50 Hampshire Street
Cambridge, Massachusetts 02139
tel: 617 452-6000
fax: 617 452-8000

May 17, 2013

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

Subject: Comments to Proposed Regulatory Reforms
310 CMR 40.0000, The Massachusetts Contingency Plan

Dear Ms. Callahan:

Here presented are comments provided by CDM Smith Inc. relative to proposed regulatory reforms to 310 CMR 40.0000, the Massachusetts Contingency Plan. Comments are organized according to selected major topic areas within which proposed reforms were released.

## Vapor Intrusion and New Site Closure Provisions

***Condition of Substantial Release Migration***

Proposed amendments at 40.0313(5) include 72-hour notification criteria for conditions that have resulted or are likely to have resulted in the discharge of vapors into a School, Daycare or Child Care Center, or occupied Residential Dwelling. These conditions are taken directly from Figure 1-1 of the Interim Final Vapor Intrusion Guidance, WSC-11-435 (guidance). However, these criteria as presented in the guidance are intended to identify the need for further evaluation to determine the likelihood of potential vapor intrusion. They do not trigger notification obligations. According to the guidance, it is only after interpreting lines of evidence at Table 2-2 that the likelihood of the vapor intrusion pathway can be determined, and with it, notification obligations according to a Condition of Substantial Release Migration (SRM). By broadening notification criteria beyond those of the guidance, proposed regulations increase the likelihood for falsely reporting a SRM, initiating an Immediate Response Action, and assigning Tier I status for an unproven exposure pathway. It is recommended that the proposed amendments at 40.0313(5) be revised to reflect the rationale posed by interpreting lines of evidence as presented in the guidance.

***Condition of Substantial Release Migration***

Current and proposed definitions of a Condition of Substantial Release Migration provide that an SRM, of and by itself, is not a reporting condition. Related criteria only define an SRM and/or

obligate notification if they are associated with some other reportable condition. During Q&A in a recent training session, MassDEP stated that this provision, in the case of vapor intrusion, is in consideration of the uncertainty assigned to the provenance of indoor air impacts, presumably designed to limit false reporting at sites with limited contamination. However, by its nature, uncertainty regarding the vapor intrusion pathway is typical of many sites, regardless of contamination levels. MassDEP should further evaluate the intention of this exemption to an SRM for vapor intrusion, as it leaves open the possibility that sensitive use buildings could be impacted with no obligation for reporting. This condition is contrary to the seriousness assigned to this pathway by substantial vapor intrusion guidance and related regulatory reform. Furthermore, how practical is this provision? If an LSP assembled lines of evidence indicative of potential vapor intrusion to sensitive receptors, would he feel justified in informing a responsible party that he did not need to notify MassDEP by virtue of one such reporting technicality? And would MassDEP, in practice, accept that justification?

***Permits for Active Exposure Pathway Elimination Measures***

The proposed creation of a new permit process at Subpart G (40.0750) contradicts MassDEP's stated concern for streamlining the MCP in the interest of deploying staff toward their best use. Toward this objective, proposed amendments eliminate the Tier I permit process, but conversely introduce new permit requirements for performance of an Active Exposure Pathway Elimination Measure (measure) in support of a Permanent or Temporary Solution. It is noted that before a measure can support a Permanent or Temporary Solution, it must be first designed, installed, and operated as either an Immediate Response Action or a Comprehensive Response Action. The measure is therefore subject to MCP requirements prior to further operation in support of closure and the proposed permit application process. Requiring a permit for continued operation under these circumstances is of questionable usefulness and unnecessarily burdens rather than streamlines response actions. As MassDEP has provided in support of the elimination of Tier I permits, MassDEP may oversee response actions at any time. Creating a permit increases administrative time and cost without necessarily enhancing oversight.

***Discontinuing Operation of Active Exposure Pathway Elimination Measures***

As defined, an Active Exposure Pathway Elimination Measure (measure) eliminates or reduces exposure, but unlike a Remedial System, it does not remove oil or hazardous material from the environment. Given these criteria, the proposed amendment at 40.0720(1)(c), and by association at 40.0720(2)(c), requiring an evaluation of the feasibility of achieving or approaching background before discontinuing operation of a measure is unnecessary and inconsistent with the intent of the measure as defined. As the measure only addresses exposure and not contaminant mass, its operation would not affect contaminant concentrations or the potential to achieve or approach background. Requiring an evaluation of the measure's effect on background, where it has no ability to achieve or approach background, is misdirected and should be eliminated from the proposed amendments. It should be noted that evaluation of achieving or approaching background is

already required as a prerequisite to a Permanent Solution (40.1056(2)(d) as amended), and controlling or eliminating a pathway to exposure subsequent to that evaluation will not alter its results. For Temporary Solutions, the inability to achieve or approach background is already determined and will not be altered by evaluation in the aftermath of measure performance.

***Discontinuing Operation of Active Exposure Pathway Elimination Measures***

Documentation requirements in support of the condition that an Active Exposure Pathway Elimination Measure is no longer required (40.0720(2) as proposed) provide criteria in support of a Permanent Solution but do not address a Temporary Solution. However, language elsewhere at 40.0720 indicates that these requirements are intended to address both. Requirements at 40.0720(2) should be revised, or a new citation added, to accommodate the different needs for filing in support of a Temporary Solution.

***Transition Provisions***

Transition provisions at 40.1055, as amended, should be modified to include the Class C-2 Response Action Outcome category. Amendments should provide that based on the current state of response actions, RAO C-2 sites should be transitioned into Phase IV, Phase V, or Phase V/ROS with a timetable for achieving a Permanent Solution.

## Nonaqueous Phase Liquid and Source Control

***Source Elimination or Control***

Control of the Source of OHM Contamination (40.1003(5)(c), as proposed) should not be established through a regulatory definition tied to the presence of groundwater DNAPL concentrations above 1% of solubility. At best, the 1% solubility threshold should be considered no more than a "rule of thumb" rather than a true performance standard. The presence of DNAPL concentrations above 1% of the solubility limit alone does not necessarily indicate the presence of an uncontrolled DNAPL source area. Nor is the absence of groundwater concentrations above 1% of solubility an indication that a DNAPL source area is not present. Given that DNAPL concentrations in groundwater often naturally attenuate, and given the notoriously difficult task of locating and delineating DNAPL source areas, singling out a groundwater concentration threshold to define the presence of an uncontrolled groundwater source area has questionable merit. Instead, the concentrations of DNAPL constituents in groundwater should be just one element in a line of evidence approach to determining whether a DNAPL source area is present and whether a Permanent or Temporary Solution is appropriate. Additional considerations used in developing the Conceptual Site Model and evaluating the potential presence of DNAPL source areas include site history, chemical concentrations in soil and soil vapor, the nature and extent of the groundwater plume, and the distribution of contaminant concentrations throughout the site.

***Source Elimination or Control***

If DNAPL concentrations above a solubility limit are incorporated into the MCP as a performance standard, will MassDEP publish the solubility limits that should be used for this calculation? Several credible sources of published physical property data show TCE solubility values ranging between 1,000 mg/L and 1,280 mg/L. Because this criterion alone could determine whether a site can be assigned a Permanent or Temporary Solution, there should be no ambiguity in the basis for the calculation.

***Source Elimination or Control***

How is the term "DNAPL constituent concentrations" to be interpreted? For example, cis-1,2-DCE is a breakdown product of TCE, and unlikely to be a constituent of any free-phase DNAPL source area. Therefore, the presence of cis-1,2-DCE concentrations above 1% of the cis-1,2-DCE solubility limit (corresponding to a groundwater concentration of approximately 35,000 ug/L) would not represent an exceedance of the proposed uncontrolled source area performance standard.

***Source Elimination or Control***

What constitutes the presence of a groundwater concentration above 1% of the solubility threshold? Must it be in a monitoring well? Once detected, how many sample rounds would be necessary to demonstrate the exceedance is no longer present? Would an exceedance of 1% of the solubility limit in groundwater collected as a grab sample during a direct push investigation trigger the determination that an uncontrolled groundwater source area was present? Grab samples from very short screen samplers would be more likely to exaggerate the presence of a significant source area, and including data from this method to establish whether an uncontrolled source area is present would create a significant dis-incentive to utilizing a useful site characterization tool.

## Risk Assessment and MCP Standards

***Method 1 GW-2 Standard for PCE***

The U.S. EPA has developed a unit risk factor of 2.6E-7 m^3/ug for tetrachloroethene (PCE) and published this value in February 21012 in its Integrated Risk Information System database, which regulatory authorities (including MassDEP) consider to be the "gold standard" source of chemical toxicity values. MassDEP should revise its Method 1 GW-2 Standard for PCE to reflect this value, which is based on considerable review and analysis on the part of the U.S. EPA scientists, as well as peer review by the National Research Council.

***Environmental Justice Issue***

MassDEP is proposing to reduce the Method 1 Standard for lead to 200 mg/kg while making Historic Fill, which typically has elevated concentrations of lead, exempt from MCP regulations. In essence, the regulations will require that people living outside of urban areas be exposed only to low, health-protective concentrations of contaminants such as lead in soil, while those living in urban areas may be exposed to unlimited concentrations of chemicals in Historic Fill. Some limit on

allowable concentrations, such as UCLs, should be in place to avoid an environmental injustice issue for those people living in urban environments.

We appreciate the opportunity to comment on these important reforms.

cc: Licensed Site Professional Association