

Environmental Alert

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Massachusetts DEP Issues New Draft Vapor Intrusion Guidance for Public Comment

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The Massachusetts Department of Environmental Protection (MassDEP) released, on December 14, 2010, a newly-revised draft Vapor Intrusion Guidance document, seeking public review and comment by March 1, 2011. The draft Guidance, including [main text](#) and [appendices](#), is posted on MassDEP's Indoor Air Guidance Project Blog.¹

MassDEP's stated goal is to provide "recommendations and expectations" for approaches to vapor intrusion assessment and mitigation that would achieve compliance with the regulatory requirements of the Massachusetts Contingency Plan (MCP).² The draft Guidance is intended to outline MassDEP's view of best practices that would afford presumptive certainty of compliance with the MCP.

Recent Massachusetts Policy Development Regarding Vapor Intrusion

Vapor intrusion refers to the movement of volatile (rapidly evaporating) hazardous substances (such as gasoline or solvents) from soil and groundwater into indoor air. Based on a concern that such vapors might migrate in unpredictable ways and pose public health risks, Massachusetts regulators, like those in many other states, have in recent years focused increased attention on potential vapor intrusion impacts.

The new draft Guidance is a continuation of MassDEP's activities in this arena. The agency has already significantly lowered regulatory groundwater cleanup (GW-2) standards for chlorinated solvents (2006), has published draft Indoor Air Threshold Values (2008), has reopened and audited approximately 100 previously-closed sites affected by revised GW-2 standards (2008-2009), and has convened an Indoor Air Workgroup to provide stakeholder input toward development of updated, more comprehensive agency guidance (2009). An initial guidance draft was circulated in July 2009.

Issues of Concern to the Regulated Community

For nearly two decades, the Massachusetts cleanup program has allowed regulatory closure of properties where residual levels of contamination in soil and groundwater are determined by Licensed Site Professionals (LSPs) to pose no significant risk to public health or the environment. The privatized MCP program has provided relative clarity and certainty to property owners and developers and has supported state policy promoting beneficial redevelopment of brownfields. However, the recent Massachusetts vapor intrusion policy initiatives have generated significant concern and comment on the part of the regulated community about whether these objectives will continue to be achieved at potential vapor intrusion sites.

MassDEP's evolving approach calls for indoor air sampling at most potential or documented vapor intrusion sites and for "active" sub-slab depressurization (SSD) systems (which use a fan or blower to create negative pressure under a building) as the mitigation measure of choice. Open-ended indoor air sampling and active remediation systems create considerable uncertainty for property owners and users and are normally inconsistent with MCP requirements for permanent regulatory closure. The reopening of previously-closed sites to require additional assessment and remediation, MassDEP's increasingly conservative assumptions about vapor intrusion, inconsistencies in implementation of emerging policies, and the absence of finalized guidance, have all contributed to stakeholder concerns. Key issues remained substantially unresolved in the July 2009 guidance draft.

New Proposals in Current Draft Guidance

MassDEP's December 2010 draft Guidance provides additional detail, and several new proposals, including the following:

Site Screening

The draft Guidance reiterates MassDEP's position that modeling based on subsurface (groundwater, soil, or soil gas) contaminant levels is not predictive of indoor air concentrations and should not be used for site screening or assessment. The current draft presents additional commercial/industrial indoor air threshold values³ (previously the agency provided only residential threshold values) to aid assessment of indoor air sampling results. The draft also describes in concept the establishment of new risk-based screening criteria for sub-slab soil gas results (the actual soil gas screening values are at present reserved.)⁴

Site Closure after Critical Exposure Pathway Mitigation

The MCP provides that any detectable, potentially site-related indoor air chemicals affecting Critical Exposure Pathways (CEPs), defined as occupied residences, schools, and daycare centers, must be eliminated or mitigated on an expedited basis while comprehensive site investigation is in process. Such mitigation usually takes the form of an active SSD system. MassDEP has suggested that continued operation of such an SSD system might be required, thereby precluding permanent site closure even after a completed site assessment establishes absence of significant risk. The current draft Guidance includes a new section discussing potential site closure processes⁵ which continues to indicate, however, with respect to CEPs, that an active SSD system installed to address a CEP may be turned off only if "a feasibility evaluation has concluded that further operation of a SSD system is infeasible".⁶

Future Buildings

Because MassDEP does not accept modeling as a predictive tool, there is no way to address the potential for vapor intrusion in future construction. MassDEP has proposed an engineering approach to protect future buildings from vapor intrusion as a condition of a permanent solution Response Action Outcome (RAO) for currently undeveloped properties.

Sites with volatile organic compound (VOC) groundwater contamination above GW-2 standards would, at the time of RAO filing, adopt an Activity and Use Limitation (AUL) requiring that future buildings install and operate a vapor barrier and active SSD system meeting certain performance standards (yet to be determined).⁷ The current draft Guidance newly defines, as 10 times the GW-2 standard, the site groundwater hazardous material concentration below which such an active SSD system would be operated with no confirmatory indoor air sampling (with an option to discontinue operation after post-construction sampling), and above which the active SSD system would be required to be operated while indoor air is sampled for two years after construction. A new appendix⁸ in the current draft Guidance extensively describes the provisions that would be required in such an AUL. The AUL would be recorded at the time of RAO but would need to be amended after construction to document as-built

information.

Next Steps in Guidance Development Process

MassDEP has requested public comment on the current draft by March 1, 2011 and has indicated it plans to hold a meeting after that to discuss submitted comments. Mintz Levin's environmental attorneys will continue to participate actively in these processes, and stand ready to assist you in determining the potential implications of emerging Massachusetts vapor intrusion policy for your properties or transactions.

Endnotes

- 1 <http://indoorairproject.wordpress.com>
- 2 310 CMR 40.0000 et seq., MassDEP regulations implementing the Massachusetts Superfund Law, M.G.L. c. 21E
- 3 Draft Guidance, p. 13 and Appendix I
- 4 Draft Guidance, p. 14 and Appendix II (Reserved)
- 5 Draft Guidance, Sections 4.5 and 4.6, pp. 59-70
- 6 Draft Guidance, pp. 67 and 70
- 7 Draft Guidance, pp. 72-74. Alternatively, the AUL could limit building construction to areas upgradient of the groundwater contamination, or to buildings designed with an open first level, Draft Guidance p. 75.
- 8 Draft Guidance, Appendix VIII

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Marilyn Newman, an environmental attorney in Mintz Levin's Boston office, has been actively participating in MassDEP's Indoor Air Workgroup. Jeff Porter, who leads Mintz Levin's Environmental Section, has also been actively involved in MassDEP's vapor intrusion deliberations through his service as a member of MassDEP's Waste Site Cleanup Advisory Committee representing Associated Industries of Massachusetts.

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