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presents

New ASTM Vapor Encroachment Standard and Recent Vapor Intrusion Guidance Utilizing New Tools to Ensure Proper Assessment in Real Estate Transactions

A Live 90-Minute Teleconference/Webinar with Interactive Q&A

Today's panel features:

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Wednesday, September 8, 2010

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**Introducing ASTM Standard Guide
E 2600-10 for Vapor Encroachment
Screening on Property Involved in Real
Estate Transactions**

by

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**Strafford Publications Webinar
September 8, 2010**

Overview

- **Background and Rationale**
- **Overview of ASTM E 2600-10**
- **Tier 1 and Tier 2 VEC Screening**
- **Implications for Environmental Professionals Conducting Property Due Diligence**

Background and Rationale

- **Growing awareness of vapor migration as a result of vapor intrusion evaluations at contaminated sites**
- **Vapor migration becoming an increasing concern at federal and state levels**
- **States such as NY re-opening closed sites because of vapor migration concerns**
- **Stakeholders in real estate transactions recognizing the need for vapor migration screening to be a part of property environmental due diligence**

CRE Transaction Stakeholders

- **Prospective Property Owners**
- **Phase I Environmental Consultants**
- **Attorneys for the Deal**
- **Property Lenders**
- **Property Insurers**

Prospective Property Owners

- **Desire a screening methodology that could evaluate the potential for vapors to migrate onto a property that is a candidate for acquisition**
- **Screening might avoid potential future vapor migration investigation costs after a property is acquired (e.g., unexpected additional investigation may be required by state regulators concerned about the impacts of vapor migration)**

Prospective Property Owners cont'd

- **Future liability, including toxic tort litigation, arising from tenant suits or other third party suits might be avoided by screening a property for vapor migration before it is acquired**
- **Property stigma due to the possible presence of vapors on a property might be avoided by screening before the property is acquired**

Phase I Environmental Professionals

- **As part of an E 1527-05 Phase I , EPs recognize the need to consider potential vapors on or migrating onto a TP, but lack a methodology to evaluate this potential**
- **Desire to avoid potential litigation if vapor migration becomes an issue at a property where a Phase I was conducted**

Attorneys

- **Desire a screening methodology for their consultants to evaluate vapor migration in property environmental due diligence**

Insurance Companies

- **Screening prospective properties may result in fewer “re-opener policy” claims arising from states re-opening sites with NFAs to investigate vapor migration**
- **Screening prospective properties may result in fewer vapor migration claims against “property pollution liability policies” issued to property owners**
- **Screening prospective properties may result in fewer E&O claims against policies held by Phase I consultants being sued for not identifying a vapor migration problem**

Lenders

- **Screening prospective properties can avoid an adverse impact on property (collateral) value**
- **Screening can avoid future potential negative impact on borrower's creditworthiness and ability to repay loan if the borrower incurs unexpected vapor migration investigation costs**
- **Screening can avoid potential foreclosure complications resulting from vapor migration issues associated with a property**

Overview of ASTM E 2600-10

- **Focuses on screening for hazardous substance/petroleum product vapors that can potentially exist on the TP or migrate to the TP**
- **New ASTM terms:**
 - Vapor Encroachment Condition*
 - Area Of Concern*
 - Critical Distance*

Vapor Encroachment Condition (VEC)

“presence or likely presence of COC vapors in the subsurface of the TP caused by the release of vapors from contaminated soil or groundwater either on or near the TP”

Area of Concern (AOC)

- ***1/3rd mile for known or suspect contaminated sites with Chemicals of Concern (volatile/semi-volatile hazardous substances)***
- ***1/10th mile for known or suspect contaminated sites with Petroleum Hydrocarbon Chemicals of Concern***
- ***May be reduced if groundwater flow direction is known***

Critical Distance

- ***lineal distance in any direction between the nearest edge of the contaminated plume and the nearest TP boundary, and is equal to 100' for COC or 30' for dissolved petroleum hydrocarbon COC***
- ***represents an estimate of the lineal distance COC vapors volatilized from contaminated groundwater or contaminated soil might migrate in the vadose zone to the TP***

Overview of ASTM E 2600-10 cont'd

- **Two levels of screening for VECs**

**Tier 1 – known or suspect
contaminated sites in AOC as
identified in ASTM E 1527-05**

**Phase I government records
investigation and historical research**

**Tier 2 – contaminated plume
proximity (critical distance) to TP**

Phase I Government Records

- **Databases of Potential Concern (TP and Surrounding AOC)**
 - *NPL*
 - *CERCLIS*
 - *CORRACTS*
 - *Non-CORRACTS TSD*
 - *State Hazardous Waste Sites*
 - *Voluntary Cleanup Sites*
 - *Brownfield Sites*
 - *Landfill*
 - *LUST*

Phase I Government Records cont'd

- **Databases to be Evaluated for Potential Releases on TP only**
 - *RCRA Generators*
 - *UST*
 - *ERNS and Spills*
 - *Institutional/Engineering Control Registries*

Phase I Historical Research

- **High liability former uses (such as dry cleaners, gas stations, manufactured gas plant sites, industrial sites, etc.) on TP or nearby**

Tier 1 AOC when Groundwater Flow Direction CAN be Estimated

■ ***Up-gradient***

- 1/3 mile for COC sources
- 1/10 mile for petroleum hydrocarbon sources

■ ***Down-gradient***

- 100' COC Sources/Petroleum Hydrocarbon LNAPL sources
- 30' Dissolved Petroleum Hydrocarbon Sources

■ ***Cross-gradient***

- 100' COC Sources/Petroleum Hydrocarbon LNAPL sources + Plume Width Consideration
- 30' Dissolved Petroleum Hydrocarbon Sources + Plume Width Consideration

Most Prevalent Sources of Concern

- Present and former gas station sites
- Present and former dry cleaner sites
- Present and former industrial sites, particularly those using chlorinated solvents for degreasing and parts cleaning
- Former manufactured gas plant sites
- Former hazardous waste disposal sites
- Present and former garbage landfills

Tier 1 VEC Screening Summary

- **Conclusions:**
 - **VEC exists**
 - **VEC likely exists**
 - **VEC cannot be ruled out**
 - **VEC can be ruled out because it does not exist or is not likely to exist**
- **If a VEC exists or is likely to exist or cannot be ruled out, EP and user to decide what further investigation (such as proceeding to Tier 2), if any, is warranted**

Tier 2 – More Refined Screening

Non-invasive

- If Phase II data on contaminated source exists, the proximity of the contaminated plume to the TP is evaluated

Invasive

- If Phase II data on contaminated source does NOT exist or if a preferential pathway exists (natural or man-made), sampling can be conducted at TP or nearby, if possible, to identify if vapors are encroaching upon the TP

Tier 2 VEC Screening

- **Conclusions:**
 - **VEC exists**
 - **VEC likely exists**
 - **VEC cannot be ruled out**
 - **VEC can be ruled out because it does not exist or is not likely to exist**
- **If a VEC exists or is likely to exist or cannot be ruled out, EP and user can decide what further investigation, if any, is warranted**

Implications for EPs Conducting VEC Screening as part of the Phase I

- **ASTM E 2600-10 provides the EP with a methodology to conduct a screen for possible vapors migrating to the target property**
- **If screening indicates a VEC, EP can determine as part of Phase I if VEC constitutes a REC (it may or may not depending on the specific circumstances)**
- **Vapor intrusion into a building and the subsequent impact on indoor air quality is beyond the scope of E 2600-10**

Bottom Line to EPs Conducting Property Environmental Due Diligence...

- **Risk Professional Malpractice**
- **Risk Negligent Misrepresentation**

***...if vapor migration is not
considered when property
environmental due diligence
is conducted using the ASTM
E 1527-05 Phase I Standard***

The next presentation by Chris Roe will explore in detail the relationship between E 2600-10 and the ASTM E 1527-05 Phase I Standard...

*New ASTM Vapor Encroachment Standard
and Recent Vapor Intrusion Guidance*

*Environmental Site Assessment,
E 2600-10, E 1527-05 and AAI*

*Strafford Publications Webinar
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Christopher M. Roe

*Environmental Site Assessment, E 2600-10, E
1527-05 and AAI*



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Overview-AAI vs. ESA

- Environmental site assessment and environmental due diligence are “legally distinct” from All Appropriate Inquiries (and ASTM E 1527-05). 70 F.R. 66069, 66072 (Nov. 1, 2005).
- All Appropriate Inquiries (“AAI”) are the means to establish an element of a liability protection under the federal Superfund Law. (*That’s all.*)
- Environmental due diligence and site assessment are broader concepts: the gathering and evaluation of environment-related information sufficient to allow buyer to make sound business decisions in buying property.

Environmental Site Assessment, E 2600-10, E 1527-05 and AAI



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Overview-Ongoing Confusion

- The disconnect between AAI and the appropriate level of environmental due diligence for sound decision making is the source of a great deal of confusion:
 - The scope of Phase I's are thought to be flexible and to depend on buyer's risk tolerance
 - "REC" determinations are made that are not consistent with the underlying purpose for AAI
 - Buyer's end up without information they need to make informed decisions

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Overview-Vapors Highlight the Confusion

- ASTM's E 2600-08, the Vapor Intrusion Standard Practice, highlighted:
 - the confusion around E 1527-05
 - the nature of ASTM
- ASTM E 2600-10 corrects the problem of E 2600-08 by going back to the fundamentals
- Lessons learned:
 - ASTM is driven by those who sell services, not by EPA or those seeking a Superfund defense or appropriate information to make a buy/sell decision
 - Fundamentals of AAI and sound decision making are the guides to environmental site assessment

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Overview-Fundamentals

- Express purpose of E 1527-05 is to satisfy AAI
- USEPA has determined that performance of E 1527-05 can satisfy AAI.
- Presence of Hazardous Substances at a property as a result of a Release causes property to be a Facility
- All Appropriate Inquiries are the commercially reasonable steps that must be taken, pre-acquisition, to determine whether the property is a Facility
- AAI is required for Landowner Liability Protections
- Hazardous Substances can be present as vapors or gases
- E 2600-10 is not AAI

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Key Terms

- **All appropriate inquiries** are required to establish that, prior to acquisition, defendant had no reason to know "that any hazardous substance **which is the subject of the release or threatened release** was disposed of on, in, or at the facility."
- (22) The term **"release"** means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing **into the environment** . . . but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons,



Key Terms

- (8) The term ``**environment**'' means (A) the navigable waters, . . . and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.
- (9) The term ``**facility**'' means (A) any building, structure, . . . , or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located;. . . .



CERCLA Liability

- The owner of a property at which a hazardous substance has been disposed or at which a hazardous substance has otherwise come to be located is a party liable for response costs and natural resource damages

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Defenses and Landowner Liability Protections

- Defenses:
 - Act of God or Act of War
 - Act of Unaffiliated Third Party (exercised due care; took precautions)
- Landowner Liability Protections
 - Innocent Purchaser/Landowner
 - Contiguous Property Owner
 - *Bona Fide* Prospective Purchaser

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1527-05 and AAI*



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Performance of AAI

- **AAI Rules Establish Standards and Practices for the Inquiry into the Presence of Hazardous Substances from a Release at a Property**
- **AAI is Not Limited to Releases That Originate at the Target Property**
- **ASTM International's Standard Practice E 1527-05 Can Be Used to Conduct All Appropriate Inquiries**

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AAI Covers Vapors

- **Chemicals in a Gas or Vapor Form Are Hazardous Substances Subject to All Appropriate Inquiries**
- **Migration of Hazardous Substances as Vapors Is Subject to CERCLA Assessment and Remediation**
- **All Appropriate Inquiries and the AAI Rules Are Not Limited to Solid and Liquid Forms of Hazardous Substances or to Particular Migration Pathways**
- **E 1527-05 Is Not Limited to Solid and Liquid Forms of Hazardous Substances or to Particular Migration Pathways**

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E 1527-05 Does Not Exclude Vapors

- E 1527-05 is written to meet AAI
- Non-scope items are limited to those that do not present potential CERCLA liability
- Indoor air quality non-scope listing cannot:
 - bar consideration of vapor encroachment
 - trump the definition of REC



VE Standard Guide is NOT AAI

- VE Standard Guide makes clear that it is not part of or required by CERCLA or by the AAI Rules.
- VE Standard Guide also makes clear that performance of its screening process does not determine whether a recognized environmental condition does or does not exist at the property for the purposes of an E 1527-05 Phase I.
- VE Standard Guide is a guide and a screening mechanism developed by ASTM to assist property buyers and environmental professionals in determining whether volatile chemical constituents in vapor may encroach upon the property.

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Practical View

- EPs should not make or offer conclusions about the presence of contaminants in the indoor air based on the very limited information available in a Phase I.
- Presumption about hazardous substances in indoor air was a primary problem in the original E 2600
- An EP needs to do to identify any underlying release which causes the likely presence of the hazardous substance at the target property, in soil gas or groundwater, for example, to identify the REC.
- Insufficient information may exist regarding a nearby volatile release to identify the REC (professional judgment required)
- Phase II work may be required

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Additional Materials

For more detail on above email CMR and request: *“Consideration of Chemical Vapors in Transactions and ASTM International’s Development of Vapor Screens”* (croe@foxrothschild.com)

Some litigation background provided in the following slides

Environmental Site Assessment, E 2600-10, E 1527-05 and AAI



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VI and Clean-up Liability

- Potential Plaintiffs
 - Government
 - Other Private Parties
 - Citizen Groups
- Theories
 - CERCLA, RCRA, OPA
 - State statutes
 - Common Law
- Relief
 - Injunctive, abatement, declaratory judgment
 - Cost recovery, contribution

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VI and Clean-up Liability

Some Cases

- *State of Maryland v. US Dept. of Army, (DMd. 08-cv-3443)(resolved)*
 - *Chlorinated solvents, alleged risks to indoor air of homes and businesses*
 - *RCRA for continuing violation and imminent and substantial endangerment*
- *United States v. Apex Oil, (S.D.Ill. July 2008); aff'd on appeal (Aug. 2009)*
 - *RCRA 7003*
 - *Vapors . . . present or may present imminent and substantial endangerment to health:*
 - *Residents may suffer adverse health effects*
 - *Residents may be harmed by fires or explosions*

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VI and Tort Liability

Potential claimants against responsible parties:

- Occupants (employees/contractors)
- Tenants
- Owners
- Neighbors

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VI and Tort Liability

- Causes of action
 - Negligence, Negligence Per Se
 - Trespass
 - Nuisance, Nuisance Per Se
 - Strict Liability
 - Fraudulent Concealment/Negligent Misrepresentation
 - Statutes, RCRA, CERCLA, OPA, State Statutes
- Damages/Claims for Relief
 - Compensatory Damages
 - Medical monitoring/Fear of cancer
 - Diminution/Stigma
 - Punitive/Exemplary Damages
 - Injunction/mitigation

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VI and Tort Liability

Some cases

- **1999 -- *Ball v. Bayard Pump & Tank Co.***, Pa.Ct.Cmn. Pleas No. 99-6438, Mont. County, PA
 - Petroleum from gas station allegedly affecting 49 homes
 - Expert Motions: Retrospective analysis permitted
 - 2007 jury rejected that vapors entered the houses and caused autism and leukemia
- **2000 -- *Antolovich v. Brown Retail Group, (Dist. Ct. Denver)*** Colorado
 - Chlorinated solvents
 - 425 Homes in Denver
 - Trespass, nuisance, strict liability, unjust enrichment, negligence and exemplary damages
 - 2004 jury award of \$1 million non-economic loss (no diminution in value or punitive)
- **2004 -- *Muniz v. Rexnord***, (ND Ill. 04C-2405), DuPage County, Ill.
 - Chlorinated solvents
 - Class action on behalf of 800
 - CERCLA 107; RCRA; Nuisance; Trespass; Ultrahaz./Strict Liability; Res Ipsa Loquitur; Negligence; Per Se; Willful Misconduct
- **2005 – *Ward v. Lockheed Martin, Bradley v. Lockheed Martin***, (Manatee County, Fla. 2005, 2006)
 - Beryllium, chlorinated solvents, on behalf of 300 plaintiffs
 - Strict liability, negligence, Fla. Statute on discharges, trespass, private nuisance, intentional infliction of emotional distress

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VI and Tort Liability

Some cases

- **2006 -- *Aiken, et al. v. General Electric Co.***, No. 505023, (3d Dept, Supreme Court Appellate Division), Ft. Edwards, NY
 - Chlorinated solvents (TCE)
 - Homeowners (less than 100) who had previously settled as to groundwater impact
- **2006 – *Branham v. Rohm & Haas; Booth v. Rohm & Haas (2010)***, (Phila. Ct. Cmm. Pleas, PA)
 - Chlorinated solvents, especially vinyl chloride, on behalf of residential development
 - VI *and* drinking water
 - Wrongful death; Survival; Neglgence, Negligent Undertaking, Nuisance, Strict Liability, Res Ipsa Loquitur, Fraud and Misrepresentation, Willful and Wanton Conduct
- **2008 -- *Spears v. Chrysler***, (SDOH 3:08-cv-00331), Dayton, OH
 - Chlorinated solvents, alleged class of 1,000
 - Proposed class action on behalf of thousand plus for property damage and medical monitoring (certified)
 - Trespass; Private Nuisance; Unjust Enrichment; Strict Liability; Negligence; Per Se; Medical Monitoring, Battery; Fraudulent Concealment; Constructive Fraud; Neg. Misrepresentation; Civil Conspiracy; Punitive Damages

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VI and Tort Liability

Some cases

- **2008 -- *Blaine v. IBM***, (Broome Cty. 0012-2008) Endicott, NY
 - Chlorinated solvents
 - Hundreds of plaintiffs, residential/commercial
 - Negligence/Recklessness; Private Nuisance; Trespass

- **2008 -- *Sher v. Raytheon*** (MDFL 8:07-cv-889) St. Petersburg, Fla.
 - Proposed class action on behalf of residential and commercial owners over solvent plume, one thousand plus (certified)
 - Trespass; Private Nuisance; Unjust Enrichment; Strict Liability; Negligence; Strict Liability under Fla. Statute not to create hazardous conditions due to discharge of pollutants

- **2010 -- *v. DuPont and Royle Systems***, (NJ Super.Ct., Passaic County, Mar. 2010), Pompton Lakes, NJ
 - Chlorinated solvents
 - Alleged higher rates of kidney cancer and non-Hodgkin's lymphoma in residential area
 - Alleged companies knew or should have known of V

- **2010 -- *Weitz & Luxemberg*** efforts in Limerick, PA (TCE)

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Vapor Intrusion Evaluation: Recent Federal and State Guidance

**Presentation to Strafford Publications Webinar:
New ASTM Vapor Encroachment Standard and Recent
Vapor Intrusion Guidance**

**San Francisco
September 8, 2010**

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Why Vapor Intrusion is Important

- This polyresin ornament was offgassing dramatic amounts of a toxic additive.



Why Vapor Intrusion is Important (cont.)

The data would indicate that **a lone ornament** – that gingerbread man – **could elevate DCA concentrations in an entire house above the level that Hill [Air Force Base, Utah] considers safe**, notes toxicologist Christina McNaughton of the Utah Department of Health in Salt Lake City. (Emphasis added)
Case of the Toxic Gingerbread Man, by Janet Raloff, *Science News*, Nov. 21, 2009

Why Vapor Intrusion is Important (cont.)

“Degradation of indoor air quality causes more apprehension and anxiety among building occupants than are typically associated with other environmental problems.”

ITRC, “Vapor Intrusion Pathway: A Practical Guideline” (Jan. 2007) p.1
(emphasis added)

“Vapor intrusion is a complicated pathway that involves relational properties (time, distance and receptor) between the source and the receptor as well as physical properties of the VI chemicals, soil, groundwater, and building utilities.”

Maine, “Vapor Intrusion Evaluation Guidance” (Jan. 2010) p.4 (emphasis added)

Recent Vapor Intrusion Assessment Developments

Overview

- EPA Vapor Intrusion Products in Development
- State Vapor Intrusion Guidance: Recent Changes

EPA IG Report: “*Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks*” (December 2009) [Report No. 10-P-0042]

Four Recommendations

[EPA final proposed action dates are in parentheses]

1. Identify and publicly report the portions of OSWER’s November 2002 Draft Vapor Intrusion Guidance that remain valid and the portions to be updated (*August 2010*)

EPA IG Report (cont.)

Four Recommendations (cont.)

2. Issue final EPA vapor intrusion guidance(s) to include guidance on: *(November 2012)*
 - Updated toxicity values
 - Use of multiple lines of evidence
 - How to address risks from petroleum hydrocarbon vapors
 - How guidance applies to CERCLA five-year reviews
 - Whether/when preemptive mitigation is appropriate
 - Operations and maintenance; VI mitigation system termination; and when institutional controls and deed restrictions are appropriate

EPA IG Report (cont.)

Four Recommendations (cont.)

3. Train EPA and state staff and others on the new guidance(s). Training materials to be completed 6 months after issuing new EPA VI guidance(s)
(May 2013)
4. Finalize Toxicity Values for:
 - PCE *(July 2010)*
 - TCE *(December 2010)*

Note: Cal EPA TCE inhalation unit risk value (IUR) and oral slope factor are considered current, best, transparent, peer reviewed carcinogenic toxicity values

EPA Approach for Developing EPA Final VI Guidance (Henry Schuver, April 16, 2010)

- Launch VI website (April 2010)
<http://www.epa.gov/oswer/vaporintrusion/>
 - Portal for information on EPA VI activities
 - Resources for environmental professionals, lawyers, and the public
- Identify portions of EPA Draft VI Guidance (2002) to be updated (Summer 2010)
- Seek public input via a range of methods and venues (Summer 2010 through 2011)

EPA Approach for Developing EPA Final VI Guidance (Henry Schuver, April 16, 2010) (cont.)

- Conduct interagency review
- To the extent possible, release interim guidance(s) and supporting documents before issuing final guidance(s) (Fall 2012)

EPA Review of 2002 EPA VI Guidance: Basic Conclusions and Proposed Revisions (August 2010)

- High variability of spatial and temporal distribution of VOC concentrations in subsurface and indoor air
- Vapor intrusion more building-specific
- Greater emphasis on multiple lines of evidence
- Greater complexity in the factors that:
 - Affect migration and distribution of VOCs
 - Affect potential for vapor intrusion
- Generic attenuation factors to be updated

EPA Review of 2002 EPA VI Guidance (cont.)

- “Indoor air last” approach for sampling appears likely to be revised to:
 - o Allow more flexibility in subsurface and indoor air sequencing of sampling
 - o Get more rapid and direct assessment of indoor air
 - o Gain benefits of improved public relations and communication
- More methodologies to be developed for addressing indoor air background contamination

Other EPA Vapor Intrusion Products in Development

- Vapor Intrusion “Frequently Asked Questions” (About 55) (*December 2010*)
- Vapor intrusion national database -- empirical attenuation factors: (paired comparisons of groundwater, soil gas, subslab, and crawlspace concentrations to indoor air concentrations)
- Background levels of indoor air contaminant vapors
- Conceptual site model

Other EPA Vapor Intrusion Products in Development (cont.)

- Policy for vapor intrusion in non-residential settings addressing EPA Risk Based standards v. OSHA Worker Health & Safety standards --
 - For TCE, consider the following:
 - TCE: OSHA PEL 537,000 ug/m³
 - TCE: CA EPA HHSL (commercial) 2.0 ug/m³

Federal Agency Vapor Intrusion Guidance Documents

A few federal agencies have issued VI guidance documents

- Department of Defense: “Vapor Intrusion Handbook” (Jan. 2008)
- Guidance documents by Army, Navy, Marines, Air Force
- U.S. Postal Service: “Vapor Intrusion Guidance” (Sep. 2009)

Interstate Technology & Regulatory Council Vapor Intrusion Guidance Documents

- ITRC: “Vapor Intrusion Pathways: A Practical Guide” (Jan. 2007)
Note: Federal, state, industry consensus guidance
- ITRC: “Vapor Intrusion Pathways: Investigative Approaches for Typical Scenarios” (Jan. 2007)

State Vapor Intrusion Guidance Documents

- About 30 states have issued VI guidance
- They vary widely in purpose, scope, and detail
- In general, most are “vapor intrusion assessment” type guidance to evaluate health risk to individuals from indoor air concentrations
- EnviroGroup Ltd maintains a database of these guidance documents at:

<http://www.envirogroup.com/links.php>

State Vapor Intrusion Guidance Documents (cont.)

- EnviroGroup reports that five states have issued new final or draft guidance in last year
 - Maine: “Vapor Intrusion Evaluation Guidance” (Jan. 14, 2010)
Establishes systematic investigation and health based evaluation procedures.
 - North Carolina: “Supplemental Guidelines for [VI] Evaluations . . .” (Nov. 5, 2009)
Provides screening steps and sampling guidance for conducting step-wise sampling and testing with indoor air sampled last.

State Vapor Intrusion Guidance Documents (cont.)

- EnvioGroup new state guidance (cont.)
 - Washington: Draft “Guidance for Evaluating Soil Vapor Intrusion . . .” (Oct. 16, 2009)
Guidance provides a tiered investigation procedure, mitigation methods, and risk-based cleanup levels for groundwater, soil, and soil gas.
 - Oregon: Draft “Guidance for Assessing and Mitigating Vapor Intrusion in Buildings” (Sep. 14, 2009)
Guidance provides investigation guidelines, risk based evaluation criteria, and mitigation methods.

State Vapor Intrusion Guidance Documents (cont.)

- EnvioGroup new state guidance (cont.)
 - New Jersey: “Revisions to Indoor Air and Sub-Slab Soil Gas Sampling Requirements” (Aug. 21, 2009)
Provides revised requirements for obtaining and testing indoor air and sub-slab samples when groundwater concentrations exceed screening levels.
- A number of other states are reported to be revising their VI guidance

Conclusion

- The vapor intrusion pathway assessment process is becoming more complex.
- Vapor intrusion assessment determinations likely require more focused, building specific evaluations.
- Vapor intrusion risk avoidance requires using best available assessment methodologies.

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