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

Subject:
Public Hearing Draft
Proposed Amendments to the Massachusetts Contingency Plan, 310 CMR 40.0000

Date:
May 15, 2013

Contact:
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Dear Ms. Callahan:

I would like to comment regarding one of the proposed modifications to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), as proposed by MassDEP in the February 28, 2013 Public Hearing Draft. The subject modification is included at 310 CMR 40.1003(5)(c)4. Specifically, as proposed, §40.1003(5) would require elimination or control of all sources of OHM to achieve a Permanent or Temporary Solution. §40.1003(5)(c)4 further proposes that "control" of OHM sources would require "the absence of any DNAPL constituent concentration greater than 1 percent of its solubility limit." My specific comments regarding this proposed modification are summarized below:

- This provision would seem to contradict the provision at §40.1003(5)(c)2 and the "Note to Reviewers" on the top of Page 168 of the redline-strikeout version of the proposed MCP modifications posted on the MassDEP web site. Those provisions suggest that site closure is possible, even with the presence of "Stable NAPL." A site with Stable NAPL is likely to have a zone of groundwater – even if only a very small zone surrounding the residual or immobile DNAPL – where groundwater exceeds 1 percent of the solubility for DNAPL constituents. If the intent is to allow site closure with the presence of DNAPL (provided it meets the proposed definition of "Stable NAPL"), it must be understood that dissolved concentrations of DNAPL constituents in groundwater may exceed 1 percent of their solubility limits in certain areas.

- The presence of dissolved phase concentrations of solvents at greater than 1 percent of their solubility limit is a potential indicator of the presence of NAPL. As an LSP, I have investigated sites where concentrations of chlorinated compounds exceeded 1 percent of their solubility limit in groundwater, but further investigations

failed to confirm the actual presence of NAPL, even after an extensive program of soil borings, rock coring, SUDAN IV testing, well gauging, and PID screening. Such sites are eligible for closure under the current regulations (provided other requirements are met), but seemingly would not be eligible under the proposed modifications. Related to the comment above, it also seems inappropriate to preclude closure if groundwater concentrations exceed 1 percent solubility when closure is otherwise permitted even when NAPL is present (not just "could be" present).

- In discussing this issue at a recent presentation to the LSP community, I understand that the basis for this proposed modification is concern over the potential for future vapor intrusion issues in cases where chlorinated solvents may be left on site given the proposed elimination of the ½-inch Upper Concentration Limit for NAPL. In that case, I don't think the proposed limitation on dissolved concentrations adequately reflects the other types of NAPL that exist at sites, notably coal tars, creosote, and similar products whose properties may be very different from chlorinated solvents.

- Some DNAPLs (e.g., coal tar) are complex mixtures of various constituents, and it can be very difficult to determine all of the associated chemicals in order that each be compared to its individual solubility limit. This is related to the prior comment, and further suggests that MassDEP may not have considered all types of DNAPL that may exist and the feasibility of implementing this provision for all DNAPL types.

My suggestions for addressing this proposed modification, in order of preference, are:

1. Eliminate the proposed language at 310 CMR 40.1003(5)(c)4 altogether, as it seemingly conflicts with the stated intent of other provisions.

2. If retained, establish provisions whereby the presence of DNAPL constituent concentrations greater than 1 percent solubility could trigger further assessment or rationale to refute whatever technical concern triggered MassDEP's basis for proposing this criterion. In this case, the nature of MassDEP's concern(s) would need to be specifically stated in order that they be refuted with technical justification.

Thank you for considering my comments. Please feel free to contact me with any questions.

Sincerely,

ARCADIS U.S., Inc.

Jeffrey S. Holden
Principal Engineer