

Summary of State Approaches to Vapor Intrusion: 2018 Update

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Background/Objectives. Regulatory requirements for the evaluation of vapor intrusion (VI) vary significantly among states. For site owners and responsible parties that have sites in different regulatory jurisdictions, one challenge is to know and understand how the requirements or expectations for vapor intrusion (VI) differ from one jurisdiction to the next. Differences in requirements can make it difficult to manage sites in a consistent manner between jurisdictions. Eklund, Folkes, Kabel and Farnum published an overview of state guidance for VI in 2007 that provided a useful summary of pathway screening values and other key VI policies. An update by Eklund, Beckley, Yates, and McHugh was published in 2012. Since that time, numerous states have revised their guidance and some states that did not have VI-specific guidance have issued new guidance. This paper provides an update to the 2012 study.

Approach/Activities. For each State, the review includes tabulations of the types of screening values included (e.g., groundwater, soil, soil gas, indoor air), the screening values for selected chemicals that commonly drive VI investigations (i.e., TCE, PCE, and benzene), and the risk levels used for cancer and non-cancer risk. Federal values are included for comparison. In addition, for each state, we summarize a number of key policy decisions that are important for the investigation of VI including: distance screening criteria, default subsurface to indoor air attenuation factors, policies for evaluation of petroleum VI, and policies for evaluation of indoor sources of VOCs.

Results/Lessons Learned. States continue to use dramatically different screening values for evaluation of the VI pathway. Screening concentrations for groundwater and soil gas may vary by >100x for key VI compounds such as PCE and TCE. These differences reflect variation in default risk limits, default attenuation factors, and differences in toxicity factors for some VOCs. The review also highlights topics where there is a wide divergence in approach from State to State, such as exclusion distances for petroleum VI and significance of very short-term exposure to TCE.