



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

We conducted this review to determine what actions the U.S. Environmental Protection Agency (EPA) has taken, both general and site-specific, to identify and mitigate human health risks from chemical vapor intrusion that can be associated with contaminated sites. When EPA had not taken site-specific actions, we examined the reasons why.

Background

Vapor intrusion is the migration of volatile chemicals from the subsurface into overlying buildings. EPA has acknowledged that current and former contaminated sites could have extensive vapor intrusion issues and pose a significant risk to the public. In 2002, based on its current understanding of subsurface vapor intrusion, EPA issued draft guidance. The guidance included technical and policy recommendations for determining whether vapor intrusion posed a risk at sites. The 2002 guidance remains in draft form and has not been finalized since it was issued.

For further information, contact our Office of Congressional, Public Affairs and Management at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2010/20091214-10-P-0042.pdf

Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks

What We Found

EPA's efforts to protect human health at sites where vapor intrusion risks may occur have been impeded by the lack of final Agency guidance on vapor intrusion risks. EPA's 2002 draft vapor intrusion guidance has limited purpose and scope, and the science and technology associated with evaluating and addressing risk from vapor intrusion is evolving. EPA's draft also contains outdated toxicity values for assessing risk to humans from chemical vapors in indoor air.

EPA's draft guidance does not address mitigating vapor intrusion risks or monitoring the effectiveness of mitigation efforts. The draft guidance also does not clearly recommend that multiple lines of evidence be used in evaluating and making decisions about risks from vapor intrusion. The draft guidance is not recommended for assessing vapor intrusion risks associated with petroleum releases at Underground Storage Tank sites. EPA's outdated toxicity values allow for the use of widely different, nonfederal toxicity values and have caused delays in work to address possible risks.

EPA has not finalized its guidance, according to EPA managers and staff, because the 2007 Interstate Technology Regulatory Council guidance addressed many issues that EPA would have addressed in a final guidance, and because finalizing EPA's guidance would take a long time in light of the emerging scientific issues in the field. Also, previous administrative review requirements for Agency guidance were perceived as barriers to issuing timely guidance in a rapidly changing environment. These requirements were revoked by the current Administration, but significant guidance remains subject to some administrative review.

Seven years later, EPA is developing a roadmap of technical documents that will update its draft guidance. However, technical documents may not be effective for conveying and representing Agency policy. EPA has also made some progress in updating toxicity values for some contaminants most frequently associated with vapor intrusion.

What We Recommend

We recommend that EPA issue final guidance to establish current Agency policy on the evaluation and mitigation of vapor intrusion risks. The Agency should also finalize toxicity values for trichloroethylene and perchloroethylene – common contaminants associated with vapor intrusion. The Agency agreed with our recommendations and provided milestones.