



Vapor intrusion is currently being assessed by the United States Environmental Protection Agency (EPA). Like radon, which has been identified as an indoor air contaminant of concern for over 20 years, the presence of elevated levels of Volatile Organic Compounds (VOCs) inside buildings can create human health risks. VOC's represent a class of chemicals that are commonly used for metal cleaning and degreasing. VOC's that have migrated down through soils and into groundwater as a result of historical spills and the release of chemicals, including fuels and commercial and industrial solvents, may lead to vapor intrusion. Vapor intrusion occurs when VOC's vapors from underlying contaminated soil and/or groundwater enters indoor air. Vapors can accumulate in basements, utility corridors, or underneath slabs, and enter buildings through cracks, electrical conduits, elevator shafts, and other openings. (See attached schematic "Generalized Diagram of Vapor Intrusion.") However, vapor intrusion can be mitigated by relatively simple and inexpensive modifications to building design and operation.

Developers of new or existing buildings can perform environmental investigations to determine if soil or groundwater contamination is present and how it might affect development. If the actual or highly probable presence of VOCs is identified underneath or within a short distance of the building, the developer may wish to conduct further studies to determine the risk of vapors that may emanate from contaminated soil or groundwater and accumulate inside the building.

EPA guidance documents are a good source of information about risk mitigation alternatives, even if the contaminant source will remain after construction. Options include subslab depressurization, enhanced ventilation, membrane vapor barriers, passive gas collection pipes that vent outside the building, or, in extreme cases, active gas venting systems. Consultation with environmental professionals and an architect can usually identify the most appropriate and cost-effective approach to protect a building against vapor intrusion and the possibility of subsequent health concerns and loss of revenue.

If you have any questions or need further information, please contact Donn Stoltzfus, Environmental Program Specialist, at 602-256-5669.

