



Department of Environmental Protection

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MassDEP Bureau of Waste Site Cleanup's Plan for Evaluating Potential Imminent Hazards from Trichloroethylene (TCE) Vapor Intrusion at Closed Sites April, 2016

The Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup (BWSC) is screening nearly 1,000 closed sites with known trichloroethylene contamination to determine at which sites TCE has the potential to pose an Imminent Hazard based on the current understanding of health risks, even if a site was previously closed properly under earlier standards¹. Based on initial screening, MassDEP estimates that further follow-up may be indicated for approximately 200 sites and that this work will continue through 2016.

Changes in TCE Risk-Based Levels Prompting Closed Site Review

New information about the potential toxicity of TCE has resulted in MassDEP developing more stringent screening levels for TCE in indoor air and groundwater.

	Levels of Concern Prior to 2011 Revision	Current Levels of Concern
Indoor Air (residential)	85 µg/m ³	6 µg/m ³
Groundwater (near residence)	300 µg/L pre-2006 50 µg/L post-2006	5 µg/L
Health Effect of Concern	Longer-term cancer risk	Short-term developmental effect

¹ A 2011 revision to the US EPA toxicity information for trichloroethylene (TCE) was based, in part, on potential fetal developmental effects following even a short-term exposure. The evaluation of exposures and effects of this nature for TCE had not previously been part of the standard assessment of 21E disposal sites. This new information has sparked a nation-wide discussion of whether the cleanups of previously closed sites with TCE are sufficiently protective. In Massachusetts, the Department of Environmental Protection is implementing a strategy, developed with the support of the Waste Site Cleanup Advisory Committee, to systematically review past closures and, where necessary, work with site stakeholders to identify and eliminate any ongoing Imminent Hazards. M.G.L. Chapter 21E requires MassDEP, when "significant evidence exists at any time of an imminent hazard," to "immediately ensure" that "action is taken to control the potential for health damage, human exposure, safety hazards and environmental harm." G.L. c. 21E, § 3A(e).









MassDEP is implementing this review as a technical assistance effort with the primary goal to identify and mitigate ongoing exposures of concern, focused on the particular risks of TCE and the vapor intrusion pathway. MassDEP does not intend to perform audits of previous Permanent Solution Statements as part of the process of identifying and abating TCE vapor intrusion, with the possible exception of cases where a lack of cooperation by property owners or causally responsible parties requires that MassDEP must evaluate all site information, including past filings. In any event, MassDEP will deal with human health risk first and audits or enforcement only where/when necessary.

Once MassDEP completes a more detailed review of site information in the files, MassDEP will:

1. Prioritize the sites and initiate follow-up work at a pace that will allow for sufficient case-specific technical assistance while addressing the site posing the greatest potential risk first.
2. Contact the owner of each site identified for follow-up to explain that there is a possibility of an Imminent Hazard due to levels of TCE in the environment, and encourage evaluation of the vapor intrusion pathway to determine if an Imminent Hazard exist or not. Regional staff will provide background information on TCE and the vapor intrusion pathway, as well as contacts and phone numbers for the owner to call for further assistance.
3. Conduct necessary evaluations if an owner cannot or will not perform the evaluation.

MassDEP is coordinating with the Massachusetts Department of Public Health to ensure consistent and complementary support to communities and affected owners.

Property owners and/or Potentially Responsible Parties of previously closed TCE sites need not and should not wait for MassDEP to make the initial contact. The Department encourages parties to review existing information about a site² and begin to evaluate current conditions to determine if there is a potential for ongoing exposure to TCE. MassDEP has made a number of background documents and Fact Sheets available, including:

- [TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure - Fact Sheet](#) 
August 15, 2014
- [EPA Trichloroethylene Toxicity Values and ORS Recommendations Regarding Remediation Targets & Timeframes to Address Potential Developmental Risks](#)  
August 15, 2014
- [Important Information about Trichloroethylene \(TCE\) in Workplace Indoor Air](#)  
March 27, 2014
- [Important Information about Trichloroethylene \(TCE\) in Residential Indoor Air](#)  
March 27, 2014
- [WSC-14-435 Vapor Intrusion Guidance: Public Review Draft](#)  file size 2MB
October 2014

The MassDEP's Waste Site Cleanup Advisory Committee discussions of the review of closed TCE sites, as well as other TCE and Vapor Intrusion topics, are available on MassDEP's YouTube channel at <https://www.youtube.com/channel/UCswijd-Vuwa0jMR4EroSm8w/>.

Updates on the progress of the TCE Closed Sites review will be posted as they become available.

Questions about this review may be directed to BWSC Assistant Commissioner Paul Locke (Paul.Locke@state.ma.us, 617-556-1160).

² MassDEP has made site information available online through the Waste Site/Reportable Release Look Up application at <http://public.dep.state.ma.us/SearchableSites2/Search.aspx>