

What Impacted Communities Understand/Need to Understand About Vapor Intrusion

Lenny Siegel

Center for Public Environmental Oversight

AEG Vapor Intrusion Conference

North Carolina—January 23, 2014

On the One Hand

- Vapor intrusion is rising to the surface all across the U.S.
- Few people know anything about it.
- Intrusion is an apt term, representing continuing exposures as well as threatening property values.
- Investigations are inherently complicated.

On the Other Hand

- People can understand vapor intrusion if one takes the time to explain it.
- Mitigation, if done right, is protective.
- Guidance is being developed.

Notify Early and Often



Why notify building occupants?

- Exposure levels are variable and experts continue to debate the quantitative risk from exposure to vapor intrusion chemicals of concern.
- Mitigation often is slow, and remediation takes forever.
- Sampling, as well as the operation and maintenance of mitigation systems, may require the cooperation of building occupants.
- Occupants may wish to make personal decisions to avoid exposure, whether or not required by regulators.

In residential settings:

- Owners and other occupants should be notified personally of any planned investigation, preferably before the general public and press are notified.
- Because many owners and occupants may still not be aware of what is going on, those conducting the investigation should follow up with broader publicity.
- Sampling results should be reported as soon as possible to building occupants. They should be offered access to independent experts to help them understand that data.
- Residential sampling results should be anonymized before distribution to the general public, but residents should be offered the opportunity to share their data.

In non-residential settings
(schools, daycare centers, commercial buildings,
hospitals, prisons, etc.):

- Easily visible signs at entryways should notify occupants and visitors that an investigation is planned or underway.
- Regular occupants (students or their parents, employees, inmates, etc.) should receive comprehensible notices.
- Notices should reflect the official level of concern and provide references or links to more detail, as well as to independent experts.
- Non-residential sampling results should be summarized on signs and in notices, with full access to sampling data on site or via the Web as well as advice from independent experts.

The Need for Frequent or Continuous Sampling



Message from Googler mother

hi Lenny

Thanks so much for your information and your help....

I have one more question- the levels that were found to exceed allowable amts in two of our buildings- Do you know how long the levels were at the 6.4 and 7.8? and what were the times of exposure?

There are lot of pregnant women in the building and I'd like to share the info.

Thanks!

Sampling

- Once or twice a year in a fixed location is not enough.
- May be more costly than mitigation.
- Real/Near-Real-Time sampling is the wave of the future.
 - Believable if quality controlled/assured
 - Identify pathways and indoor sources.
 - Catch peaks that could cause short-term risk.
- Pressurization/Depressurization may be a “one-time” alternative.
- Should requirements drive technology?

Risk Management

- Personal Risk Management is a right.
- Starting point should be reducing exposure to background: “It doesn’t belong there.”
- Depressurization better description than ventilation.
- Pre-emptive mitigation is a no-brainer for new construction.
- Pre-emptive mitigation may be cost-effective for existing buildings.
- Source remediation is the long-term solution.

Built to Resist Intrusion



Long-Term Monitoring

- Must not be ignored.
- Entropy: Buildings tend to get worse.
- Source term may vary.
- Cost-effective strategies necessary to promote voluntary pre-emptive mitigation.
- Real-time or indirect measurement valuable (TCE, radon, pressure); may be used to govern mitigation systems.

Key Messages of Risk Communication

- Failure to notify builds mistrust.
- Effort counts.
- No pathway, no risk.
- Exceeding protective standards doesn't mean people will get sick.
- “Added risk” vs. causality

E-mail me or give me your card if you want to join CPEO's free *Brownfields Internet Forum* and/or *Military Environmental Forum* newsgroup.

Lenny Siegel

Center for Public Environmental Oversight

c/o PSC, 278-A Hope Street

Mountain View, CA 94041

Voice & Fax: 650/961-8918

lsiegel@cpeo.org — <http://www.cpeo.org>