presented in Section 4.3.2.5, especially for the sampling of private drinking water supply wells. In addition, the sampling frequency for the recommended two rounds should be defined, i.e. quarterly, semi-annually etc... Furthermore, if it is the intent of the Department to recommend two quarterly groundwater sampling rounds, we feel that this study period is not adequate to define site conditions which may be subject to seasonal variation. We suggest at least three quarterly rounds if no quantifiable concentrations are identified or four consecutive quarterly rounds when no concentrations are identified in excess of the applicable action levels in order to determine if residual concentrations may remain at the site.
20. **Page 21, Section 9.3** Lead analysis is not included in the EPH/VPH methodology. It should be made clear that analysis for lead is outside of the EPH/VPH reporting set, that this analysis must be requested separately, and that lead analysis is only appropriate for gasoline releases prior to 1975, unknown releases, or waste oil releases.
21. **Page 22, Table 5** Consistent with guidance presented by the Massachusetts DEP (<http://www.mass.gov/dep/cleanup/laws/02-411.pdf>) it is only necessary to sample gasoline, fresh No. 2 fuel oil, fresh diesel, fresh jet fuel (JP-4 and JP-8 only), waste, or unknown oils for VPH. Contaminants driving the action levels for all other petroleum products and the weathered versions of many of those listed above will be in the extractable range and requiring the additional VPH analyses represents an undue financial obligation.
22. **Page 23, Section 10** – DEP should consider moving this section to the front of the document.

23. **Appendix B, Section IV** References and tables need to be updated.

I hope these comments are helpful. If you have any questions or would like clarifications on any of these comments, please contact me at [rpatten@crederellc.com](mailto:rpatten@crederellc.com) or at (207) 828-1272 X 35.

Sincerely,

A handwritten signature in blue ink that reads "Rip Patten". The signature is written in a cursive style and is positioned above the typed name.

Rip Patten, P.E.  
ACEC of Maine

C:\Documents and Settings\rpatten\My Documents\ACEC\FINAL ACEC Comments on Petroleum Cleanup Guidelines 9-23-09.doc