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Growing Awareness and Regulation of Vapor Intrusion

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At a recent presentation to approximately 100 real estate lawyers, we asked for a show of hands as to how many in the audience had heard of "vapor intrusion." Approximately 10 to 20 audience members raised their hands. Out of that group, we then asked how many of them had worked on a property that involved a vapor intrusion issue. Only five audience members raised their hands. If we were to conduct this unscientific survey of real estate lawyers again in the next several years, we suspect that the number of hands raised in response to these questions will increase dramatically in light of the growing attention, regulation and litigation over vapor intrusion issues.

Vapor intrusion or VI is the term used by the U.S. Environmental Protection Agency (EPA) and other state agencies to describe the migration of volatile chemicals from any subsurface vapor source (e.g., contaminated soil or groundwater) through the soil and into an overlying building. VI represents a potential "pathway" by which humans can be exposed to hazardous vapors that exist in the subsurface either because of natural sources (e.g., radon) or man-made contamination. Depending on the use of the overlying buildings (residential versus nonresidential), the concentration of the hazardous vapors, and the nature and extent of the pathway, VI may cause unacceptable human health risks that require mitigation.



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The most common substances giving rise to VI concerns are referred to as volatile organic compounds (VOCs). VOCs may be found in dry cleaning solvents, industrial degreasers, gasoline, diesel fuel, and many other substances. Historically, VI was often not considered by state or federal agencies as they were usually more concerned with preventing direct contact with or the ingestion of hazardous chemicals present in the soil or groundwater. The science supporting the VI pathway, however, has changed dramatically over the last 15 years and there is a growing body of evidence concerning the potential indoor air risks associated with long-term (and sometimes even short-term) exposure to certain types of VOCs.

The increased attention on VI is reflected in the EPA's issuance in June of two long-awaited technical guidance documents on VI titled "Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air" (the VI technical guide) and "Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites" (the petroleum VI guide) (collectively referred to as the VI guides). The EPA's VI guides replace previously-issued federal guidance on VI and provide the EPA's recommendations on how to investigate, assess risks, and, if necessary, mitigate any VI concerns. Although the EPA's VI guides do not have the force of law, the EPA expects the VI technical guide to be used at properties being evaluated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA), and at properties receiving EPA brownfield grants, and for the petroleum VI guide to be used at properties involving petroleum releases from leaking underground storage tanks.

Consideration of VI, however, is not limited to sites with a federal overlay, as

there has been an increased focus on VI at the state level as well. Over 30 states have published guidance documents that specifically address VI. The New Jersey Department of Environmental Protection, for instance, has a robust VI regulatory program and has issued guidance that is to be used when investigating and remediating contaminated sites in New Jersey. The Pennsylvania Department of Environmental Protection has also issued VI guidance (with an update expected in the near future) that is applicable to any person conducting a site remediation under the Land Recycling and Environmental Remediation Standards Act (Act 2) under the statewide health standard. The EPA's VI guides will likely have an influential role in states currently lacking VI guidance and in states considering revisions to their guidance documents.

As VI continues to move to the forefront of public awareness and the regulatory agenda, parties with interests in contaminated sites or the properties that lie atop or near them should be aware of the risks and costs associated with VI. The following items represent some broad practical considerations for properties with the potential for VI:

• **Reopening of closed sites.** One of the most significant uncertainties associated with the emergence of federal and state VI guidance documents is whether sites that were previously "closed" to the satisfaction of a federal/state agency may be "reopened" for further investigation and remediation. For CERCLA sites where a remedy has already been implemented, EPA guidance clearly provides that VI must be evaluated as part of the required five-year review of the remedy's protectiveness, even if VI was not addressed as part of the original remediation. For non-CERCLA sites that achieved regulatory closure (e.g., no further action letter or release of liability), there is a risk that the regulatory agency could require additional investigation and remediation if a VI concern is identified. For example, New York has reopened hundreds of previously closed sites for additional investigation for VI.

• **Logistical and off-site access issues.** Conducting a VI investigation and mitigation can be a complicated endeavor particularly where a groundwater contamination plume extends beneath a heavily developed area. VI investigations often require multiple lines of evidence—in fact, the EPA's VI technical guide requires this approach—to determine whether a VI problem exists. This approach can require the collection of multiple soil vapor sampling, sub-slab sampling, near slab sampling, or outdoor/indoor sampling, and sometimes over a lengthy period of time. Securing access to each building and space that must be investigated can oftentimes be a logistical nightmare and raise local community concerns. Further complicating a VI investigation is the potential for "background sources" of VOCs such as nail polish, dry-cleaned clothes, cleaners, perfumes, paint thinners and fuel containers to contribute to indoor air readings. These products, which are found in almost every household, can make it difficult to determine whether VOC readings in indoor air have been caused by subsurface contamination or by these background sources.

• **Pre-emptive mitigation.** Because of the significant costs of a VI investigation, some property owners have opted to pre-emptively mitigate VI concerns such as through the installation of a vapor barrier or sub-slab depressurization system in lieu of undertaking a full VI investigation. Although pre-emptive mitigation can be a cost-effective strategy where it is viable, regulatory agencies may impose ongoing monitoring and maintenance requirements on the property owner to ensure the effectiveness of the mitigation system. In addition, property owners need to confirm that the applicable regulatory authority allows pre-emptive mitigation in lieu of a VI investigation. For example, the EPA's VI guides treat pre-emptive mitigation as an "interim" measure only and still require a complete VI investigation and potentially additional remedial measures.

• **Litigation considerations.** In addition to the challenges highlighted above, VI introduces new litigation risks for present and past owners of properties where VOCs may be present. In particular, toxic tort cases involving alleged VI exposure are on the rise nationally, as homeowners and other building occupants seek claims for personal injury, medical monitoring, and property damage due to alleged indoor air exposures. Although toxic tort cases are nothing new, VI cases of this type present unique challenges for defendants on a number of fronts, including the statute of limitations, causation, and the role and relevance of regulatory and guidance levels in defining risk.

Given the complexity of VI issues, parties that may be impacted by VI should be sure to rely on technical consultants and legal experts who can help navigate the growing technical challenges and evolving regulatory frameworks. •