

# Vapor Intrusion: *What You Can't See Can Hurt You*

BY JANET S. KOLE

*Special to the Legal, PLW*

Savvy developers, whether or not they are developing brownfields sites, now have to be concerned about testing for a newly important environmental hazard: vapor intrusion. Before, due diligence for purchase of a piece of property required routine environmental testing, which focused on contaminants in soil and groundwater.

Apart from radon, air contamination was generally not a consideration — but change is in the air. Federal and state regulators are waking up to the importance of safeguarding indoor air quality by requiring air testing at sites known to have soil or groundwater contaminated with volatile organic compounds, such as TCE.

Regulators in Pennsylvania are considering adding regulations on vapor intrusion of volatile chemicals, like TCE, that vaporize through concrete, wall openings and soil in homes and commercial buildings, and build up in enclosed air. Contaminants in vapor form are often more harmful than in soil or groundwater because they are inhaled, which allows them to be absorbed more quickly into the body. People are also more likely to come into contact with airborne contaminants than with contaminants trapped in soil or water.

While the fix for vapor intrusion is usually no more onerous than it is for radon (often consisting of venting mechanisms), failure to take it into account when building or renovating a building will mean having to retrofit the new construction later when the regulations are passed, adding a layer of complexity and unnecessary additional construction costs, as well as the risk of a lawsuit by the building's occupants



**JANET S. KOLE** is a shareholder and chairwoman of the environmental practice group at Flaster Greenberg. She works out of the Cherry Hill and Philadelphia offices. She is vice chairwoman of the ABA's Special Committee on Smart Growth and Urban

*Policy, Section of Environment, Energy and Resources.*

claiming harm from the exposure.

Here is how this new focus on vapor intrusion, or "VI," will change your "due diligence" on a project.

By now, every commercial purchaser of real estate is familiar with the drill: You don't buy a piece of property until you order up a Phase I assessment of the property. The contents of a Phase I have become standardized. Environmental professionals look for visual signs of contamination at the property; they interview neighboring landowners and former employees at the site (if industrial); they do online searches of contaminated property databases and do historical research about previous uses of the property. Assuming no areas of concern pop up, Phase I is complete and the buyer feels comfortable buying the property. Only if areas of concern are discovered does the buyer, if still interested, move on to a Phase II assessment — invasive testing of the property.

Federal law designates the Phase I assessment standardized by the American Society of Testing and Materials (ASTM), called E-1527, as the benchmark for determining whether a property purchaser is an "innocent landowner" who conducted "all appropriate inquiry" so as not to be liable for contamination at the site. It is the stan-

dard for Phase I investigations both legally and practically.

ASTM's Phase I focuses, not surprisingly, on contamination of the soil, surface water and groundwater. It does not focus on air pollution, nor does it refer to air pollution, except for "pungent or noxious odors." (In certain circumstances, the presence of noxious odors can signal the presence of contaminants in the air. More frequently, however, contaminants of concern are odorless.) While the ASTM standard provides a list of 13 additional issues buyers may want to assess in purchasing commercial real estate, and indoor air quality is listed, it is listed next to last.

As federal and state regulators gear up to enforce indoor air standards and require remediation of indoor air pollution, a wise commercial land purchaser will need to add indoor air as an area to be explored by its environmental professional. If vapor intrusion standards become regulations instead of mere expressions of good practice, we can expect to see ASTM make a change to its current Phase I document.

## NEW SUSPECTS

So far, Pennsylvania is regulating vapor intrusion through a guidance document, the Land Recycling Program Technical Guidance Manual, Section IV.A.4 ("Vapor Intrusion into Buildings from Groundwater and Soil Under the Act 2 Statewide Health Standard.") Interestingly, this guidance, promulgated by the Pennsylvania Department of Environmental Protection, applies only to cleanups undertaken under Act 2 (the brownfields law). A commercial purchaser currently has no legal duty to perform the indoor air quality screening set out in the guidance before buying the property.

The guidance adds to brownfields

cleanups under Pennsylvania's Act 2 screening requirements to prevent unacceptable risk from vapor intrusion into indoor structures. While the guidance does not have the force of law, it certainly provides a framework for what we can expect future regulations to require as a matter of law for such cleanups.

How does this guidance affect a land purchaser who does not intend to remedy contamination on the property under Act 2?

Right now, it has no legal effect. But in the not-too-distant future, if vapor intrusion is added to the ASTM Phase I as an issue that must be investigated, developers will find themselves in a quandary for recently purchased property for which no vapor intrusion investigation was done.

Are harmful vapors collecting in the newly constructed or newly renovated building? Will occupants of the building(s) sue for personal injury because of vapor intrusion?

Often a simple, non-invasive air quality test for existing structures, similar to the current test for radon, will satisfy due diligence requirements as well as conform to today's best practice. In some situations, data collection and computer modeling may be required. The trigger for this investigation is whether exposure pathways exist for volatile chemicals to reach human occupants of the building.

What if the property has no structures existing on it? Indoor air quality is still a potential issue, if soil or groundwater at the property is found to be contaminated with volatile chemicals. Developers or builders who later construct buildings on the property will face vapor intrusion issues.

Currently, the guidance suggests that if a brownfields remediator finds VOCs in soil or groundwater, which remain in place on undeveloped land, the remediator should provide a deed notice alerting future owners of the presence of those contaminants and the potential for vapor intrusion if the land is built out.

If a Phase I or Phase II assessment

demonstrates the presence of volatiles, a prudent buyer who still desires to acquire the property before reselling it may want to add a deed notice to the same effect.

## FEDERAL VERSUS STATE

The federal government also has a draft guidance document for vapor intrusion issues, promulgated pursuant to the Resource Conservation and Recovery Act

---

*Often a simple, non-invasive air quality test for existing structures, similar to the current test for radon, will satisfy due diligence requirements as well as conform to today's best practice. In some situations, data collection and computer modeling may be required.*

---

(RCRA). The guidance document can be found at 67 Fed. Reg. 71169, 71172. The Environmental Protection Agency recommends that the guidance be used not only for RCRA sites, but also for brownfields cleanups and cleanups under the Superfund law (the Comprehensive Environmental Response, Compensation and Liability Act).

As with many other state/federal issues, the commonwealth's guidance and the federal guidelines are, unfortunately, not always congruent. For example, the federal guideline suggests investigation of vapor

intrusion in inhabited buildings or potentially habitable land from chemicals that are within 100 feet of the actual or potential building horizontally or vertically. The Pa.DEP guidance only suggests vapor intrusion investigation of chemicals within 100 feet horizontally.

A developer taking a conservative approach to vapor intrusion issues would utilize the more stringent federal guidance and investigate both horizontally and vertically. The most conservative, risk-averse approach is for developers with possible vapor intrusion issues to conform to the most stringent of all the vapor intrusion requirements, state and federal.

Currently, New Jersey also regulates vapor intrusion based on a guidance document for indoor air pollution. The differences and similarities between the federal and New Jersey guidelines are beyond the scope of this article.

Those who are interested in New Jersey's approach can find the New Jersey Department of Environmental Protection's (NJDEP) current vapor intrusion policy at [www.nj.gov/dep/srp/guidance/indoor\\_air/](http://www.nj.gov/dep/srp/guidance/indoor_air/). Some New Jersey practitioners view NJDEP's requirements as too onerous compared to those of the EPA.

Vapor intrusion is a rapidly developing field, both in terms of the science of exposure and of policy. The regulators' interest in vapor intrusion stems from a concern that their previous laissez-faire attitude was too complacent and did not adequately account for the potential for human exposure and harm.

As the regulators continue to elevate the importance of vapor intrusion investigation and remediation, developers and other purchasers of commercial real estate should consult with their environmental professionals about whether and when to investigate vapor intrusion as part of the due diligence process. •