

Testimony of

Carl Johnson
Deputy Commissioner for Air and Waste Management
New York State Department of Environmental Conservation

before the

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Chairman DiNapoli, on behalf of Commissioner Crotty I want to thank you for providing the New York State Department of Environmental Conservation (Department) with the opportunity to testify today on the important issue of vapor intrusion stemming from soil and groundwater contamination. Along with the New York State Department of Health (NYSDOH), the Department is committed to protecting public health and environmental quality from the potentially serious effects of vapor intrusion into homes and businesses. The efforts taken by our agencies, along with local public health officials, demonstrate New York State's ability to seek innovative and comprehensive solutions to vapor intrusion, as with other hazardous waste remedial problems.

New York State Superfund Program

It's often noted that the significant public health threat posed by hazardous waste sites was first recognized in New York State, and the significant experience which the Department has gained over 26 years of investigating and remediating these sites has been pivotal in ensuring the protection of our citizens and our natural resources. New York State has consistently remained on the cutting edge of the development of technologies to investigate and remediate those sites which pose a threat to public health and environmental quality, as well as setting in many cases the most stringent standards for cleanup of these sites.

Our efforts to protect the public and the environment through the effective remediation of hazardous waste sites was strengthened just last year, when the State Legislature approved and Governor Pataki signed legislation to bring the State's Superfund program into the 21st Century (Chapter 1, Laws of 2003). This statute:

- Allows municipalities across the State to take advantage of opportunities for redevelopment, job creation, and overall economic growth while protecting public health by removing contamination from communities;

- Refinances and reforms the State's Superfund Program;
- Creates a new State Brownfields Cleanup Program to encourage private investment through liability reform, tax incentives, and a predictable process for cleaning up and redeveloping brownfields;
- Improves the municipal Environmental Restoration Program funded through the 1996 Clean Water/Clean Air Bond Act to encourage even more participation; and
- Implements liability reforms to the State Superfund Program and Oil Spill Program.

Using the tools made available to the Department through this new law, as well as the experience which we have learned over nearly three decades of remediating hazardous waste sites, the Department intends to remain a national leader in this important public health and environmental quality arena.

Vapor Intrusion

One of the many areas in which the Department and NYSDOH are clearly at the forefront of remedial activities involves the issue of vapor intrusion. Vapor intrusion is a rapidly developing field of science and policy. While chemical concentrations of vapors typically are low, in some instances they can accumulate to levels which pose safety hazards, including the potential for explosions or acute health effects. Even in low concentrations, these vapors may lead to chronic health effects.

The pathways by which vapor intrusion occurs is different from other means through which people may be exposed to toxic contaminants. Typically, vapor enters a building through an underground path, generally because of contaminated groundwater which underlies the

building. Because this pathway can't be seen, we attempt to model the possible pathways which the groundwater -- containing chemical contamination -- could have arrived at a specific destination.

Determining the exact concentrations of contaminants in a building resulting from vapor intrusion may be difficult as well. For example, other substances which may be used in or around a building, including gasoline and cleaning solvents, may complicate our ability to effectively determine the precise level and source of contaminants stemming from vapor intrusion. Through modeling and direct measurements, the Department makes the best possible estimate of actual contamination levels resulting from vapor intrusion. In partnership with NYSDOH, we then search for means to resolve the problem.

The Department historically has considered the vapor intrusion pathway when investigating and remediating hazardous waste sites. Over the past several years, a refinement in our ability to detect vapor contaminants at low levels and a growing awareness that vapor intrusion may take place under a broader range of conditions than previously recognized has led us to reevaluate the pathway at many hazardous waste sites. Since 1999, the Department has worked closely with the USEPA to improve our understanding of vapor intrusion and to develop an approach to evaluating the vapor intrusion potential at hazardous waste sites.

In 2002, USEPA released a draft guidance which the states can use in determining whether or not subsurface vapors have intruded into a building. This draft guidance uses a tiered approach to decide whether or not vapors have migrated into the building and pose a health hazard. Even with this guidance, the Department recognizes that vapor intrusion cannot be resolved simply through ventilation at the buildings where hazardous or potentially hazardous levels of vapors are discovered. Elimination of the source is the Department's ultimate objective. Accordingly, the Department has developed a policy which requires a number of additional steps to be taken for vapor intrusion. This policy is used in conjunction with our overall remedial

efforts, which recognizes that vapor intrusion is one important component of a larger remedial project.

This comprehensive approach includes:

- Reviewing geologic and hydrogeologic engineering reports prepared by geotechnical consulting firms for hazardous waste facility owners;
- Developing project specific workplans which lead to the identification of the number and location of groundwater monitoring wells, the design of monitoring wells, specific hydrologic zones to be monitored, and mandate sampling frequency and parameters, all unique to the specific facility;
- Conducting annual field inspections of sites and facilities to ensure groundwater monitoring compliance, including groundwater sampling;
- Preparing formal complaints and consent orders for enforcement actions to be taken to correct groundwater monitoring violations identified from inspections;
- Reviewing workplans for the investigation, determination, selection and design of the appropriate remedial alternatives; and
- Evaluating hydrogeologic monitoring data relating to the environmental performance of the remedial system to ensure it is providing adequate protection for human health and the environment.

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We view the use of vapor mitigation systems as a short-term solution to the vapor intrusion problem. By addressing the source of the contamination, and ensuring that steps are taken to remediate and monitor the soil and groundwater which provides a pathway for the

migration of these chemicals, the Department can provide effective long-term protection of the public health from vapor migration.

By going to the source of the contamination, and ensuring that steps are taken to remove contaminated soils, the Department can remediate and monitor the groundwater which provides a pathway for the migration of these chemicals. These steps protect public health from vapor migration effectively.

Vapor intrusion remedial projects are handled in the same manner as other remedial activities conducted by the Department. For example, just as with any other site, we attempt to identify the parties responsible for the release of toxic contaminants into the environment. Where a Potentially Responsible Party (PRP) can be located, that person or company ultimately becomes responsible for cleanup activities.

In addition, the standards with which cleanups must comply are determined by NYSDOH, not the Department. Our responsibility involves establishing a cleanup plan which ensures that contamination is cleaned up to the level established by NYSDOH.

Along with NYSDOH, responsible parties and local public health agencies, the Department works to ensure that the public is informed of a vapor intrusion problem and our efforts to resolve it. Because vapors typically intrude into privately owned businesses and residences, developing a clear understanding of the contaminants and the actions needed to eliminate the exposure pathway and remove contaminants from the environment is a high priority for all of the involved entities.

The Department has developed a program policy to deal with all sites in all the remedial programs where vapor intrusion may be an issue. The strategy in the policy divides the universe of sites into two groups: 1) sites where remedial decisions have already been made (legacy sites) and 2) sites where remedial decisions have yet to be made. The guidance in this document

primarily applies to the first group -- sites where decisions have already been made -- and outlines a process to be used to identify and prioritize those sites for further action. A prioritization approach has been developed to focus efforts on evaluating legacy sites with the greatest potential for vapor intrusion first. The Department is in the process of working through the universe of legacy sites now to identify the sites of concern. The sites in group 2 have already been evaluated and, where necessary, vapor intrusion is being added as part of a routine investigation. All future sites will include a vapor intrusion investigation component. >

The Department will use the lessons learned from current and past vapor intrusion remedial projects to ensure the protection of public health and environmental quality. Using the information gained from NYSDOH's Exposure Registry, which is discussed in NYSDOH's testimony, as well as actions which the Department and/or PRPs will undertake at sites already being remediated, we will continue to innovate, so that the best ways to cleanup vapor intrusion sites will be available to protect New York's citizens.

In this respect, our actions will be no different than any other hazardous waste remedial project. Using the tools provided by the new Superfund and Brownfields statute, and working with PRPs and our sister agencies, the Department is committed to the swift and effective remediation of sites at which hazardous wastes are discovered.

The remediation of vapor intrusion sites is complex, and these comments only provide a brief synopsis of the actions which the Department undertakes. On behalf of Commissioner Crotty, I want to thank you again for providing the Department with this opportunity to testify, and I will be happy to answer any questions which you have on this complex issue.