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Long Island

Testing for toxins on Long Island

As EPA and health officials check for soil vapor intrusion, many residents are worried about the health risks

BY JENNIFER SMITH

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When the Khanzadas bought their Franklin Square house in 2001, the family didn't realize it was next door to a Superfund site.

But a few years later, investigators with the federal Environmental Protection Agency came knocking. They were concerned that toxic vapors from the shuttered Genzale Plating Company next door were seeping into the basement of the two-story home on New Hyde Park Road.

In a series of events likely to become more common on Long Island, tests showed that air inside the Khanzadas' house and two others nearby had elevated levels of trichloroethylene -- a common industrial degreaser used by machine shops and dry cleaners that is also a potential carcinogen. The EPA put a carbon air filter in the basement and installed a vacuum system at the hazardous waste site to suck contaminated vapor from the soil. Six months later, they took the filter out and told the family everything was fine -- an assurance the Khanzadas are taking on faith.

"The EPA is a big government organization," said Samir Khanzada, 26, whose father bought the house. "I don't think they would lie to us ... But they don't disclose much."

Emerging issue on LI

The problem is called vapor intrusion and it can occur when volatile chemicals spilled or dumped into soil and groundwater evaporate. As vapor, the chemicals move into adjacent soil and sometimes seep up into nearby buildings.

An emerging issue whose health implications are still far from clear, vapor intrusion has raised many new questions for public officials, residents near toxic waste sites and those who want to clean up "brownfields" -- contaminated industrial or commercial properties -- with an eye to future development.

Officials now think the phenomenon could pose a risk at or near dozens of Long Island hazardous waste sites once thought to be either cleaned up or close to it. Environmental and health officials with state and federal agencies are scrutinizing such sites now for vapor intrusion. They started with 122 in 2002 and 2003.

The federal government began re-checking 33 sites where it had a role in supervising clean-up. So far, vapor intrusion has been detected at seven sites and 18 others were cleared, said EPA regional Superfund head George Pavlou.

New York state had responsibility for another 89 sites. Its health and environmental conservation agencies have re-checked 10 of them. Another 46 sites are being evaluated, with the remainder to be done next year, according to the DEC.

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Event Tickets	Vapor intrusion is commonly associated with chlorinated solvents such as trichloroethylene (TCE), perchloroethylene (PCE) and trichloroethane (TCA). Sometimes the chemicals came from dry cleaners or electronics manufacturers. Others leaked out of town landfills, or notorious Superfund sites such as Lawrence Aviation, a former Port Jefferson Station aerospace manufacturer whose owner has been indicted for dumping more than 11 tons of toxic waste on the property.
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How to advertise	"If the groundwater is contaminated with TCE or other chemicals, the potential for them to migrate through the soil and into people's houses is real," Pavlou said.
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	More seem likely to come: Four homes near the Lawrence Aviation site are scheduled to have systems installed, and air sampling continues at homes and businesses in both counties.
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TEACHERS Brentwood Union Free School District	Sen. Charles Schumer highlighted concerns about vapor intrusion in a news conference last month at a Garden City Superfund site. Schumer said the EPA was too slow to update its TCE risk assessment; the agency said it is in the process of doing so.
SECURITY OFFICER Columbia University	Scientists used to think very high levels of contamination were required for chemicals to turn into vapor and enter buildings. But in recent years, evidence has shown that vapor intrusion can occur even when contaminant levels in groundwater are relatively low. For instance, in 2003, tests detected TCE and PCE vapors in about 450 structures near a former IBM facility in Endicott, N.Y. -- despite local groundwater having been cleaned up to near drinking water standards.
AUTOMOTIVE Bob Mitchell Hardcore Racing	Long Island accounts for nearly a quarter of the more than 500 sites in New York state being scrutinized for vapor intrusion. Officials suggest this could be due to Long Island's comparatively intense development, bustling post-war industrial base and even its geology. Once contaminants hit the water in Long Island's underground aquifers, they can travel feet, even miles, as pollutant plumes that can expose homes and businesses above to toxic chemicals if vapor intrusion occurs.
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	Health issues unclear
	Mounting research suggests that TCE exposure is a potential cause of kidney cancer in humans and may be associated with reproductive and developmental problems. But a direct correlation between the level of exposure and the rate of disease has been difficult to establish, since studies must either test animals and extrapolate the results to humans, or track human response after exposure has occurred.
	The EPA has yet to issue a standard for airborne TCE. In the interim, federal officials use a range -- from .05 to 5 micrograms per cubic meter -- to determine potential danger to humans. "The so-called lack of definitive standards for TCE has not prevented us in any way from applying the best credible science," Pavlou said.
	In New York, the state health department has established its own TCE air guideline of 5 micrograms per cubic meter -- the high end of the range the EPA uses, but lower than levels that have caused health effects in animals and humans, according to a department fact sheet.
	New York "is pretty much leaps and bounds beyond the federal government" on vapor intrusion, said DEC spokeswoman Maureen Wren.
	But questions remain, even as officials move to declare some sites trouble free and others in need of remediation. Among other techniques, contractors seal cracks or keep vapor at bay by raising indoor air pressure through the placement of PVC venting pipes and fans.

Such measures are affordable and relatively simple to install, said Miriam Villani, a former EPA attorney and environmental counsel for Farrell Fritz, a Uniondale law firm. "But how long do you operate that for? We just don't know," Villani said. "If you stop it, will it come back over time?"

And some doubt these fixes will prevent people from becoming sick in the future.

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