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NJDEP Issues New Vapor Intrusion Guidance

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On June 3, the New Jersey Department of Environmental Protection released its revised VI Guidance on Vapor Intrusion for interested party review and comment, “The New Jersey Department of Environmental Protection Draft Vapor Intrusion Guidance.” The NJDEP Guidance is available at <http://www.nj.gov/dep/srp/guidance/vaporintrusion>.

Until recently, environmental remediation generally focused on soil, ground water and the effect of any contamination on the natural resources at or around the site. Rarely did the investigation and remediation of the interior of a building overlying or adjacent to the contamination warrant substantial attention. Recently, this has been changing with the emergence of the vapor intrusion pathway.

The “vapor intrusion pathway” (VI) is the migration of volatile organic com-

pounds (VOCs) from the subsurface into buildings that either overlay or are within a short distance of contaminated media (i.e., soil, ground water). See U.S. Environmental Protection Agency, “Guidance for Evaluating Vapor Intrusion to the Indoor Air Pathway From Groundwater and Soils,” at page 4 (Nov. 2002) (EPA Draft Guidance). In other words, VI is contamination of the inside of buildings that are near or over contaminated sites. Over the last few years, VI has become of increased concern for the U.S. Environmental Protection Agency (EPA) and state regulatory agencies throughout the country. See, e.g., EPA Draft Guidance, <http://www.epa.gov/epaoswer/hazwaste/ca/eis/vapor.htm>. VOCs volatilize and emit vapors, which can migrate through subsurface material and into the air space of buildings. As soil gases accumulate beneath a building, vapors can enter the indoor air space through utility openings, drains, cracks in the building’s walls or foundations, sewers, septic systems, underground utility lines, and crawl spaces. New Jersey sites are prime cases for vapor migration because of the sandy soils and fractural bedrock found throughout the state. NJDEP, Draft Vapor Intrusion Guidance, at page 20.

EPA Guidance Framework

In November 2002, the EPA issued its current draft guidance, “Guidance

for Evaluating Vapor Intrusion to the Indoor Air Pathway from Groundwater and Soils” (EPA Guidance), which defines a three-tiered process for determining if humans are being exposed indoors to chemical vapors originating from site contamination outdoors: Primary Screening, Secondary Screening and Site-Specific Pathway Assessment. See EPA Guidance at page 7. Each tier contains a set of questions to guide the investigator toward a determination of whether the VI exposure pathway is complete, and if determined to be complete, whether it presents an unacceptable health risk.

The EPA anticipates releasing a new guidance in 2005, which will incorporate results of nationwide studies and testing.

NJDEP’s Phased Approach

The June 3 NJDEP Guidance replaces the “Indoor Air Sampling Guide for Volatile Organic Compounds” guidance issued by NJDEP in 1999, and updated in 2003.

The NJDEP Guidance’s stated purpose is to “provide guidance in determining whether VI of site related contaminants is occurring and to highlight what actions are appropriate.” NJDEP Guidance at page 1. The NJDEP Guidance relies, for its regulatory basis, on the New Jersey Technical Regulations for Site Remediation (Tech Regs), see NJDEP Guidance at page 1,

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and in particular N.J.A.C. 7:26E-3.5, which requires that a site investigation of building interiors be conducted when contaminants outside the building have the potential to migrate into the building. See also NJDEP Guidance at page 1. The Tech Regs set forth the guidelines for the environmental investigations and remediation of contaminated sites. See N.J.S.A. 7:26E-1 et seq.

While the NJDEP Guidance is not a regulation, the NJDEP has made it clear that the Guidance should be incorporated into the Tech Regs and be utilized at least at the outset in every site investigation. The NJDEP Guidance states: "evaluation and remediation for the VI pathway is required as part of the Technical Regulations...." See the NJDEP Guidance at page 3. Additionally, the NJDEP recommends that the regulated community consult with it prior to using different methodologies. See NJDEP Guidance at page 3.

Using the EPA's Guidance framework of a tiered approach, NJDEP similarly proposes a phased approach toward the investigation of VI pathways. It recommends the investigator develop at the outset of a site assessment a Conceptual Site Model (CSM) to identify the potential sources of VI and migration pathways at a site. See NJDEP Guidance at page 8. The phases closely follow the approach in the Tech Regs with respect to site investigations and remediations, and include a Preliminary Assessment (PA), Remedial Investigation (RI), Remedial Selection (RS), and Remedial Action Workplan (RAW). Each phase builds on the prior phase and each phase includes a number of substages.

Preliminary Assessment

The PA phase requires the investigator to undertake a general assessment of the VI pathway (Stage 1) and determine whether the site constitutes an Immediate Environmental Concern (IEC) (Stage 2). See NJDEP Guidance at pages 24-25. For the VI pathway to be implicated, the investigator must confirm the existence of one or more

contaminants of concern. See NJDEP Guidance at page 25. The compounds which represent a potential VI risk are listed in Table 1 of the NJDEP Guidance, which NJDEP intends to update as additional contaminants are identified.

Stage 2 of the PA phase also requires the investigator to identify whether a situation exists that may require immediate action, such as a known spill or odor within a building, a wet basement or sump near contaminated ground water, "free product" at the water table under or adjacent to a building. See NJDEP Guidance at page 25. If any of these situations exist together with those certain compounds considered by NJDEP to be "driver chemicals" at VI sites, then the site is considered to be of potential immediate environmental concern. In that event, the investigation must then determine if the NJDEP Guidance "Immediate Environmental Concern, Indoor Air Action Levels" (IECIAAL) have been exceeded warranting immediate action. See NJDEP Guidance, Table 2.

Additionally, NJDEP is coordinating with the New Jersey Department of Health and Human Services to develop "Health Department Indoor Air Notification Levels" (HDIANL). See NJDEP Guidance at page 26. If initial sample results at a site exceed both IECIAAL and HDIANL levels, the NJDEP Guidance mandates the immediate collection of confirmation samples. See NJDEP Guidance at pages 25-26. Once the HDIANL values are available, sites with heightened air levels will be required to notify the local or state health departments for additional evaluation and possible emergency action. See NJDEP Guidance at page 26.

Remedial Investigation

If additional inquiry is mandated by the NJDEP, the RI phase involves the evaluation of the VI pathway in a further series of stages, upon completion of the PA phase, which are discussed below.

Stage 3 of the RI phase requires the

application of the generic screening levels that have been incorporated into the NJDEP Guidance at page 26 to determine whether there are elevated levels at a site.

In contrast to the approach adopted in other states (such as California and Massachusetts), New Jersey proposes that the VI investigation begin with ground water. Investigations are required for areas over and within 100 feet horizontally or vertically of a ground-water plume in excess of the NJDEP "Ground Water to Indoor Air Screening Levels" (GWIASL), and a 30-foot distance criterion for petroleum-related contamination provided free product is not identified on the site. See NJDEP Guidance at page 27. If, upon review of the results, the data indicate that ground water levels are below GWIASL, there is no free product in the water table, and the potential vapor source is not soil-related, no further investigation will be required. See NJDEP Guidance at page 28. However, if ground water levels are elevated, collection of soil gas samples will be required (Stage 4B). See NJDEP Guidance at page 28. If the samples exceed the "Soil Gas Screening Levels" (SGSL), the investigator may either proceed to Stage 4C (an evaluation of indoor air levels) or implement a remedial action to address the VI pathway. (See NJDEP Guidance at page 28). To make this determination, the Guidance requires that the ground water results that have been obtained by the investigator be compared to GWIASL; the indoor air data be compared to the "Indoor Air Screening Levels" (IASL); and sub-slab and near slab soil gas results obtained be compared to the SGSL. If, after conducting this review, it is determined that the generic screening indicates elevated levels, an investigative work plan is required to be developed and implemented (Stage 4). See NJDEP Guidance at page 26.

Remedial Action Workplan

Following the investigation stages, if elevated levels are determined to be

present, the NJDEP Guidance mandates the preparation of a "Remedial Action Workplan" (RAW), the objective of which is to "eliminate the pathway between the source (contaminated ground water and/or subsurface soils) and the receptors (building occupants)." See NJDEP Guidance at page 132.

The RAW must include provisions for long-term monitoring and maintenance of the proposed remedial action. Simply installing a remediation system without addressing an appropriate means of monitoring the system will not be acceptable to the NJDEP. Engineering controls and monitoring controls may be required by NJDEP during this phase. Remedial actions that include the installation of subsurface remedial systems or other engineering controls do not require an institutional control, provided there is notification of

the property owner. However, the responsible party will continue to be held accountable for system verification, sampling, and monitoring and maintenance requirements. See NJDEP Guidance at 137.

The NJDEP Guidance differentiates between residential IASL (residential properties, schools and child care centers) and nonresidential IASL (commercial and industrial facilities). See NJDEP Guidance at pages 35-36. The option to utilize site-specific screening options is also always available with the approval of NJDEP. See NJDEP Guidance at pages 29-30.

If a responsible party chooses to utilize nonresidential screening levels or site-specific building parameters, an agreement with the owner of the property and institutional controls will be required to be put in place. See NJDEP

Guidance at page 137. The NJDEP Guidance imposes obligations on the responsible parties, such as the monitoring of change in ownership and building conditions through RA Progress Reports and certifications, depending upon the type of institutional control in effect at the site. See NJDEP Guidance at page 138.

Practitioners should anticipate and address at the outset of any real estate transaction which party will be responsible for the operations and maintenance of any remediation system, and obtain up front the right to implement any necessary engineering or institutional controls. If this is not accomplished, preferably at the initial contract stage, the remediating party may not be able to complete the remediation without additional approval from an adverse party. ■