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WATER RESOURCES CONTAMINATION AND ENVIRONMENTAL CLEANUP IN THE HUDSON VALLEY

(110–114)

FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

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April 4, 2008

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Water Resources and Environment

FROM: Subcommittee on Water Resources and Environment Majority Staff

SUBJECT: Hearing on "Water Resources Contamination and Environmental Cleanup in the Hudson Valley"

PURPOSE OF HEARING

On Friday, April 11, 2008, the Subcommittee on Water Resources and Environment will hold a field hearing to highlight the Federal and State agency roles in addressing public health risks posed by water resources contamination in the Hudson Valley, as well as the adequacy of existing human health standards for volatile organic compounds of concern in the region. The Committee will hear testimony from representatives of Federal, state, and local governments, environmental and health experts, citizen groups, and Hudson Valley community members.

SUPERFUND

"Superfund" is the name given to the environmental program established to address the nation's hazardous waste sites. It is also the name of the fund established by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), as amended. This law was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s.

Congress enacted CERCLA on December 11, 1980. It provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, established liability of persons responsible for releases of hazardous waste at these sites, and created a trust fund funded through a tax on the chemical and petroleum industries and a corporate environmental income tax to provide for cleanup when no responsible party could be identified.

Actions under Superfund are authorized for a release (or threat of a release) of a hazardous substance into the environment. A "hazardous substance" includes all those identified as hazardous under the Solid Waste Disposal Act, the Clean Water Act, the Clean Air Act, and the Toxic Substances Control Act. Response is also authorized for releases of "pollutants or contaminants", which are broadly defined to include virtually anything that can threaten the health of "any organism". Most nuclear materials and petroleum are excluded, except for those petroleum products that are specifically designated as hazardous substances under one of the laws mentioned above.

CERCLA authorizes two kinds of response actions:

1) Short-term removals, where actions may be taken to address releases or threatened releases of hazardous substances requiring prompt response; and
2) Long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances. These actions can be conducted only at sites listed on EPA's National Priorities List ("NPL").

The Superfund trust fund is not to be used for responding to releases of naturally occurring unaltered substances; releases from products which are part of the structure of residential buildings, businesses, or community structures (such as asbestos); or releases into drinking water supplies due to ordinary deterioration of the water system. An exception to these three limitations is made, however, in cases of public health or environmental emergencies when no other entity has the authority and capability to respond in a timely manner. CERCLA directs EPA to give priority to releases that threaten public health or drinking water supplies.

National Priorities List ("NPL")

CERCLA directs EPA to assemble a NPL to identify the most serious sites requiring cleanup. Sites may be placed on the list through various mechanisms: numeric ranking established by EPA's Hazard Ranking System, designation by states or territories of one top-priority site, or meeting all three of the following requirements: the Agency for Toxic Substances and Disease Registry of the U.S. Public Health Service has issued a health advisory that recommends removing people from the site; EPA determines the site poses a significant threat to public health; and EPA anticipates it will be most cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.

To date, there have been 1,581 sites listed to the NPL. Of these sites, 324 sites have been deleted resulting in 1,257 final sites currently on the NPL. With the proposal of six new sites this past month, there are 60 proposed sites awaiting final agency action: 55 non-Federal sites and five federal facilities. There are a total of 1,317 final and proposed sites on the NPL.

With all Superfund sites, EPA tries to identify and locate the parties potentially responsible for the contamination. For the newly listed sites without viable potentially responsible parties, EPA will investigate the full extent of the contamination before starting significant cleanup at the site. Therefore, it may be several years before significant cleanup funding is required for these sites.

Superfund Cleanup Standards

Current law requires EPA and other Federal agencies to comply with Federal and State Applicable or Relevant and Appropriate standards, Requirements, criteria, or limitations ("ARARs") when determining cleanup standards to be followed for wastes treated on-site. The statute does not contain its own cleanup standards; rather, it relies on ARARs to ensure that 1) response actions are protective of human health and the environment, and 2) applicable state and federal laws and regulations are not violated during the cleanup procedure. The statute also requires that numerical standards derived from the Safe Drinking Water Act and water quality criteria established under the Federal Water Pollution Control Act would be applicable to the cleanup process if determined relevant and appropriate by federal and state regulators.

Superfund Program Funding

The Superfund law was created under a "polluter pays" principle, where the party responsible for causing pollution pays for the cleanup of the pollution. Under this principle, owners or operators of contaminated sites, or generators or transporters of hazardous wastes, are required either to carry out remedial activities at or to pay for the cleanup of a contaminated site. The statute imposes retroactive, joint-and-several, strict liability on responsible parties, and empowers the EPA, under this liability scheme, to clean up waste sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-lead cleanups. The Superfund law also created a trust fund for EPA to clean up "orphan sites", where parties responsible for causing pollution were no longer in existence, refused to clean up, or could not afford to pay for the cleanup. The trust fund historically was funded by cleanup costs that EPA recovers from responsible parties, and by three dedicated taxes on petroleum, chemical feedstocks, and corporate income.

However, the taxes expired at the end of 1995, and the amount of unobligated money in the fund gradually decreased. By the end of FY 2003, the fund's unobligated balance was zero, down from a high of $3.8 billion in 1996.

Since 1995, the annual Federal budgets have compensated for the reduction in dedicated tax revenue by increasing the contribution from the general fund of the U.S. Treasury. In fiscal years 2004 through 2008, virtually the entire Superfund program appropriation came from general Treasury revenues. Additional revenues from cleanup costs that EPA recovers from responsible parties also continue to fund the trust fund.

A March 2008 report by EPA's Office of Inspector General ("IG") evaluated the Superfund cost recovery and billing practices at a sample of NPL sites. The report found that EPA regions have recovered $165 million of $294 million (56 percent) of the total Superfund costs from the sites it reviewed. Potentially responsible parties at these sites have generally paid what they have been billed. However, EPA has not recovered as much as $129 million (44 percent) and has determined it will not attempt to recover between $30 million and $90 million of this amount. According to the IG, this indicates a potentially significant breakdown in controls over Superfund cost recovery. The report recommended that EPA (1) enhance cost recovery guidance for all regions, (2) implement mechanisms to support calculating how efficiently it is recovering site costs and tracking corrections, and (3) implement performance measures to track how efficiently it is recovering these costs. EPA concurred with the recommendations and has proposed actions to address them.

The "polluter pays" principle continues to drive Superfund cleanups whenever EPA can identify a responsible party who created a Superfund site. EPA has been working to identify whether responsible parties can be identified and required to pay cleanup costs. Because of the EPA Superfund enforcement program's efforts, about 70 percent of Superfund site cleanups currently being conducted are performed or paid for by the parties responsible for contaminated sites. However, there is a large number of site cleanups that have not started due to inadequate funding.

Even though most Superfund site cleanups are done or paid for by responsible parties, there is evidence that the Superfund program is not being funded at a level commensurate with the program's needs and capability. Evidence from prior years indicates that cleanup projects failed to advance due to insufficient funds, delaying public health and environmental benefits, as well as economic benefits derived from returning sites to productive use. For example, according to a report from the EPA IG, EPA obligated a total of $320 million in remedial action construction activities in FY 2002, a difference of $97 million from the EPA Regional Offices' total need of $417 million. In addition, another report by the EPA IG identified a funding shortfall of $175 million for cleanups that were ready to be initiated in FY 2004.

For the Superfund program, the Views and Estimates of the Committee on Transportation and Infrastructure for Fiscal Year 2009 recommends funding at a level commensurate with current program needs and as necessary to maintain the average number of construction completions over the past 10 years. The Committee recommends funding for the Superfund program at a level that matches its capability, so that no cleanup projects fail to advance due to lack of funding, delaying public health and environmental benefits, as well as economic benefits derived from returning sites to productive use. The Committee supports increased funding for on-the-ground removal and remedial activities.

In fact, in the 106th Congress, the Committee on Transportation and Infrastructure considered H.R. 1300, the "Recycle America's Land Act of 1999", which provided the sense of the Committee that the taxes to support the Superfund be reinstated, commensurate with revenue needs. This legislation, which was favorably reported by a vote of 69-2, was never considered by the full House of Representatives.

BACKGROUND ON HOPEWELL JUNCTION

The Hopewell Precision Area Groundwater Contamination Site is located in Hopewell Junction in the Town of East Fishkill, Dutchess County, New York. Hopewell Precision, Inc. (and its predecessor, Hopewell Fabricators, Inc.) has operated at either 15 or 19 Ryan Drive since the early 1970s, manufacturing sheet metal parts and assemblies. Various painting and degreasing processes used at these locations generated wastes that were reportedly disposed of directly on the ground, resulting in a groundwater contamination plume which now extends about 1.5 miles in a southwesterly direction from 15 and 19 Ryan Drive. The area surrounding the Site is mostly residential, all of which is served by private drinking water wells and septic systems.

Groundwater is contaminated with volatile organic compounds ("VOCs") such as trichloroethylene ("TCE") and 1,1,1,- trichloroethane ("TCA"). Since March 1980, TCE and TCA have been detected in a drinking water well and several monitoring wells located on the Hopewell

Precision property. Both VOCs have also been detected in nearby private drinking water wells. In February 2003, EPA collected samples from 75 residential wells in the vicinity of the Site and found that five of these wells were contaminated with TCE. In response to this finding, EPA initiated a removal action under the federal Superfund program in March 2003.

Since February 2003, EPA Region 2 has collected drinking water samples from wells in the vicinity of Hopewell Precision Area Contamination Site. TCE and TCA were both detected in numerous private well samples, at individual concentrations up to 250 micrograms per liter. In addition, a direct breakdown produce of TCE was detected in two samples. Several instances of TCE detection exceeded its Maximum Contaminant Level ("MCL")[1] of 5 micrograms per liter.

Contamination from the site is also believed to have an impact on ponds located downgradient of 15 and 19 Ryan Drive. In April 2003, EPA collected water and sediment samples from small ponds located about 300 feet south-southwest (i.e., downgradient) of 15 and 19 Ryan Drive. TCE was detected at concentrations of 4 micrograms per liter and 3.4 micrograms per liter in water samples and 88 micrograms per kilogram in a sediment sample. EPA collected additional samples from two ponds located approximately 900 and 4,500 feet southwest of Hopewell Precision in May 2003. TCE was detected at an estimated concentration of 3.6 micrograms per liter in a sediment sample from the closer pond, but was not detected in samples collected from the farther pond.

On April 27, 2005, EPA placed Hopewell Precision on the National Priorities List.

A public health assessment, conducted by the New York State Department of Health, was completed on September 28, 2007. The public health assessment concluded that public health actions were necessary in the past and may be necessary in the future to address the long-term public health risk posed by exposure to site-related and non-site related VOCs.

EPA continues to sample the 38 carbon filtration systems on a quarterly basis to ensure that they are working properly. Furthermore, the New York State Department of Environmental Conservation will continue to sample their 14 carbon filtration systems on a quarterly basis. EPA will also continue to sample impacted and potentially impacted private wells, accompanied by indoor air sampling as deemed appropriate, in order to evaluate how the plume of contaminated groundwater is moving and to determine whether additional homes may be impacted in the future. Should additional impacted residences be identified, EPA will install point-of-entry-treatment systems and/or sub-slab ventilation systems in those residences.

[1] MCLs are the maximum permissible levels of a contaminant that may be present in water used for drinking purposes.

OTHER NPL SITES IN THE HUDSON VALLEY REGION

Brewster Well Field, Village of Brewster

NPL Listing Dates	Threat and Contaminants	Description	Cleanup	Cleanup Progress
Proposed Date: 12/1/1982 Final Date: 9/1/1983	Groundwater contaminated with VOCs including tetrachloroethylene (PCE) and vinyl chloride. River water and sediments also contain VOCs.	The source of the contamination was traced to a dry-cleaning establishment that has been in operation since 1958. Operators disposed of dry-cleaning wastes in a well located adjacent to the establishment until 1983.	In 1986, continued to operate the existing air stripping system at the well field and designed and constructed a groundwater management system that would contain the plume of contamination and restore groundwater quality in the vicinity of the site by extracting the contaminated ground water from wells, treating the extracted groundwater with an air stripper, and reinjecting the treated water into the ground. In 1991, after the groundwater management system was constructed and started up, the reinjection wells began to clog. After evaluating various corrective measures, it was determined that the most appropriate approach would be to discharge the treated groundwater to the East Branch Croton River instead of reinjecting it. Excavated about 100 cubic yards of sediments, sludge, and soil contaminated with VOCs from the dry well located outside of the dry cleaners; treated/disposed of these materials off-site; removed the dry well; and decontaminated the excavated dry well and associated debris and disposed of them off-state at an EPA-approved hazardous waste facility.	The source of the contamination at the well field, the dry well, has been excavated and removed from the site. The Village of Brewster's groundwater treatment system continues to treat groundwater for distribution to the public, eliminating the risk of ingesting contaminated water. The groundwater management system, which has been in operation since 1998, has treated approximately 251 million gallons of contaminated water to date. It is estimated that 26,000,000 gallons of contaminated groundwater will be treated per year for 10 years.

Carroll and Dubies Sewage Disposal

NPL Listing Dates	Threat and Contaminants	Description	Cleanup	Cleanup Progress
Proposed Date: 6/24/1988 Final Date: 2/21/1990	On-site groundwater is contaminated with VOCs as well as some chlorinated VOCs.	Site was made up of seven inactive lagoons that were used for the disposal of various wastes since about 1970. Until 1979, waste from two nearby cosmetic manufacturers was deposited into unlined lagoons at the site. Septic tank waste also was accepted at the site until 1989. Five of the seven lagoons were filled, covered, and graded. The two uncovered lagoons were fenced.	Cleanup included the excavation and off-site treatment and disposal of approximately 13,300 tons of lagoon sludge and soil contaminated with organic and inorganic contaminates; soil vapor extraction to heat subsurface soils impacted by VOCs, unless practicable to excavate and dispose these soils off-site; on-site treatment of some contaminated soil and materials by ex-situ soil vapor extraction prior to off-site disposal; and backfiling and regarding of excavated areas with clean soil. Cleanup also included natural attenuation of organic contaminants in the groundwater; implementation of institutional controls to restrict the use and installation of groundwater wells throughout the contaminated groundwater plume; monitoring of the groundwater; and sampling in Gold Creek.	Construction complete. Groundwater monitoring is conducted to ensure that the remedy remains protective. Recent monitoring data indicates that the extent of the plume has been established, benzene concentrations appear to decline with distance away from the former lagoons. No additional work is recommended at this time, other than continued monitoring.

Nepera Chemical Company, Inc., Town of Hamptonburgh

NPL Listing Dates	Threat and Contaminants	Description	Cleanup	Cleanup Progress
Proposed Date: 10/1/1984 Final Date: 6/1/1986	A wide variety of VOCs, semi-volatile organic compounds (SVOCs), pesticides, PCBs, PAHs, as well as inorganic compounds and cyanides have also been detected in groundwater monitoring wells at the site.	Site is a 29.3-acre former industrial waste disposal facility. It is a rural, residential and agricultural area near the confluence of two streams, with wetlands nearby. The former wastewater lagoon area, containing six backfilled lagoons, occupies an area of about five areas. Between 1953 and 1967, the lagoons were used to dispose of approximately 50,000 gallons a day of wastewater from the plant in Harriman. The plant produced a variety of pharmaceutical and industrial chemicals. State inspectors detected leaks from the lagoons in 1958 and 1960. Operations were discontinued in December 1967. By 1974, all lagoons had been backfilled with soil.	All lagoons were filled by 1974, and a fence was constructed to limit access to the site. Three drums were discovered during the remedial investigation test pit excavation during 1991 and these were removed and disposed of after analysis. A fence was installed around the five-acre lagoon area in 1995. In 1988, a remedial investigation and feasibility study to determine the nature and extent of the contamination at and emanating from the site was agreed to, to identify and evaluate remedial alternatives. A second phase was begun in 1993 to expand the groundwater investigation and also to address additional on-site and off-site concerns. Additional groundwater monitoring wells were installed in 2002 and groundwater monitoring samples were collected in 2002, 2003, and 2004. In addition, extensive soil sampling activities were conducted in 2002. A final remedial investigation was issued in March 2006. The final feasibility study, addressing the subsurface and surface oil contamination and the groundwater contamination at the site, was issued in July 2007.	Filling the wastewater lagoons and restricting access via fencing on the site has limited potential exposure to the public, while further investigations leading to the selection of final cleanup remedies continue. The remedial investigation was completed in March 2006 and the FS was issued in July 2007. The Proposed Plan detailing the remedial alternatives for the site was also released by public comment in July 2007. A Record of Decision for this site was issued in Fall 2007.

Shenandoah Road Groundwater Contamination Superfund Site, Town of East Fishkill

NPL Listing Dates	Threat and Contaminants	Description	Cleanup	Cleanup Progress
Proposed Date: 1/11/2001 Final Date: 6/14/2001	Groundwater at the site is contaminated with VOCs, primarily PCE. To a lesser extent, breakdown products of PCE, including TCE, have been detected as well. The horizontal extent of the PCE plume has been determined based on the sampling of approximately 230 residential wells at the Site. The plume has migrated radially from the source area at 7 East Hook Cross Road with a primary flow component to the north extending approximately 3,000 feet. The plume has also migrated approximately 2,000 feet to the south and east of the source area.	In October 2000, EPA and the New York State Department of Environmental Conservation (NYSDEC) conducted investigatory work at a former commercial facility at 7 East Hook Cross Road, Hopewell Junction and discovered a 1,200 gallon metal septic tank containing materials exhibiting extremely high concentrations of PCE. Information obtained by EPA and NYSDEC indicates the facility was used between the late 1960's and early to mid 1970's for the cleaning of microchip holders or "racks." According to former employees at the facility, waste cleaning solvent (PCE) from this process was discharged into the septic system. During excavation of the contaminated soil associated with the former septic tank, two additional PCE disposal areas were discovered. Also, in August 2001, EPA discovered a buried "acid pit" behind the former 7 East Hook Cross Road facility.	This Site is being addressed in two stages: emergency response actions, including providing a permanent alternate water supply for the affected residents, and a long-term remedial phase which will focus on investigation and remediation of the contaminated groundwater. Point-of-entry-treatment (POET) systems were installed by EPA in homes where the well was contaminated at or above drinking water standards to ensure a safe supply of water. EPA monitored wells near the Site without POET systems to ensure that they meet drinking water standards. These initial actions were taken to protect the health of the public until a more permanent solution could be implemented. In November and early December 2000, EPA excavated the septic tank associated with the facility at 7 East Hook Cross Road and removed its contents for transportation and off-Site treatment and disposal. EPA also excavated contaminated soil associated with the septic tank which was temporarily stockpiled on Site. It was necessary for EPA to demolish the facility prior to excavation of the underlying contaminated soil. During excavation of the contaminated soil associated with the former septic tank, two additional PCE disposal areas was staged at the Site and removed for off-Site disposal by a potentially responsible party in August 2001. Excavation activities associated with the former acid pit were completed in January 2002. Off-site disposal of approximately 2,000 tons of contaminated soil associated with the former pit was completed by January 2002. In May 2001, IBM assumed responsibility for the completion of the soil removal action at the 7 East Hook Cross Road source area started by EPA, as well as continued maintenance of the POET systems. Also, IBM evaluated alternate water supply for the affected residents of the Site. IBM is performing the Remedial Investigation/Feasibility Study (RI/FS)	As part of the initial emergency response action, EPA installed 57 POET systems in homes where residential wells were contaminated at or above MCLs to ensure a safe supply of water. EPA also provided operation and maintenance of these systems, as well as the three POET systems installed by homeowners prior to EPA's involvement at the Site. As of June 2001, IBM assumed responsibility for operation and maintenance of the POET systems at the Site. In July 2001, IBM offered to install POET systems in homes that were "threatened" or adjacent to homes with contaminated wells. Since July 2001. 45 additional POET systems have been installed in affected homes. To date, there are currently 105 POET systems installed at affected residences in the Shenandoah Road area. IBM and its contractors are proceeding with construction of the alternate water supply. To date, under the first contract, the majority of the water main transmission line has been installed. Subsequent construction activities include contracts for the Shenandoah Road distribution line, the private road distribution lines, the water storage tank and the homeowner connections. EPA anticipates completion of the water supply system sometime in mid-2008.

			investigation. Vapor intrusion is also being investigated as part of the RI/FS phase. EPA has conducted indoor air sampling and subslab sampling at a number of the residences in the Shenandoah Road area that are affected by groundwater contamination, namely PCE and, to a lesser extent, TCE.	

HAZARDOUS SUBSTANCES, POLLUTANTS AND CONTAMINANTS

The following substances are prominent at the Hudson Valley site this hearing will focus on, Hopewell Precision:

TRICHLOROETHYLENE ("TCE")

Trichloroethylene ("TCE") is a nonflammable colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers. TCE is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

Exposure can occur by breathing air in and around the home which has been contaminated with TCE vapors from contaminated shower water or household products such as spot removers and typewriter correction fluid. Additionally, one can be exposed through drinking, swimming, or showering in water that has been contaminated; through contact with contaminated soil, such as near a hazardous waste site; and through contact with skin or breathing contaminated air while manufacturing TCE or using it at work to wash pain or grease from skin or equipment.

Breathing small amounts of TCE may cause headaches, lung irritation, dizziness, poor coordination, and difficulty breathing. Breathing large amounts may cause impaired heart function, unconsciousness, and death. Breathing TCE for long periods of time may cause nerve, kidney, and liver damage. In addition, drinking small amounts of TCE for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear. Drinking large amounts of TCE may cause nausea, liver damage, unconsciousness, impaired heart function, or death. Skin contact for short periods may cause skin rashes.

Some studies with mice and rats have suggested that high levels of TCE may cause liver, kidney, or lung cancer. Some studies of people exposed over long periods to high levels of TCE in drinking water or in workplace air have found evidence of increased cancer. Although there are some concerns about the studies of people who were exposed to TCE, some of the effects found in humans were similar to effects in animals.

In its Ninth Report on Carcinogens, the National Toxicology Program determined that TCE is "reasonably anticipated to be a human carcinogen." The International Agency for Research on Cancer has determined that TCE is "probably carcinogenic to humans."

1,1,1-TRICHLOROETHANE ("TCA")

1,1,1-Trichloroethane ("TCA") is a synthetic chemical that does not occur naturally in the environment. No TCA is supposed to be manufactured for domestic use in the United States after January 1, 2002 because it affects the ozone layer. TCA had many industrial and household uses, including use as a solvent to dissolve other substances, such as glue and paints; to remove grease and oil from manufactured metal parts; and as an ingredient of household products such as spot cleaners, glues, and aerosol sprays.

Exposure can occur by breathing TCA in contaminated outdoor and indoor air. Because TCA was used to frequently in home and office products, one is likely to be exposed to higher levels indoors than outdoors or near hazardous waste sites. In the workplace, one can be exposed while using some metal degreasing agents, paints, glues, and cleaning products. Additionally, exposure can occur through ingesting contaminated drinking water and food.

Breathing air containing high levels of TCA for a short period of time can cause dizziness, lightheadedness, and possible loss of coordination. These effects rapidly disappear after breathing contaminated air has ceased. Breathing contaminated air at much higher levels, one can become unconscious, blood pressure may decrease, and the heart may stop beating. Whether breathing low levels of TCA for a long time causes harmful effects is unknown. Studies in animals show that breathing air that contains very high levels of TCA damages the breathing passages and causes mild effects in the liver, in addition to affecting the nervous system. There are no studies in humans that determine whether eating food or drinking water contaminated with TCA could harm health. Placing large amounts of TCA in the stomachs of animals has caused effects on the nervous system, mild liver damage, unconsciousness, and even death. If human skin contacts TCA, one may feel irritation. Studies in animals suggest that repeated exposure of the skin might affect the liver and that very large amounts may cause death. These effects occurred only when evaporation was prevented.

Available information does not indicate that TCA causes cancer. The International Agency for Research on Cancer and the EPA has determined that TCA is not classifiable as to its carcinogenicity in humans.

Children exposed to large amounts of TCA probably would be affected in the same manner as adults. In animals, it has been shown that TCA can pass from the mother's blood into a fetus. When pregnant mice were exposed to high levels of TCA in the air, their babies developed more slowly than normal and had some behavioral problems. However, whether similar effects occur in humans has not been demonstrated.

ADDITIONAL NOTES

H.R. 5527, the "TCE Reduction Act of 2008", was introduced in the 110th Congress. This bill seeks to amend the Safe Drinking Water Act to protect the health of susceptible populations, including pregnant women, infants, and children, by requiring a health advisory, drinking water standard, and reference concentration for TCE vapor intrusion, and for other purposes. H.R. 5527 has been referred to the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials. The bill was not referred to the Committee on Transportation and Infrastructure.

WATER RESOURCES CONTAMINATION AND ENVIRONMENTAL CLEANUP IN THE HUDSON VALLEY

Friday, April 11, 2008

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT,
East Fishkill, NY.

The Subcommittee met, pursuant to call, at 10:15 a.m., in East Fishkill Town Hall, East Fishkill, New York, Hon. Eddie Bernice Johnson [Chairwoman of the Subcommittee] presiding.

Ms. JOHNSON. Good morning.

I call this hearing of the Subcommittee on Water Resources and Environment to order.

Today, we will receive testimony in regards to water resources contamination and environmental cleanup in the Hudson Valley region.

The Comprehensive Environmental Response, Compensation and Liability Act of 1980, or Superfund, provides broad Federal authority to respond to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Former Senator Robert T. Safford, Republican from Vermont and at one time the Chairman of the Senate Environment and Public Works Committee, described the need for Superfund legislation in the June 1981 EPA Journal. He wrote:

"Together with the other Members of the Senate Committee on Environment and Public Works, I worked on this legislation for nearly three years. ...Eighty percent of American people wanted some legislation. ...The Surgeon General of the United States considers toxic chemicals to pose a major threat to health in the United States or the decade of the 1980s. Modern chemical technology has produced miracles that have greatly improved this nation's standard of living. But the increased generation of hazardous substances associated with these new products has proved to be a serious threat to our nation's public health and environment."

The Superfund was enacted by Congress on December 11, 1980. Since March 1980, TCE and TCA chemicals have been detected in a drinking water well located on the Hopewell Precision property, which we will discuss today. Until 1983, operators disposed of dry-cleaning wastes in a well located adjacent to the establishment at the Brewster Well Field site, which we will also discuss today. The Superfund law was timely in the Hudson Valley, just as it was across the nation.

A Native American proverb states: ″We do not inherit the earth from our ancestors, we borrow it from our children.″

This is an important idea that we should all keep in mind as we listen to today's testimony. While we are here to discuss the decontamination of sites that, through recent history, have harmed our land, soil and air, we must not simply focus on the Superfund cleanup program.

We must also consider and have concern for the human health impacts that these sites have had on our communities, and the problems that these sites can bring about in the future if not properly handled in a timely manner.

I would like to thank Congressman Hall for bringing to the Subcommittee's attention the need for such a hearing. The Congressman has a long history of environmental activism, fighting for safe energy and environmental protection of the Hudson Valley long before he took a seat on our Committee.

He has brought his passion for these issues to us, using his expertise to raise awareness on the Water Resources and Environment Subcommittee and throughout the halls of Congress.

I would also like to welcome our witnesses here today. I look forward to hearing your testimony on the Federal and State agency roles in addressing public health risks posed by contaminated sites in the Hudson Valley, as well as the adequacy of existing health standards to address these concerns.

Before I yield to my colleague, the Ranking Member of the Subcommittee on Water Resources and Environment, I ask for unanimous consent to allow Members five additional legislative days to submit statements for the record on this hearing.

Ranking Member Boozman.

Mr. BOOZMAN. My name is John Boozman. I represent the Third District from Arkansas, and the way that the hills and the things around here are very, very similar to where I come from. It is a beautiful part of the country.

As a newly appointed Ranking Member of this Subcommittee, I am delighted to be here to learn firsthand about the important pollution issues here in the Hudson Valley.

An important objective of the EPA Superfund is to protect human health from the risks of hazardous substances like TCE. We must be sure that the dollars we spend for the Superfund program do indeed reduce the public health risks. EPA and the State of New York have clearly done a great deal here in the Hudson Valley to try to reduce human exposure to dangerous pollutants.

The question remains; what are the next steps that need to be taken? We passed a lot of laws in Washington establishing new funding programs that we hope are doing some good for people. I think it is important for Members of Congress to get out of Washington and out of our own Congressional districts to see other areas of the country and to listen to citizens tell us what is working and what is not, so I have come here to listen, and I look forward to hearing from our legislators and share with us their real world experiences with the Superfund program.

I want to thank Representative Hall for bringing this issue to our attention and Chairwoman Johnson for holding this hearing,

and I look forward to hearing from our witnesses. Thank you Madam Chair.

Ms. JOHNSON. Thank you, Mr. Boozman. I now recognize Congressman Hall.

Mr. HALL OF NEW YORK. Thank you, Madam Chair. I would like to thank Chairwoman Johnson and Ranking Member Boozman for traveling here, when they could have spent last night in their own beds in Texas and Arkansas respectively and in their home districts today, so we can hold this hearing and discuss the impact of the pollution from Superfund sites is having on communities and on the health of our citizens in the Hudson Valley. I would also like to thank our esteemed panel of witnesses for appearing here to share their views.

I would like also, at this time, if I may, Madam Chair, to request that the statement by Congressman Hinchey, who represents New York's 22nd Congressional District, be entered into the record. There is also a letter from Dutchess County Legislator Marge Horton that I would ask to be introduced into the record. I will also acknowledge some local officials and staff: Taylor Palmer from the Representative Nita Lowey's staff; Mike Russo, from Representative Kirsten Gillibrand's staff; Bill McCabe, Dutchess County Legislator; Sandra Goldberg, Dutchess County Legislator; Steve Neuhaus, Supervisor of the Town of Chester; and, I know he is not on the witness list, but also Region Three director, Will Chamberlain. I would like to recognize those individuals, in addition to those who were officially testifying today.

I know there are a few more people who would want to be in this hearing and could not attend. It is not every day that Congress steps out of the Beltway, as Mr. Boozman said, but it is important that we do undertake a close and personal investigation of the challenges that we face.

The Hudson Valley has been blessed with an abundance of water resources, sometimes in recent years too much water, and the commitment of local residents to protecting these resources is strong. In the 19th congressional districts, we are home to no less than five active sites on the Superfund's National Priority List, or NPL. You will hear the initials NPL later. That's what it means.

The sites on that list include Carroll and Dubies Sewage Disposal in Port Jervis, and Deer Park, the Nepera Chemical site in Hamptonburgh, Brewster Well Field in Brewster, and right here where we hold this hearing, Shenandoah Road in East Fishkill and the Hopewell Precision Site in Hopewell Junction.

This list is reserved for sites throughout the country that are far and away the most hazardous, and in fact, the worst of the worst. They create a public health risk and an economic burden that can last for years and generations. We need to constantly examine what can be done to accelerate their cleanup.

It is my hope that today's examination of these sites will provide specific insight to take back to Washington and apply to the Superfund program as a whole—because what is happening here is directly related to the Superfund program on a national basis. The same pollutants, the same funding challenges, the same desire to accelerate cleanup are in evidence throughout the country.

One of the most common threads among Superfund sites is the pollutant that is the main culprit right here in Hopewell Junction: TCE, or trichloroethylene. At the Hopewell Precision site, it was used for degreasing, and then recklessly dumped into the ground, contaminating wells, creating vapor intrusion and leaving a mile and a half long underground plume from the site.

Contact with that chemical can have a number of serious health consequences ranging from dizziness and headaches to kidney and liver damage, and likely even to cancer.

The citizens of the Hopewell area are not alone in having to deal with TCE. Since 2003, the Agency for Toxic Substances and Disease Registry indicated that TCE was present at 852 of the 1,430 or almost 60 percent of the National Priority List sites of TCE as one of the main contaminants. Despite this widespread prevalence, the EPA, our Environmental Protection Agency, has yet to move forward with a protective standard for TCE that would make it easier for communities to cope with the health threats of this pollutant.

I share the view of the National Academy of Sciences that there is ample evidence to move forward, and have joined Congressman Hinchey in introducing the TCE Reduction Act. This legislation would spur EPA action on the subject. I hope the record we establish here will forward that cause.

I am also looking forward to examining the impact of EPA's decreasing investment in Superfund and the growing reliance on US Treasury revenues on cleanup progress. Although the original principle that the polluter pays is still present in Superfund, the expiration of the taxes on polluting industries in 1995 has limited resources and placed greater strain on the program.

Since 2004, the program for cleanup has relied almost exclusively on you, the taxpayer. Those funds do not come from polluter tax dollars. They come from your pocket. This is not the intent of the Superfund law, nor the way it was written.

Faced with an increasingly tight budgetary climate, the Superfund program has begun to fall significantly behind needed funding levels on a national basis. Since fiscal year '02, funding has been consistently beneath where it should be, about $400 million below the annual need.

Similarly, reviews from within EPA have raised concern that the agency is not doing as well as it could in recovering costs from responsible parties. When resources are not available, cleanup suffers and the communities that are stuck with these toxic sites continue to be harmed.

We, as a government, have to do better, and I am hopeful that today's hearing will provide us with a deeper understanding of how we can move in that direction, both in the 19th District and around the country. I thank you.

Ms. JOHNSON. Thank you. Without objection, we will enter into the record those documents you recommended.

We will begin our testimony with the first panel. What we will do is hear from the three of you before questions begin, and you will comment in the order in which you are listed, Ms. Hall, Mr. Hickman and Mr. Degnan. We will now hear Ms. Hall.

TESTIMONY OF DEBRA HALL, HOPEWELL JUNCTION CITIZENS FOR CLEAN WATER; JOHN HICKMAN, EAST FISHKILL TOWN SUPERVISOR; AND THE HON. JOHN DEGNAN, FORMER MAYOR, VILLAGE OF BREWSTER

Ms. HALL. My name is Debra Hall. In the past seven years, my husband and I have lived above the plume of chlorinated solvent contamination emanating from the Hopewell Precision plant here in Hopewell Junction, New York. I would like to thank Congressman Hall, Chairwoman Eddie Bernice Johnson of New York and Ranking Member Boozman from Arkansas for coming to hear directly from people whose health and property are impacted by toxic contamination.

I have five messages for you today. I would like to think they are simple but the EPA must promulgate a protective standard for trichloroethylane, one of the contaminants that polluted my private well as well as the air in my home. Five parts per billion is no longer acceptable. We had hoped that the EPA would finalize its 2001 draft Human Health Risk Assessment, which found that TCE was five to 65 times as toxic as previously believed.

In 2002, the EPA Science Advisory Board conducted a generally positive peer review, but instead of finalizing the risk assessment, EPA bent to the wishes of federal polluting agencies and sent the question of the National Academy of Sciences to the National Academy of Sciences for a rereview.

The academy concluded that the evidence on carcinogenic risks and other health hazards from exposure to trichloroethylane has strengthened since 2001, and the Committee recommends that federal agencies finalize their risk assessment with currently available data so that risk management decisions can be made expeditiously.

Now we are told that there is so much new information about TCE, it would be best to do a completely new study.

Stakeholders agree that more is being learned all the time, but we also know that the standard needs to be lowered. Our health and lives depend on it. A completely good report is gone into the garbage. Instead of getting implemented, instead of our families being protected by a more protective standard, we will now have to wait years for another study. This does not make any sense. It is like building a four-lane bridge but never using it. Instead it gets demolished because a six-lane bridge is now needed. It just does not make any sense.

Furthermore, EPA needs to finalize its 2002 Vapor Intrusion Guidance using ideas from impacted communities as well as other experts. We believe that vapor mitigation units should be installed wherever volatile organic compounds are detected above outdoor air levels. It would be protective and cheaper in the long run since testing and mitigation usually costs about the same. This is what was done at our site, and we feel it is working out very well. Every home must be retested to make sure the system is working.

I was disappointed to learn recently that there is no plan to complete the guidance, despite ongoing technical work and the constructive input from impacted communities.

The EPA should organize a genuine national forum that brings vapor intrusion stakeholders from all across the country together with experts and government officials.

Last month I presented to a roomful of officials and consultants with four of the stakeholders. We all provided lots of information and even taught the audience a thing or two. EPA is organizing another forum this fall, but it will again be a handful of community stakeholders with hundreds of paid people in suits, unless EPA provides travel assistance to enable people like me from around—from all over the country to attend.

The EPA and others should learn what is important to the people who are affected, concerns are very different when you walk in our shoes. Congress needs to reinstate the Superfund tax. In the near future, hopefully, we are going to find out what remedies will be used to clean the Hopewell Precision site, but we aren't sure EPA will have the money to implement them, and if we get the money here, it will be at the expense of some other contaminated community.

It has been five long years already since this began for us. Without enough money, our community will be indefinitely stigmatized. We want action to help us climb out of this hole. We need water immediately. Impacted homeowners, not polluters, deserve property tax relief. Instead of taxing Hopewell Precision, the government is allowing the company to laugh all the way to the bank. It was allowed to lower its property assessment by almost 80 percent because the property is contaminated because of themselves. The law is different for homeowners. Our assessments are close to those of homes without contamination. Hopewell Precision's large building and five acres are being assessed the same as some homes with one acre.

Please understand that I am not complaining about the work that EPA did here at the Hopewell Precision site. In fact, we are extremely pleased with Angela Carpenter, Lorenzo Thantu and Don Graham's work. They are reliable, accessible and personable. It is the policies, procedures and of course the money that concern us. Thank you for listening. I look forward to hearing how you will take action to address the issues I have raised.

Ms. JOHNSON. Thank you very much, Ms. Hall. I failed to say earlier that we would like you to limit your testimony to five minutes, and we will put your entire statement into the record.

Ms. HALL. Thank you.

Ms. JOHNSON. Mr. John Hickman.

Mr. HICKMAN. Thank you very much. This is short testimony. Good morning, my name is John Hickman. I am the Supervisor of the Town of East Fishkill. I would like to thank the Congressional Subcommittee on Water Resources and the Environment for meeting here in the Town of East Fishkill.

The Town of East Fishkill has two Superfund sites, one created by a contractor and another created by a business who disposed of cleaning solvents carelessly, possibly criminally, seriously contaminating our groundwater. These activities continued unnoticed for decades resulting in widespread contamination by TCE, a silent, slow-moving, slow-acting poison that affects unsuspecting people through groundwater contamination and vapor intrusion. To those living in the affected areas, I can only say that people—to those living in the affected areas, I can only say that people should not have to live such a nightmare. Indeed, the stories that I have heard

firsthand of the health and developmental problems of families living in the Ryan Drive Superfund site are truly, truly heartbreaking, and my heart goes out to those so affected.

I too would like to commend the EPA on their response. In my capacity, dealing with Lorenzo Thantu and Damien Dudah of the EPA on the respective sites, I have found that both treat our citizens with sensitivity and understanding. I would state that the most frustrating part of the process is the time that it takes in analyzing the contamination, providing temporary services, and designing and implementing a remediation plan. It is indeed a long and drawn-out process. I feel that we need stronger regulation and oversight, legislation and enforcement at a higher level, of individuals and businesses that use such chemicals so that we may prevent more Superfund sites from happening. The prevention of such situation is paramount, saving people the horrors of living in contaminated sites.

In our case, sadly, when the damage has been done, we need help in protecting the health of our people and in the remediation of the contamination. The Town of East Fishkill does not have the resources to address such issues. I would like to thank the members of the local group, Citizens For Clean Water, for their efforts in bringing the Ryan Drive situation to our attention. I would like to thank the Members of this Subcommittee for being here today. I would like to thank Congressman John Hall and Maurice Hinchey for introducing legislation directing the EPA to set stricter regulations on TCE. We need your help in addressing an issue, not simply of contamination but of families suffering tragically from daily exposure to TCE. Thank you.

Ms. JOHNSON. Thank you, Mr. Hickman. We will now have testimony from Mr. John Degnan, former Mayor of Brewster.

Mr. DEGNAN. I would like to thank Congressman John Hall for inviting me here today and our host, Supervisor John Hickman, and the good people of the Town of East Fishkill. I would also like to thank Chairwoman Eddie Bernice Johnson and Ranking Member John Boozman and all the Members of the Committee on Transportation and Infrastructure for keeping eyes on the Hudson River Valley and our local challenges for water quality.

Brewster is home to the Superfund site. In 1978, Brewster discovered VOCs in its municipal water supply. Investigations discovered a rogue drycleaner had used a drywell to dispose of his production waste for about 20 years. The drywell was immediately adjacent to the source of the village water supply. The site was placed on the National Priorities List of Superfund sites in December 1982. Shovels in the ground to ensure safe drinking water in Brewster. In 1984, the village, under a cooperative agreement with EPA, installed a full-scale air stripper, which is currently providing safe drinking water to the village residents. A groundwater management system was developed, installed and fully operational by April of 1987. Four extraction wells feed a packed column airstripper treating a volume of about 50 gallons of water per minute. The extracted treated water is discharged into the East Branch of the Croton River near the city watershed.

In late 1991, approximately 160 tons of contaminated soil were removed from the source site. Final confirmation samples showed

that the target cleanup goal of 4 milligrams per kilo for PCE in the unsaturated zone was accomplished and acceptable to health standards.

In 2007, EPA modified its GMS by adding two extraction wells and a new airstripper at the source site. The new stripper continues to extract about 50 gallons per minute and discharges into the same water body. A sub-slab mitigation system was also installed at the source site.

My observations: The Village of Brewster, in partnership with the EPA the DEC, the DEP and the Putnam County Board of Health, delivers safe drinking water to its residents. Quoting from the five-year review report prepared by the EPA in 2007 ″Groundwater monitoring results do not indicate that the mass reduction of PCE is occurring at the rate anticipated.″

The 1986 record of decision estimated ten years for remediation. Further, the anticipated duration of the pumping to reach maximum contaminated levels is not presently known. PCE levels at the source property have continued to exceed safe water drinking standards. Concentrations are generally lower and they are showing that the remedy is improving.

EPA left the door open with their 2000 report. What enhancements should be considered to further remedy the conditions? What are the results of air monitoring in the source building? Soil gas samples suggest that residual source materials may remain underneath the building. Has the capture plume moved? Has EPA evaluated the performance of the modified GMS? Does EPA have an action plan?

EPA Director of Emergency and Remedial Response Division, George Pavlou, closes his report in 2007 by suggesting that these questions need to be addressed prior to the transfer to the state.

Documentation and communication: The EPA website is a good source for information. The background and case study are well-documented. Two five-year reports from 2002 and 2007 are readily available to anyone who wishes to review the history.

The EPA makes reference to correspondence shared with the planning board of the Town of Southeast. It is my recommendation that the correspondence generated by the EPA also be shared with the Village of Brewster.

The closing comments: In my opinion, the EPA has earned an academic A for taking the lead in protecting the drinking water in Brewster; a grade of B on the 26-year time frame thus far. It took nine years to get to the source for remediation and contaminated soils. A grade of B plus for transparency and recommendations. I asked for a more proactive approach on the part of the EPA in sharing current information. This is the record and the history. From a local stakeholder, I pray that the EPA in collaboration with its partners earns excellent grades for the future. Anything else would be irresponsible and a danger to the health of Brewster's people.

Thank you for the opportunity to address you today, and I look forward to our collective water quality success stories.

Ms. JOHNSON. Thank you very much. We will now begin our first round of questions. Ms. Hall, you made several recommendations. How would you prioritize your recommendations?

Ms. HALL. First and foremost, the Hopewell Precision site victims need to get water: clean water. We don't even know yet where it is going to come from, when into this five years. We have actually been contaminated since the '70s and '80s. The government unfortunately knew that this company since 1979 had dumped all these chemicals and a very—an investigation was done, but it was done very poorly, and the site was delisted in '94, saying everything was great.

Unfortunately nobody ever told the residents that any investigation was done at all, and two years later, Hopewell Precision bought 48 55-gallon drums more of TCE. They used it, and there is no record of where they are, or what they did with the used TCE. Here it happened again. You know it that we want to have our water. We want to be able to be able to sell our homes. We want to be able to turn the faucet on and know that we are protected.

It is very hard for people that don't have systems in their home because they don't have that 5 part per billion threshold, so they are not being protected, and there are at least 12 homes like that that I know of, so that would be number one.

Number two is they need to—the EPA needs to—lower the TCE standard. I mean this should have happened in 2002. We are already in 2008, six years later, and now they want to start a whole brand new—a whole brand new report. It doesn't make any sense. We have a report already. Let's use that. If you want to add onto it, we will add onto it, but why not use what was done, peer reviewed, all that money went into it, all that time went into it, and it is ridiculous not to use it.

Of course the Superfund tax needs to be implemented again. I mean, to make the people pay for what companies have done is not right. It is just not right. I don't understand why the tax was taken away from these companies. Hopewell Precision has not paid a dime for any of this yet except to their attorneys. They have not paid one cent, yet the people have, you know, and it is just not fair, and residents should—our assessments on our homes, why is it that Hopewell Precision is allowed to lower their assessment by 80 percent simply because they are an industrial property. They polluted themselves and they are able to lower their assessment because they are polluting, yet the people that have the water and the air contamination, they are being told, "well, you can't do that because you're residential, you are a whole different thing." We can lower it a little bit, but that's about it. But they lowered it by about 80 percent. That's a lot, and a lot of us are paying top dollar on our assessments for the schools, for everything else and our homes are basically unsellable, and it is not fair, and of course stakeholders need to be more informed, need to be invited to these conventions that are being held twice a year about vapor intrusion and TCE, and we should be involved more, and we are not.

Ms. JOHNSON. Thank you very much.

Mr. Hickman, in your testimony, you stated that the most frustrating part of this process is the length of time it takes. In your view, what is the reason for this process dragging out, and how would you alleviate that?

Mr. HICKMAN. I think it is well-recognized the government does work slowly. We all have experienced that. Again I commend the

EPA. I don't know between the time of the analysis, and I really can't answer that. I think the EPA would be better suited to answer why this takes several, several years for remediation. I'd just like to say anything that the Town of East Fishkill could do, we would. We do have water sources not far from where we would be more than happy to step in and work with the EPA. I don't know. I couldn't answer what the holdup is. The EPA is very thorough and contamination of this manner is a very, very difficult thing to remediate. Possibly if they did it concurrently, remediation and short-term mitigation might be a help. I know you can analyze the problem, try to set up a remediation, but I think at the same time we could also set up mitigation—actually they have.

The treatment systems have done just that, but I would suggest that possibly we look for more of a permanent mitigation while we look to remediate the problem, but it is very complicated, and we are talking chemicals that are not easily removed from the environment.

Ms. JOHNSON. Thank you. Mr. Degnan, in your testimony you noted that the EPA's 2007 report found that the PCE is not being reduced at the rate anticipated. In your view, what next steps need to be taken?

Mr. DEGNAN. In my view, we have to get much more serious with the source contaminations. It took us nine years to get to a point where we were remediating soils. As I stated in my testimony, the drinking water is safe in the Village of Brewster. There are two pack air column strippers in action right now and all were extracted from the municipal wells, it was treated.

The second stripper is operated by the EPA and it is continuing the process of trying to remediate the soils. I am a big proponent of the cooperation between the EPA and the Massachusetts Department of Environmental Protection where both those agencies work together to come up with conformance-based systems to deal with self-certification of environmental systems, management systems for dry cleaners, photo shop printers and print shops.

I believe that these conformance-based systems could be expanded into auto body shops, nail salons and any other type of business at the local level that is—has the potential to pollute our water systems.

So I would ask that in addition to the good work that these agencies that oversee our water supply bring in enforcing regulatory compliance also offer tools for conformance-based systems where education, training and outreach is given to the local stakeholders to educate them as to what the impact of bad business can be when it comes to water pollution. Thank you.

Ms. JOHNSON. Now, in your testimony, you indicated that the past and current water superintendents were not aware of the current status of the pollution. How do they communicate or do they communicate.

Mr. DEGNAN. Up until today's testimony, I have not had the opportunity to meet local representatives from the EPA. I am proud of the work that I have done in public service in forming relationships with New York City's Department of Environmental Protection, New York State's Department of Environmental Conservation and the Putnam County Board of Health. I believe that it is the

duty of the EPA to take a proactive position when it comes to communication that to have our superintendents of water not be aware of the actions that took place in 2007 to introduce an airstripper at the source tells me that there is a breakdown in communication.

Again, I think the EPA has done a very good job on their website in providing us with the information that we need to stay current, but I would ask the communication be more proactive, and I know that the village board of trustees would welcome an opportunity to establish a relationship with local EPA representatives.

Ms. JOHNSON. Thank you very much on that. Mr. Boozman.

Mr. BOOZMAN. Thank you, Madam Chair. Have you tried to do that, Mr. Degnan? I mean, you know, you said that you would like to establish a local relationship. I mean, have you all asked to meet with them periodically and been refused?

Mr. DEGNAN. We have not been refused in actuality. When I was the Mayor in the Village of Brewster and we received the 2007 review report, I made it my business as Mayor to contact EPA and indeed did talk to staff people and talked about the review report.

However, none of the future intentions of the capital expenditures, the actual construction, the relationship with the source site was discussed at that time, and I can assure you, sir, that I am proactive in my efforts to communicate to form relationships.

Mr. BOOZMAN. I don't dispute that at all, that really is important in understanding what is going on and getting insight. Maybe it's something that we can help facilitate. Can you tell us about, you know, how this went on? Can you tell us about some of the health aspects that maybe some of your folks have experienced here? How did you know this was going on and what happened?

Mr. HICKMAN. Was that a question for myself.

Mr. BOOZMAN. Somebody can jump in and answer.

Mr. HICKMAN. I would say when we had the meeting at your house a few weeks ago and Congressman Hall was there, some of the stories that were told were just to me heartbreaking. I couldn't believe that people—and you know, the problem is when you have health issues and you have a Superfund site, you can't say this is related to that, but it certainly looks like there is some connection there.

And there were problems from that one woman that was just terrible that she was going through with her child, and I spoke with another woman afterwards. I think the occurrences of cancer, which is a very scary thing, and I say to myself every day, how would you feel living there with your family there, and I know, Debra, you said get out of this hole or get out of this trap. It is a very, very difficult thing for me to comprehend.

Ms. HALL. When I first found out that we were contaminated, I started going door-to-door and people were very open with me and telling me about illnesses that they had or that their family had or that their kids have, and I was hearing a lot of the same things.

Some of the people, after getting their water systems in, they feel much better and they are back at work, and they are moving on, but there is lots of people with illnesses in the neighborhood, and I did ask the Department of Health to do a health statistics review. Unfortunately, that means it is only statistics, so 43 percent of the population in the study have never been exposed to the contami-

nants. This study is done with somebody sitting at a desk in Albany and they look at census reports of blocks that they have and that's how they do the study. They don't actually go door-to-door and talk to people like I did, so they don't really know firsthand, and I don't think it is a very good way to do health review.

Unfortunately, I am being told it is the only thing that we have, but there is lots of people that don't want to speak out. They either don't want the cameras on them or they don't want to embarrass their kids. Their kids have gotten better and they moved on, and they don't want to embarrass them or put any kind of spot light on their home, so a lot of people are quiet but they are suffering, lots of them.

Mr. BOOZMAN. Well, thank you for your testimony. I enjoyed it. It was very helpful. You know, as a person that is directly affected living there and you two guys in fighting the battle trying to get these problems solved, it is a tough issue, and we appreciate all of you for your advocacy, and like I said, it is really very helpful. Thank you, Madam Chair.

Ms. JOHNSON. Thank you. Mr. Hall.

Mr. HALL OF NEW YORK. Thank you, Madam Chair. Ms. Hall, the testimony you detailed, the impact the EPC plume has had on the home assessments and the economic fortunes of the families in your area, could you describe whether or not there are any day-to-day costs that are not readily reflected?

For instance, we often hear that a gallon of a bottle of water is expensive and even more expensive than a gallon of gasoline. I can't imagine a family who believes its well may be contaminated with TCE will drink water from the tap. So what kind of day-to-day costs, if any, or inconveniences persist even now, as a result of the pollution.

Ms. HALL. Well, many homes have two systems. One for the water and one for the air. Of course, that's run by electricity, and we all know that electric bills have gone up a lot, so we have that extra expense. The home buyers, or the person living at the home, is paying, paying the electric. We are lucky that the EPA does come and do our water testing. Unfortunately, the people that have only a little bit of contamination, they don't have that option. They either have to buy their own system, and do the maintenance on that system, and do the water testing on that system. Because it is 5 parts per billion they are not being protected. So either they have to pay a lot of money, like five grand, just for the system.

Mr. HALL OF NEW YORK. Excuse me, I only have five minutes so I am going to jump in once in a while. Are you aware of any neighbors who are below that 5-part per billion level who have bought that system?

Ms. HALL. I do.

Mr. HALL OF NEW YORK. Do you know how many of them?

Ms. HALL. I only know of two.

Mr. HALL OF NEW YORK. How much does a system cost.

Ms. HALL. Well, it is probably about $3,000.

Mr. HALL OF NEW YORK. So if you have 4.8 per billion, you're probably going to get a pretty decent amount—your family's health would be affected, you're virtually the same as if it was 5.

Ms. HALL. Right, because the standards should be lower, you are going to be affected if it is 2.

Mr. HALL OF NEW YORK. So the contamination from Hopewell Precision first showed up as a direct water contaminant, but in your testimony, you talked about vapor intrusion. How extensive is that threat? Is it growing? And how would you assess the EPA's local efforts to deal with that problem.

Ms. HALL. The EPA did a fantastic job. They went to many homes, I think over 200, maybe close to 300 homes and tested, and they did find quite a few homes that had good water but bad air. In fact, the home in the area that had the worst air had perfectly good water, but yet it was still affecting this household. They had a house before they knew about the air. It was known as the sick house because once they moved in, everybody living there was always sick, and somebody there had gotten prostate cancer. Now that the air system is in, people are not getting sick anymore living in that house, you know, I don't know if it is a coincidence, but I don't think so.

Mr. HALL OF NEW YORK. Thank you very much, Ms. Hall.

Mayor Degnan, I was wondering if you could tell us—I gather overall that your experience once the airstrippers went in was positive, although it is not improving the site as quickly as it should. Would more airstrippers be a help?

Mr. DEGNAN. Certainly in 2007, when EPA installed the airstripper at the source, I am sure that it will have an impact on accelerating the removal of the contaminants, but keep in mind that it took nine years to get to a point where we remediated the soils, and this problem was discovered in 1982.

Here we are in 2008, and frankly, I understand that hydrology and geology of the area make it difficult to map the aquifer, but we don't know if the plume has migrated, and again we come back to communication of plan of action and in informing the local stakeholders of status and putting people to people together, it has much more potential for alleviating the concerns of our local population.

Mr. HALL OF NEW YORK. So you jumped ahead and you answered a question that I was going to ask about the plume. There hasn't been a measurement done, or any kind of monitoring, that shows the size of the plume or the migration underground?

Mr. DEGNAN. Well, there are extraction wells that are tested on a biyearly basis by our water superintendent, although, by Board of Health standards, it is supposed to be tested on a quarterly basis. We are testing on a monthly basis so all stakeholders involved up to the EPA, I am sure, realize the severity of this problem.

What we are really looking for is better communication and a statement of partnership in maintaining the operations and maintenance into the future.

Mr. HALL OF NEW YORK. And under the Massachusetts model that you described, who is responsible for monitoring self-certification, and is there any enforcement made.

Mr. DEGNAN. Self-certification in the environmental results program of the Massachusetts DEP is an extremely successful program. Prior to implementation of the program, regulatory compli-

ance for the businesses I mentioned were under ten percent. Within three years of the self-certification program, compliance went up over 90 percent. It has been from my observations and studies a very successful program.

Now, we all know in this room that if you remove the stick that there will be people who violate the law and take credit for being in conformance, so there are unannounced audits that take place, and if it is found that one of these businesses is in noncompliance, they are fined and given an opportunity to correct themselves.

This has all got to be documented and part of the environmental management system statement, so again, when it comes to next practices and what the EPA might be contemplating in parallel with their compliance programs, I think their conformance-based environmental management system that starts from strategies at the top but also engages resources at the local level that will provide training and education will go along way in mitigating issues of water pollution in New York State.

Mr. HALL OF NEW YORK. Thank you, sir. And in regard to Mr. Hickman, I am curious, has the site at Hopewell occupied a significant degree of town time and resources.

Mr. HICKMAN. It has taken somewhat of the many issues that we face on a weekly basis. It does take quite a bit of our time. Again, I say, you know, correspondence with the EPA has been terrific on their website, we found to be very helpful.

When the time for assessment came, it took up a significant amount of time for us to try to figure out how to make allowances for contaminated areas compliant with office real property taxes, and of course the issue came up of the Superfund perpetrator, who requested the large reduction in their assessed value, so we have some time into it. I hate to think about the economic aspect. And when I look at this situation, I focus mainly on the health aspect. That is really, really troubling.

Mr. HALL OF NEW YORK. Well, certainly the health aspect is the most troubling for all of us. But as Supervisor, in a time when everyone is aware of the difficulty of people being able to pay their property taxes, and the unpopularity of the property taxes, everything you do in the town is paid for halfway. So time is money as they say, and any other resources that you have to put into it, not to mention that if the assessments at contaminated sites are decreased, in effect, will result in raising the burden on the residents.

So all this is being done by a corporation, which at this point is not being made to pay for it.

Mr. HICKMAN. It would appear that way.

Mr. HALL OF NEW YORK. I was glad to see you mention the preventive action in your testimony, and resources aside for the moment, what thoughts do you have on specific types of reviews, requests for information or enforcement actions that would best achieve preventive goals?

Mr. HICKMAN. Recently New York State has instituted some laws that we will be implementing obviously as soon as the Building Department, as far as enforcement, registering businesses, which we never had to do before, businesses which will enable us to get a better grasp on potential hazards.

I would like to see on a federal level the licensing of people that use these kind of chemicals and one—well, obviously prevention—an ounce of prevention is worth the common cure, and in this case, as Debra said, 48 55-gallon drums were not accounted for at this site, so how could that be?

So this chemical and similar chemicals really need to be certified in their use and in their return. You know, you have follow-up as they say, and we look to the federal level for some kind of legislation and enforcement. We certainly don't have the resources, but we will implement at the building department level where we can.

Mr. HALL OF NEW YORK. What is more alarming to me, if I understood Ms. Hall's testimony correctly, is that those 48 barrels——

Ms. HALL. 48 55-gallon barrels.

Mr. HALL OF NEW YORK. Were brought in after the EPA was already aware there was a problem.

Ms. HALL. It was brought in two years after the DEC had said that everything was fine and dandy with the site, and that they did their investigation and that there was—no homes were at risk of any contamination, and that was false.

Mr. HALL OF NEW YORK. So EPA had not been involved.

Ms. HALL. No, that was DEC.

Mr. HALL OF NEW YORK. The last question I have for Mr. Hickman, has there been any talk that you heard for using airstrippers or filtering the water from the aquifer in the way Mr. Degnan has testified?

Ms. HALL. I heard that hopefully soon we are going to find out, but I don't know when that will be. I am just afraid of having a situation like what's going on in Brewster and having to talk about it 25 years later. I don't want to be here talking about this 25 years later. We shouldn't have to.

Mr. HALL OF NEW YORK. No, we shouldn't be talking about it now. It should have already been done.

Ms. HALL. Absolutely.

Mr. HALL OF NEW YORK. My point is, and then I will yield back, but my point is that the closer to the occurrence of the spill that you can take remediative action, the better, the smaller the plume, the better, the less time for the water to migrate, the better—I realize a mile and a half plume at the Hopewell site is going to be very difficult to deal with, but I am still interested to hear what the DEC and the EPA have to say about the feasibility of this. Of course it is obviously going to be expensive in any case, but removing water, filtering it and then putting pure water back somewhere would seem to be the ultimate answer if cost were no object. Now, we all know in this day and age, cost is an object.

Mr. HICKMAN. Debra, do you remember the EPA gave a presentation at school a couple years ago, they had some hydrology, scientists, of that nature? I do think the first thing they do is get you clean water, but as far as remediating this chemical, it is a slow-moving process, I guess it is—I think the problem is it is in deep wells, it is very deep in the water system.

Ms. HALL. It is in shallow, it's in deep, it is a half mile wide, a mile and a half long and still moving, and there is such an abundance of water, it would take us a century to pump and treat. I

really don't see it as being something that would be feasible to clean our water.

Mr. HICKMAN. But they do offer a couple of other options——

Ms. HALL. Right, until I hear what they say, I don't know.

Mr. HALL OF NEW YORK. We will ask the next panel what they think about that. But thank you all for your testimony on this. Thank you for your championing this cause and for all the hard work you have done over the years.

Ms. HALL. Thank you for having this. I appreciate you coming to Hopewell Junction.

Ms. JOHNSON. Thanks to all of you. Thank you very much.

Mr. HALL OF NEW YORK. While we are changing panels, I would also like to also acknowledge the presence of Assemblyman Mark Molinaro who has joined us.

TESTIMONY OF GEORGE PAVLOU, DIRECTOR, EMERGENCY AND REMEDIAL RESPONSE DIVISION, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 2, NEW YORK, NEW YORK; VAL WASHINGTON, DEPUTY COMMISSIONER FOR REMEDIATION AND MATERIALS MANAGEMENT, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, ALBANY, NEW YORK; DR. G. ANDERS CARLSON, DIRECTOR, DIVISION OF ENVIRONMENTAL HEALTH INVESTIGATION, NEW YORK STATE DEPARTMENT OF HEALTH, TROY, NEW YORK.

Mr. PAVLOU. Thank you, Madam Chairwoman and Members of the Committee, for the invitation to appear here today on behalf of the USEPA. Thank you for the opportunity to discuss EPA's efforts to address actions that we have taken at the Superfund sites in New York's 19th Congressional District.

EPA considers vapor intrusion from contaminated soils or groundwater into homes and buildings to be a significant environmental concern and one in which the science is still evolving. EPA and New York State have paid increased attention to indoor air concerns at sites where soil or groundwater is contaminated with volatile organic compounds or VOC's. Given the complexity of the evolving science in this area, and the difficulty of relating contamination in the soil and groundwater to indoor air at a given location, EPA's approach to determine whether there is a likely concern at a given location is to conduct sampling from beneath the building, and of the indoor air environment when the possibility of vapor intrusion at levels of concern cannot be ruled out.

A key point to keep in mind is that individual site characteristics such as geology and soil conditions as well as the chemicals present can greatly affect the potential for vapor intrusion and may considerably vary from one home to the next.

Two common chemicals of concern for vapor intrusion sites are TCE and PCE. These contaminants occur at approximately one-third to one-half of NPL Superfund sites, approximately one-third to one-half of EPA Superfund sites. The agency's ongoing human health assessment of TCE is a complex scientific activity. The EPA draft TCE health assessment did undergo independent peer review by the Agency's Science Advisory Board in 2001 and in September of 2004, the Commission, the National Academy of Sciences report, to assess the critical scientific issues that should be addressed in

any health risk assessment of TCE. NAS provided the report in July of 2006. The Agency is considering the scientific advice of the NAS as well as recently published scientific literature, as it proceeds with the development of a new TCE health assessment. The TCE health assessment is also a top priority for EPA's chemical assessment program and expects the draft assessment to be reviewed in December of 2008 followed by a release of the draft or independent peer review and public comment in 2009.

At this point, I would like to address two of the Superfund sites here in the 19th Congressional District, the Hopewell Precision site and the Shenandoah Road site. Though these sites have similar groundwater contamination problems, one site has experienced widespread vapor intrusion, while the other site has not. The Hopewell Precision area groundwater contamination was caused by a small manufacturer of sheet metal parts and assemblies who disposed of painting and degreasing wastes directly in the ground, resulting in a groundwater contamination extending about one and one half miles long.

In March 2003, EPA provided a quick response to the EPA's identification of several contaminated residential wells. Since that time, EPA has sampled 450 residential drinking water wells and installed carbon filtration systems with 39 wells that exceeded the drinking water standard of 5 ppb for TCE.

The New York State Department of Environmental Conservation installed similar filtration systems on 14 additional homes where the well water exceeded the state standard of 5 parts per billion trichloroethane, TCA.

Between April 2003 and March 2008, EPA conducted sampling at 278 homes to determine whether vapor intrusion in homes, you know, has taken place. To date, EPA has installed sub-slab ventilation systems in 53 residences to mitigate the intrusion of TCE vapors into these homes. These ventilation systems have been successfully addressing vapor intrusion problems. At present, the EPA has spent $8.5 million in Superfund funds on activities at the Hopewell site.

Currently EPA initiated a remedial investigation and feasibility study as part of the long-term site cleanup phase. We expect to release the report to the public during the summer of 2008.

In addition, EPA is also preparing a focused feasibility study to evaluate options for alternative water supplies to address the groundwater plume. We expect this study to be released for the public later this spring. The Shenandoah Road Groundwater contamination area site is located here in East Fishkill. The investigatory work by New York State DEC and EPA discovered perchloroethylene seeping from a 1200-gallon septic tank, which was responsible for the contaminated water. About 6,000 cubic yards have been removed and residential wells have been tested.

Today EPA, with a total of 105 residential wells—I'm sorry, EPA, as well as IBM, installed more than 100 residential well treatment systems into homes and continue monitoring the affected homes and nearby wells as it continues to address the immediate threat.

Between April 2004 and March 2008, EPA collected sub-slab samples from 78 of the residences in the vicinity of the site to determine vapor intrusion problems. EPA determined that five prop-

erties should receive vapor mitigation systems. The installation of these systems is expected to be performed by EPA over the next few months. The other homes will continue to be monitored during the winter heating season.

EPA has also been working on a permanent solution, to address the groundwater contamination in the Shenandoah Road area. The solution involves securing a public water supply system to the area. Under an EPA order, IBM agreed to construct a waterline that will serve approximately 150 homes at a cost of around $10 million. Work on this portion of the project is progressing and the waterline is expected to be completed by this fall. IBM is also performing a remedial investigation feasibility study investigation which should be completed in 2009.

I would like to emphasize that EPA will continue to work closely with the New York State DEC and the New York State Department of Health to address all phases of site remediation, including the vapor intrusion issue in New York State. The vapor intrusion issue presents unique challenges that EPA and the states will have to address. As more sites that have vapor intrusion problems are identified, we anticipate the challenge will only get larger.

Before I close, I would like to thank Representative Hall for his ongoing interest in support of these sites. Thank you again for the opportunity to address the Subcommittee, and I am happy to answer any questions.

Ms. JOHNSON. Thank you very much. We will now hear from Ms. Washington.

Ms. WASHINGTON. Thank you, Chairwoman Johnson, Ranking Member Boozman, and Congressman Hall for bringing this Subcommittee to the Hudson Valley. On behalf of Commissioner Grannis, I want to thank you for providing me with the opportunity to testify at today's hearing. We really appreciate you doing this today.

Our experience with environmental remediation here in New York goes way back. Love Canal was really the genesis of the federal Superfund laws and the state Superfund laws. And our experience has grown to include new problems as they emerge. We have seen a lot of these problems associated with brownfield remediation, and we have talked a lot today about the unique and often enigmatic contamination from vapor intrusion.

Starting with the Superfund program, just briefly, I am going to do my best to try not to repeat what others have said about some of these problems, but I want to say over the years, we have listed 2,266 sites in New York as posing a significant threat to the environment, which is our standard for inclusion in the state Superfund program.

More than half of these have been fully remediated, which means that there are still a substantial number that still need to be addressed. It is a huge problem.

We have developed a very successful partnership with EPA and of course with the Department of Health in cleaning up 86 sites that are on the National Priorities List. But we are also always adding to our list of contaminated sites. A few reach the Superfund status every year, but there are many thousands of others. We have 16,000 petroleum spills every year. We know there are thou-

sands of brownfields. There is no complete inventory, as you know. Hundreds of sites have participated in our various brownfields programs, but we have a long way to go in cleaning up these sites, perhaps thousands of which are plaguing our cities. Buffalo is 40 percent brownfields.

With this level of challenge, it is really important to fully fund the remedial programs that have been enacted at both the state and federal level. New York has put a lot of money into these programs, as has the federal government, but we really do need new funding for the federal Superfund.

Over the years, the federal government has spent $.75 billion in Superfund sites in New York—these are estimated numbers—New York, 1.39 billion; and responsible parties, 4.51 billion.

I mention these numbers to point out that what drives that 68 percent that is being paid for by private parties is the fact that the federal government has the money, or in the past has had the money, to clean up these sites in negotiations that aren't working out; that we take action and then go back and get recompensed later.

But that's an important statistic, the fact that we have been able to leverage 68 percent of the money that is spent on federal and state Superfund sites in New York by having that ability to go in if the PRPs don't clean up these sites.

So again I'm urging—the Commissioner is urging—that we fully fund Federal Superfund. It is really important to all these programs.

So also equally, it is important that the state and federal government enjoy a strong partnership to protect the public health from releases of hazardous substances, and we have had that successful partnership in New York.

I want to say a little bit about our program for vapor intrusion in New York State. At every site we are looking at the potential for vapor intrusion wherever there are volatile organic chemicals, VOC's, TCE's, of course, prominent among them.

We are also going back and looking at the Superfund sites, state and federal Superfund sites that have been cleaned up already and have been closed. We are going back again, looking at those sites that have a potential for posing vapor intrusion problems. We have developed a list of these "legacy" sites. As far as I know, we are the only state in the entire country that is doing this. The federal government again has been very cooperative in working with us in doing this. Fifty-five of these closed sites where there is potential for vapor intrusion are federal Superfund sites, and the EPA is addressing every one of them.

We recognize Congressman Hall's bill, H.R. 5527, and its purpose in developing a tight, protected standard for TCE's as a very laudable goal. We again, in our own approach to TCE in New York, I think, it is very sophisticated. I think Mr. Carlson will talk more about it. We look forward to working with Congress and the EPA in developing a national approach to TCE.

Again, I thank you for the opportunity, and on behalf of Commissioner Grannis, for letting us testify today.

Ms. JOHNSON. Thank you very much.

Mr. CARLSON. Good morning, Chairwoman Johnson and Ranking Member Boozman and Congressman Hall. I thank you very much for the opportunity to speak with you today. I am here also at the invitation of Commissioner Grannis. The New York State Department of Health participates as a partner with DEC and EPA and the Agency for Toxic Substances and Disease Registry in investigating, evaluating and responding to reported instances of toxic chemicals in the environment and particularly inactive Superfund sites and active RCRA facilities.

The Department's role is to assure that appropriate data are collected to evaluate existing or potential human exposures. The Department considers the toxicity of chemicals, the nature of the exposures and, as necessary, carries out epidemiologic studies to identify adverse health outcomes.

Further, outreach and education materials are developed for the community and physicians as we make progress in our endeavor to identify processes that can reduce, eliminate the exposures to human beings. These steps are done during the evaluation of the potential health impacts at federal Superfund sites such as Hopewell Precision, as we partner with ATSDR to develop public health assessments.

A public health assessment is an evaluation that is conducted to determine whether or not and if so to what extent people have been exposed to hazardous substances from a site. If the assessment indicates that there have been exposures, the associated risks and possible health effects, particularly for children, are examined. Community concerns are considered as follow-up actions are developed to reduce exposures. The evaluation results in a public health action plan that offers measures to protect the community.

As part of my testimony, I have provided a copy of our public health assessment for Hopewell Precision, the Hopewell Precision Area Contamination, and this document is also available on our web page.

The Public Health Assessment made several recommendations that were directed at reducing exposures to contaminated drinking water and contaminated soil vapors. This has been done by fully defining the contamination in the area and maintaining the appropriate treatment systems to mitigate exposures.

As the Public Health Access Action Plan, part of it, the Department continues to work with the communities of Hopewell Junction and Shenandoah Road to include them in the New York State Volatile Organic Chemical Exposure Registry.

The Exposure Registry was established in 1999 as a tool to evaluate health assessment, health status and provide for long-term follow-up for communities and individuals with exposures, documented exposures to VOC's.

The Registry is currently evaluating exposures and the health status of New York State residents at locations across the state where drinking water or indoor air has been compromised from landfills, industrial sites or other sources. People enrolled in the registry are kept informed as the process goes on.

For the Hopewell Precision and Shenandoah Road sites, sampling information was used to identify impacted households, questionnaires requesting information concerning exposures and health

outcomes were distributed to 75 Shenandoah Road households in 2000, and in 2003, contact was made with 47 Hopewell—Precision households who had private well water contamination, and in 2006 with 192 homes where there was soil vapor intrusion issues.

We had a 61 percent response rate at Shenandoah Road and a 26 percent response rate at Hopewell Junction, and I think Ms. Hall made mention of the problem with getting people to respond, and it is a very real problem we deal with, but we proceed with that by dealing with, as she mentioned, looking at statistical data.

We are now under way looking at existing health outcome data that the state has through our Vital Records, which is our birth certificates and information that they contain, the New York State Congenital Malformations Registry and the New York State Cancer Registry.

Data are being analyzed to evaluate possible adverse birth outcomes, some of which are low birth weights, congenital malformations and cancer for both Shenandoah Road and Hopewell Junction, along with the other sites in New York State.

These data will be used to compare levels of adverse health outcomes in impacted areas to the levels with the rest of the state, excluding New York City. This type of review, sometimes called a health statistics review, cannot link causes and effects, but can suggest relationships that merit additional research. We expect a complete outcome portion of this evaluation in the spring of 2009 and a cancer incident study about six months later.

The Department staff worked with Hopewell Precision residents in defining the boundary of the study, and the communities will be engaged as the project moves on. Once completed, the report will be shared with the residents and other stakeholders, but we will present it in a manner that personal confidential health information will not be compromised.

In summary, I would say that in collaboration with ATSDR, the Department developed a comprehensive evaluation of environmental contamination around the sites to identify the exposures. We developed the health studies that we are carrying out, and we worked with ATSDR, EPA and DEC in the community as we work to mitigate, continue to mitigate exposures. I think at this point I would say thank you very much for the opportunity to talk to you again, and I will be certainly happy to answer any questions that you may have.

Ms. JOHNSON. Thank you very much, Mr. Carlson.

Mr. Pavlou, you indicated that some of the findings on some of the studies have been more related to recent scientific information. Have you recommended doing something, and then if you find more current signs, will it be modified?

Mr. PAVLOU. The Office of Research and Development in the EPA in Washington did respond to all these evaluations in terms of the new sciences as they come out. However, the guidance from Washington that we have right now does not preclude us from using the latest and best credible science such that when we do have to make decisions regarding vapor intrusion in houses in Hopewell Precision, it would allow us to install those systems on the basis of the new credible science because the guidance says use the lines of evidence that you have at your disposal to make site-specific decisions

such that we are able to install mitigation systems in houses where not even the vapor intrusion has reached the house.

In other words, if we do find it in the soil gas matrix, the vapors the soil gas matrix underneath the house exceeding a certain level of concentration we are allowed to go into the house and install those mitigation systems before, you know, the intrusion happens. So I do have that flexibility to act, and we have acted in that regard as well.

Ms. JOHNSON. You have stated that the TCE assessment is top priority for EPA's chemical assessment program. What does that mean to be top priority?

Mr. PAVLOU. This is a priority for the Office of Research and Development to conduct a chemical assessment. They have reviewed all the recommendations from the National Academy of the Sciences. They are following up with those recommendations to the point whereby the end of this calendar year, they are going to be preparing a report for interagency review, meaning that it will eventually go to the Office of Management and Budget. It will be reviewed by other scientific agencies of the government, for example, like NASA, Department of Defense, the agency for Toxic Substances and Disease Registry, they are going to get those comments, and eventually they are going to consolidate those and address those comments such that by the following year they can issue that report for a peer review, an independent peer review.

Now, I have to stop at that point because I really do not know what those comments are going to be from a peer review perspective. There could be issues that they may, you know, raise to the point where it may delay it in terms of finalizing that report.

Ms. JOHNSON. Thank you. Now I understand at one point a few years ago, EPA proposed a TCE risk concentration of 2.5 micrograms per cubic meter. When did this get proposed?

Mr. PAVLOU. I wouldn't say it was proposed. It was—our guidance allows us to do these risk assessments on the basis of toxicity values that we use for TCE. The level that corresponds to the one in a million, one additional cancer per, you know, a million people that would translate to approximately .016 micrograms per cubic meter.

However, the standardized methodology that you use to detect whether or not you are achieving that level can only get you down to 2.6 micrograms per cubic meter. However, there are other sensitive analyses that we can use that can get us down to .38. I know I am getting very specific in terms of the numbers. The point I am trying to make is that the risk level using the latest science that we have would be 1.6 micrograms per cubic meter.

Now, keeping in mind that other people may be using 5, you know, micrograms per cubic meter, but that doesn't necessarily mean that their science is wrong and our science is right. It all has to do with the risk assessment that we use and the assumptions that we have made and the risk management decisions that we have made to come up with these numbers.

But the bottom line is that they are both in the same risk range. One is 1 times 10 to the minus 6, the other may be 3 times 10 to the minus 6, but they are in the acceptability range for us, you know, for using those numbers.

Ms. JOHNSON. I know that industry challenges standards. Does that have any effect on the final decision?

Mr. PAVLOU. Usually I really—I really am not the expert, you know, in terms of what the industry has, you know, submitted in terms of their challenges, but I can assure you EPA, at least on our level, uses the latest and best credible science every time we need to make a decision.

Ms. JOHNSON. Okay, thank you very much. Ms. Washington, what has New York DEC found in its vapor intrusion follow-up evaluation of closed legacy sites?

Ms. WASHINGTON. I think there are 421 of these, and we probably sampled thousands of houses around the state, and we put in systems in literally hundreds. The sites that we have in the mid-Hudson Valley, these legacy sites, we have a number of them, and right now, these are being evaluated right now. So that would be Pawling Rubber, Texaco Research Center, Orange County Landfill, these were all closed a long time ago. They are undergoing these analyses right now.

Ms. JOHNSON. You did state that the authorization of the federal Superfund program should be a top priority. What are the on-the-ground implications for contaminated sites in New York if we continue along our current path of not authorizing the Superfund?

Ms. WASHINGTON. Well, the problem doesn't really show up at the kind of sites we have been talking about today. The high profile sites with large impacted populations are where the government is being most aggressive in trying to get things done. I think it is the smaller sites, a lot of sites in western New York that are lagging behind perhaps where they should because these negotiations are protracted. It is easy for people to hide and, without the threat of the government going in and cleaning up these sites, they are just sitting there. But again, they tend to be the smaller sites with a low profile. I think there is a very good effort on EPA's part and obviously the DEC to prioritize and get to the sites.

Ms. JOHNSON. Have you compared the sites here with other parts of the country?

Mr. CARLSON. In terms of what, vapor intrusion?

Ms. JOHNSON. Vapor intrusion or the number of sites.

Ms. WASHINGTON. Well, the number of sites, you know, we are up there with the other industrial countries. I don't know if I have ever seen an actual comparison of number of sites, but we are one of the more contaminated states.

Mr. PAVLOU. It is an evolving issue, and I think the more we test for these sites, the more vapor intrusion sites we are going to be finding. It is just that it was put off to the national level only recently in the last couple of years, so we are gearing up essentially to study vapor intrusion houses because long before that, one assumed that if the groundwater was contaminated in lower levels, less than the drinking water standard, that these vapors wouldn't necessarily intrude and rise into people's houses, but that's not the case.

Our own experience here in the region because this has been a high priority for us here in the region, you know, indicates it doesn't necessarily matter what is in the groundwater you have, and I think you know past testimony from one of the previous pan-

elists indicated that in some cases where you may not detect anything in the groundwater, there remains enough residual vapor in the soil to allow its rise at some point in time. Going along the lines of, you know, Val Washington was indicating we in Region 2 are having the prime responsibility for evaluating all of the Superfund sites here in New York State. We have about 103 of those National Priority List sites, and we have gone through a lot of technical evaluation to determine whether or not a whole lot of these sites are at risk.

And if I can give you some statistics, we determined that 29 of those 103 sites be ruled out, that they are not at risk. We sampled 34 of them. 18 of them we discovered that it doesn't really matter at this point in time because there was no development on top of these sites, just taking into consideration Hopewell Precision, you know, as a Superfund site. We have a stretch of one and one-half miles long of the plume that we have to consider. In some sites in rural New York and upstate New York, there are no houses for us to determine, and we are doing a remedial investigation for three of them, and we have an additional 19 to evaluate because we can only—and we prefer to do this work during the heating season when the vapor intrusion becomes a little more dominant in terms of detecting it and allowing it to enter the house because the ventilation is not there to allow it to escape.

Ms. JOHNSON. Any health impacts determined?

Mr. PAVLOU. Well, usually—I'm not the man to address that—but usually TCE does affect the central nervous system.

Mr. CARLSON. I think we—we work closely with EPA in our process for dealing with vapor intrusion, and we have a very similar approach, but we have developed general air guidelines for several chemicals but particularly for TCE of 5 micrograms per cubic meter, and this has been questioned is this protective or not, but what needs to be understood besides we went through a rigorous toxicological review of all the available data, and in fact, we developed our number prior to the NAS, National Academy of Sciences, report coming out, and their conclusions affirmed the methods and the processes we used in developing our number.

We also had a peer review by an expert panel that included toxicologists, chemists and other scientists including a chemist that is involved in one of the larger vapor intrusion communities in the state, Endicott, that was brought to us by IBM.

And we developed a matrix method where we compare indoor air levels to sub-slab levels, and the way that process works is we, in fact, do mitigate homes when there is no explicit evidence of contamination in the home for vapor intrusion. If there is—are elevated levels of soil gas under the home, because we see that as a potential, so we do many, many mitigations on the basis of potential, and in effect, we are cleaning up when we find less than a part—microgram per cubic meter in the indoor air, so we have a general air guideline that says if it is above that we are doing it regardless of what you want to do, but we can still carry out the mitigations at much lower levels. Our numbers include both the cancer and noncancer endpoint, so it is a comprehensive number that deals with the potential health impacts.

Ms. WASHINGTON. When the Department of Health is doing its analysis in this comparison between the sub-slab and indoor air, many times we get anomalous results because there are other sources of TCE besides soil and vapor gas. So we actually, with the Department of Health, go into the homes, obviously with the owner's permission, and do a fairly complete inventory of what is in the cleaning closet and what is in the garages. There are still a lot of very toxic chemicals in cleaning products. Some of them have been sitting around for a long time. But TCE—sometimes you get these anomalous results with no TCE in the sub-slab, and the household will have fairly high levels.

Mr. CARLSON. And this is an important point. As Val said, we do comprehensive inventories of what people have in their homes, and this is one of the reasons we prefer to proceed with mitigation. This is one of the things that makes sampling expensive because it is a time-consuming activity, and it is somewhat intrusive on people's lives, but we find a lot of chemicals in people's homes.

We also do ambient air, so we know whether or not there is a source that is other than soil vapor or indoor air, and by doing this, we're actually getting a really comprehensive picture of what the sources are and what the potential exposure are. We have been able to help lots of people clean their houses out with other chemicals we weren't concerned with because when we do a sample, we don't just sample for TCE or PCE, we do a suite of organic chemicals, which would provide the homeowners with a great deal of information about what may be in their homes.

Mr. PAVLOU. The EPA follows the same protocols and procedures as well. But just to give you a point of reference, we have been able to reduce the cost of each mitigation system down to about a thousand dollars. We have Don Graham here spending five years up here studying the area, but to give you an appreciation of how much it costs to do one measurement, one sampling event here, it is in the neighborhood of about $3,000, so it makes sense for us from a cost-effective or cost benefit analysis if we do find something in the soils in the ground to, you know, instead of us having to go back a year from now and do the same sampling at a lot more money just to give comfort to the homeowner and save money for the government as well if we would install that system.

Ms. JOHNSON. Thank you very much.

Mr. BOOZMAN. Thank you, Madam Chair. Dr. Carlson, Ms. Washington, in your opinion, do we need to be doing anything else to protect human health from exposure to TCE in the area?

Ms. WASHINGTON. That's really the question that led us to our current program. Again, other states are not doing what we're doing. Massachusetts was mentioned for its environmental results program. We are doing a similar thing with dry cleaners. We need to do more, and I don't think self-certification is enough. I think it has great results, but so many of these things you really want to get in there and do the inspections. I think our bulk storage programs have proven that. So, yes, I mean we have to go back and we have to look at dry cleaners, we have to look at other possible sources of vapor. This is emerging—vapor intrusion has become an issue only in the last few years, and I will say New York is ahead of the curve. One measure of that is our engineers that have been

at the cutting edge of this work, as well as the DOE, DOH folks that have studied health implications and so forth are speaking all over the country. They are invited to conferences all over the country where people are learning from our experience.

Mr. CARLSON. Following up on that, I think one of the things that gives strength to our program, other than going back to all the old sites and actually sampling for vapor intrusion is a principle element of all our investigations.

Many of the other states make their decisions based on a mathematical model. They have a few sample points and they crank them into a computer model and say, ″Oh, vapor intrusion is not a problem.″ Well, we looked at that very closely in the beginning and we had some data and cranked it in, and it would say no problem, and we had houses that had significant issues, and we made the decision that modeling is not our watchword, sampling is. We are spending the money, as George said, 2,000 to $3,000 per house to sample.

When we have a neighborhood where we know there is an extensive problem, we don't necessarily sample every home, but we sample enough to know the pattern, and that's when we go in with what we call blanket mitigation, and that's in effect what we are doing with Hopewell Precision.

We don't sample everything. We have a problem here we are going to address it and we make the offer to all the folks, and there is a small number that don't want it, and I would just add there is a spinoff benefit because these are the same systems that we use to protect homes from radon, and so we get an additional benefit from that. And a lot of these sites have been, just by happenstance, in counties in New York State that have high radon problems, so that has been an additional benefit.

Mr. BOOZMAN. You mentioned 5 parts per million as far as the reference for safety, so would you say that in reading the current literature and visiting with your buddies that are in the same position that you are in, you know, supposedly keeping up with these things, are you comfortable with that, with the current literature?

Mr. CARLSON. Well, first, let me correct. It is 5 micrograms per cubic meter in air. This is an air number. There are a lot of numbers out there. California has a number that is reported at 0.16. There is other numbers that are, you know, in that range. But the issue for us is how we are applying it; how we are using it. In California, they have an air criteria number of 0.16, but they have a response level for vapor intrusion of a 120, so we have to be careful when people enunciate, state a number that is their response number. You have to look at what they are really doing.

And in our case, this is a general air guideline that we have developed that says over an individual's entire lifetime, they should not be exposed on an ongoing basis to levels that exceed 5 micrograms per cubic meter. We are using that as a response to what we hope are very short-term exposures, and as a basis, a jumping off point from beginning the process to define cleanup.

So to answer your question directly, we believe it is protective. That number as I said includes both cancer and noncancer outcomes. If you look at the risk ranges that are used to develop responses to Superfund sites our number of five, just as a cancer

based number is in the range of .6 times 10 minus 6 to l.5 times 10 minus 5.

Now, in the Superfund program, the risk range, acceptable risk range for a cleanup, is 10 in minus 6 to 10 in minus 4, so we are well within that risk range for that fund.

There will be, with time, new science that comes out. If the new science says that there is a need to change, a need to reevaluate, we will. Our toxicologists are continuing evaluating the literature, so we endeavor to stay on top of the science that is being developed around all the chemicals that we have as concerns about these waste sites.

Mr. BOOZMAN. Mr. Pavlou, I appreciate your work and appreciate working with the agency, and it sounds like today that as far as working with the individuals you know, the collaboration of the state is going very, very well.

There is some concern about, you know, things taking a while and being perhaps a little bureaucratic, and I can understand that and that's something that certainly we need to work on very, very hard.

The other thing that was mentioned was maybe a little bit in some situations, a little concern about the communication back and forth as to what we are going to do in the future, what is being done, and so I would really encourage, and again I know everybody gets busy. Those are things we can fix very easily, and I would encourage you to do that, so again, I appreciate the fact that your scorecard by the gentleman in his testimony is pretty good, so one thing, though, that does bother me, we have this TCE thing going on, and in your testimony, you talked about the original 2001 draft, you know, so this thing probably was started in the, you know, in the—I don't know, 1999's or 98's or whatever, so you know, it has really been dragging on now for nine or ten years.

You do the original study, you go through the whole process, and then you decide you are going to do another study because of new information or whatever. We are at the process now where you had the National Academy of Sciences do a report, you know, based on that came out in July of 2006, and then you are talking about having a peer review that, you know, and I mean at some point, we really do have to make a decision, you know, based on the evidence.

Now, if you use the idea that things change, we can't make a decision because it might change in the future, it is changed or whatever, you just can't operate that way. I mean we do operate that way sometimes in government, but it really is frustrating. You know, things in private enterprise, we wouldn't get anything done if it were done that way. Things wouldn't move forward, so we need to make a decision. And so I would really appreciate it if you would convey, you know, my wishes, and I think the wishes of the Committee that we really move forward, and you know what I would like, Madam Chair, is maybe to follow up on this in the future in either written, or have somebody come in and just visit with us six months from now. What's the progress, you know, that is being made, and then just follow up in a reasonable length of time as to the progress that we are making.

When do you feel like—like you said, this has been going on for the last eight years at least, what is a reasonable time that we can expect a report that gives a decision?

Mr. PAVLOU. Sir, I will convey those recommendations and those observations to you and the Chairwoman and Congressman Hall.

Mr. BOOZMAN. Those aren't unreasonable as a scientist—I mean those aren't for you, Dr. Carlson, that is not an unreasonable request, is it?

Mr. PAVLOU. Well, I wouldn't view it, you know, to be unreasonable if it was a simple matter of science. At the same time, though, I will convey your wishes and your recommendations and observations to my peers in Washington and let them know that this was, you know, discussed at this Congressional hearing, and there was a sense of urgency to finalize the science as we know it right now.

If there were to be changes in terms of, you know, what that health assessment should be in terms of the toxicity values of TCE to make those changes later on, so I will convey that.

Mr. BOOZMAN. So you have a feeling of when we can get a final——

Mr. PAVLOU. I am not the person in charge of that, sir, so I will convey that to those who are, you know, working on it in Washington.

Mr. BOOZMAN. Well, again that's something else. Maybe we can have a written, you know, question in that regard submitted to the agency but—and don't misunderstand, I think the feeling I have gotten today, you know, as far as your work, as far as the agency's work has been very positive.

And the other thing that you have done is realizing—I mean you really haven't stuck to that, you have actually acceded that in some cases in the area in the sense that—so you really are doing, you know, what you are supposed to, but again, I think that we do need to get on the stick and get the, you know, a final thing, so we appreciate your hard efforts.

And then also I am encouraged, the testimony that you talked about, you know, the Massachusetts model, and it sounds like you all are even improving on that in preventing—we got to clean up what we have done. There is no excuse for having the same thing happen over and over again in the future, so I appreciate the state being very proactive in that regard and really becoming involved. Thank you, Madam Chair, thank you.

Ms. JOHNSON. Thank you very much.

Mr. HALL OF NEW YORK. Thank you, Madam Chair. And in following up on Mr. Boozman's comments, I want to compliment Director Pavlou on his work. You have a good reputation with people around here, and I would also note for the record that we asked for representatives of the EPA from the Washington office who are in a position to answer those questions to come here today, and at this point they have declined to join us. But we are happy to have you here, sir. I wanted to ask a couple of questions if we could about some of the other sites that we haven't touched on that are in the 19th Congressional District. Starting with the Carroll and Dubies—I guess that's how it is pronounced—the Sewage Disposal site in Port Jervis. This is a site that is designated as construction

complete, although it has not been deleted from the National Priority List. Tell us what the current status is.

Mr. PAVLOU. The contaminant source areas have been remediated, and the groundwater at this site is what we call natural attenuation, in other words, the levels of contamination are not that high as to require active treatment, but through a reasonable amount of time, we should be able to achieve, you know, acceptable levels.

I would say that—and once we achieve the contaminant levels, you know, to the point where they meet groundwater standards, then we should be able to say that that remedy is effective and we should be able to proceed to delete that site from the National Priorities List. I would say that we do not anticipate at this point in time that we should be able to do so in the next five years.

I would like to stress because, you know, before we were talking about the groundwater and how long it takes for it to get cleaned up, unfortunately, in the beginning of the program, our experience was that if we, you know, have contamination of the groundwater, we put an extraction, a pump and treat system, we should be able to clean up the groundwater over a 30-year period.

Our experience so far indicates that we were very, very wrong. We were not even near, you know, in terms of how long it will take to, you know, treat groundwater and to achieve drinking water levels. I would say it wouldn't be unusual for it to take a hundred years to achieve drinking water levels. Once you contaminate the groundwater, it remains contaminated above drinking water standards for a long, long time.

Mr. HALL OF NEW YORK. So in other words, we shouldn't contaminate it if we can possibly help not doing so in the first place.

Mr. PAVLOU. We should prevent it, yes.

Mr. HALL OF NEW YORK. Let me just veer off from my previous line of questioning and just ask what is the proper legal method for disposing of TCE for an industrial operation.

Mr. PAVLOU. At this point in time, we have the Resource Conservation and Recovery Act, RCRA, as we know it, that if you do have TCE contamination, there are permitted facilities that should be taken to properly dispose of it. There are, you know, people who recycle TCE.

Mr. HALL OF NEW YORK. Do you have any idea what the costs are for——

Mr. PAVLOU. I do not know the costs, no.

Mr. HALL OF NEW YORK. Is it more costly than dumping——

Mr. PAVLOU. Oh, yes, far, far more.

Mr. HALL OF NEW YORK. So basically an industry that is making a profit and dumping TCE or any similar chemical on the ground is doing it to save money.

Mr. PAVLOU. Well, that or they——

Mr. HALL OF NEW YORK. Or they don't realize what they are doing.

Mr. PAVLOU. Yes, they are doing it recklessly I would say.

Mr. HALL OF NEW YORK. So that's the theory behind the tax on the polluters that was dropped in 1995—allowed to expire in 1995—the theory that the polluter pays, is that they are making

a profit in the first place and therefore they are the ones who should pay for the cleanup.

Let me jump back to the Katonah Municipal Well. That site has been deleted——

Mr. PAVLOU. That has been deleted from the National Priorities List, yes.

Mr. HALL OF NEW YORK. So that one is gone.

Mr. PAVLOU. Yes.

Mr. HALL OF NEW YORK. The Nepera Chemical site in Orange County, once again, is not expected to be done within five years, is that correct?

Mr. PAVLOU. That one we selected a remedy for, you know, the remediation of the site back in September of 2007 on that one. The site is located in Hamptonberg, New York. The remedy that we selected for that site called for the treatment of the soils as well as the remediation of the groundwater as well, so we did select the remedy.

We are in negotiations with, you know, the company that caused the contamination in Nepera to do the work as the decision of the EPA dictated. I would imagine once we complete the negotiations, it would take them about a year or so to design the remedy and then another few years to do the construction work.

Mr. HALL OF NEW YORK. Thank you. Is there any evidence of vapor intrusion either in Katonah or the Nepera site?

MR. PAVLOU: I can provide the information to you later on, but all of the—I don't have it at hand right now but—there is none.

Mr. HALL OF NEW YORK. Okay, and Warwick Landfill?

Mr. PAVLOU. Warwick Landfill, I don't believe so either.

Mr. HALL OF NEW YORK. A couple of quick, you know, a couple of sentences, a status report on that.

Mr. PAVLOU. On that one, it is a landfill, as you know, and we selected the remedy and it is a 28-acre landfill and we capped the landfill, and we constructed a liner back in September of 1998 and we continued with the operation and monitoring of the program, and this is work performed by the potentially responsible parties. It is costing about $44,000 a year to maintain the cap that was placed on the landfill and we did deleted this site from the National Priorities List in July of 2001.

Mr. HALL OF NEW YORK. I wanted to ask Dr. Carlson, Director Carlson, do low amounts of these VOC's have a greater effect on infants or people with compromised immune systems?

Mr. CARLSON. Well, infants and people with compromised systems and the elderly are more sensitive to them, but our guidelines are developed, our guidelines and standards are all developed with those segments of the population in mind, so they are very carefully considered when we develop our numbers.

Mr. HALL OF NEW YORK. Who pays for the implementation of the PHA plan, and is there any federal posture?

Mr. CARLSON. Implementation of the PHA plan is part of the overall process of the cleanup program, and so we do some of the work with our cooperative agreement with ATSDR, some of the work is done as part of a remedy for the site, which is either then paid for by the EPA, DEC, or the responsible party. If it is a responsible party site, the responsible party is paying for it. If they

are not available, and EPA or DEC is carrying out the remedy and they presumably will look for cost recovery if that is an option. According to the kind of numbers that Ms. Washington suggested earlier about our effectiveness in recovering the cost for carrying out these remedies is very good.

Mr. HALL OF NEW YORK. And with regard to the review of the existing outcomes for evaluating vapor intrusion impacts, are there any preliminary findings, could you speculate that those findings may be consistent with what we already know about the health impacts?

Mr. CARLSON. You are talking about what we anticipate coming out of the studies that we are doing now. No, I wouldn't endeavor to speculate because we don't have the data yet. The preliminary information that we gathered from questionnaires that we did send all the individuals that we asked to participate in our program did not indicate unusual numbers, so that's why we are looking at the data that are available in our registries and that address broader aspects of the health of the residents for our evaluation.

Mr. HALL OF NEW YORK. Thank you. And Deputy Commissioner Washington, I wanted to ask you, in your testimony, you referred to the incentive for polluters to stall the process of reaching a settlement. This is a problem that is created by the failure to reauthorize the Superfund program.

Are you encountering this in response to New York's program as well? Would the Superfund reauthorization bolster New York's program?

Ms. WASHINGTON. New York is a fairly robust program. We have had significant funding appropriated by the legislature for our state Superfund program, so we don't have the same need.

Mr. HALL OF NEW YORK. There seems to be strong state and federal cooperation on identified sites. Does this same spirit of cooperation extend to preventive monitoring and enforcement?

Ms. WASHINGTON. I believe it does. I have to tell you that I haven't been that involved in the enforcement program but yes.

Mr. HALL OF NEW YORK. As far as you know.

Ms. WASHINGTON. As far as I know, we have a very good relationship with the EPA.

Mr. HALL OF NEW YORK. I have always been proud that New York is leading on issues of environmental protection and the ongoing efforts to create parameters for vapor intrusion and TCE exposure. Is there any reason why these models would not be transferable to the federal level?

Ms. WASHINGTON. I would say that they are transferable. I think we had this discussion with the EPA and EPA has been involved in the ongoing development of strategies.

Mr. HALL OF NEW YORK. So as the EPA figures out what the standard is—it should consider, among other things, the information that comes from New York State and other states.

Mr. CARLSON. It is important if you are talking about nationwide, that is one thing, but I think our experience in New York, and I believe it is similar in New Jersey, that basically in the Region 2 area we are carrying out programs that are consistent. We not only work cooperatively, but our approach is very, very similar and our outcomes are also similar.

Mr. PAVLOU. All decision matrixes that New York State DOH as well as DEC develop which are extensively, you know, discussed with EPA. The EPA shares their decision-making matrix, so we are consistent and we do have and enjoy excellent working relationships between the three agencies. Nothing gets done without the three of us agreeing on something. Otherwise we don't proceed.

Mr. HALL OF NEW YORK. I am glad you all get along so well.

Mr. PAVLOU. We do.

Mr. HALL OF NEW YORK. Ms. Washington, how are the investigatory and financial burdens between EPA and New York State shared on sites that eventually make it onto the NPL list?

Ms. WASHINGTON. Normally they end up—[portion missing from transcript: Normally, New York pays a 10% share for construction, with EPA paying for investigation and design. Normally, the State takes over operation and maintenance costs. If New York takes the lead on remediation—which is pretty rare these days—then we pick up all costs and try to get them back from the PRPs.]

Mr. HALL OF NEW YORK. And lastly, I wanted to ask Director Pavlou a question. The big site that we have spoken of that runs through the 19th District, but which one doesn't think about a lot because it is so big and it is not the immediate impact that the Hopewell Precision has, for instance, is the Hudson River. It is a Superfund site and is in the process of being mediated. Can you tell us anything, are you involved in that or does that go north of your——

Mr. PAVLOU. I am very, very involved in that site.

Mr. HALL OF NEW YORK. Good.

Mr. PAVLOU. I am glad to say on the Hudson River we will be dredging in the next year in 2009. We were able to secure an agreement with General Electric back in September of 2005 for them to undertake the work in the first phase of the dredging of the river.

As we speak, they are building what I would label as a chemical city to treat the sediments as they are dredging from the Hudson River. They are going to be taking all of these sediments to a 100-acre site on the banks of the Champlain Canal. They are going to be dewatering those sediments, and then they are going to be transporting those sediments to Texas, of all places, via rail.

Mr. HALL OF NEW YORK. Not to the Alamo.

Mr. PAVLOU. No, no. I forget the name of the county, but it is towards New Mexico, you know, that boundary, but the sediment dewatering facility will be ready and will be tested by the end of this calendar year.

We were able to withstand legal challenges by the local municipality up there to the point where we wanted, you know—the district court, it was appealed in a high court, and the appeal decision was made back in January of this year endorsing EPA's work as well, so without any further legal challenges, we should be able to proceed with the dredging.

Mr. HALL OF NEW YORK. This is what they call environmental dredging, it is a type of suction.

Mr. PAVLOU. Yes, it is.

Mr. HALL OF NEW YORK. It is a big mechanical——

Mr. PAVLOU. It is not mechanical dredging. It is going to be secure environmental dredging such that the clamps that they are going to be using are going to be airtight that it secures everything in there, such that there is suspension. It is going to be minimized, but we also developed what we call engineering performance standards such that if there were to be resuspension exceeding the drinking water standards in the river, it is our standard that they need to achieve we would essentially slow down the operations or go back and find out what is causing those violations.

We developed, you know, quality of life standards for the communities up there such that whatever we do is not going to affect their way of life or their health in any way. So this is one of the, you know most studied rivers in the country, and I am glad to say that eventually we are proceeding to the point where dredging will begin and the implementation of the dredging will begin next year.

Mr. HALL OF NEW YORK. Thank you and all of the witnesses for being here and for the work that you are doing and look forward to continuing. The thought of a hundred years of cleanup is boggling my mind. But it makes this all the much more important whether we catch pollution as it happens, whether it is household hazardous waste, or whether it is industrial solvents that are in use in some process in some industry. We must make sure that they don't enter the groundwater to begin with so we don't have to go down this road. And thank you, Madam Chair.

Ms. JOHNSON. Thank you very much, Mr. Hall, and let me thank Dr. Carlson and Ms. Washington and Mr. Pavlou for your testimony and the other witnesses as well. This completes our public hearing, and we do plan to follow up in six-months. Thank you.

Mr. BOOZMAN. Can I just say one thing again? I want to thank Mr. Hall for inviting us here. We are on the Veterans' Affairs Committee also and work together in that area in helping you guys out with our veterans in trying to make sure that we, you know, do the benefits that we promised you in the past and we appreciate your efficacy in that area also. Thank you very much.

Ms. JOHNSON. Thank you, and that ends our public hearing.

[Whereupon, at 12:10 p.m., the Subcommittee was adjourned.]

Congressman Maurice D. Hinchey
Representing New York's 22nd Congressional District

Comments of US Representative Maurice Hinchey
Field Hearing
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
East Fishkill, New York
April 11, 2008

This hearing is an important step towards increasing our understanding and formulating appropriate responses to the threats posed by toxic substances present in ground water and indoor air. Communities throughout New York, from the Hudson Valley to places such as Binghamton, Endicott and Ithaca, are struggling to respond to the toxic legacies of their industrial past, and I believe that there is much more that the federal government can and should be doing to help. Over the past several years the nature of these threats to public health, particularly with regards to vapor intrusion, has raised concern about the extent of contamination present in communities where the industrial use of volatile organic compounds (VOCs) was prevalent and often careless.

I have had a great deal of experience with chemical contamination in my congressional district, and it has become clear to me that our current federal guideline for trichloroethylene (TCE), a probable carcinogen, is insufficient and that a new standard should be set as soon as possible. I have introduced legislation that addresses this by requiring the U.S. Environmental Protection Agency (EPA) to quickly develop health safety standards to improve the government's ability to protect public health from TCE. Among other things, the TCE Reduction Act would require EPA to publish a health advisory within 180 days of the enactment of the bill for TCE that fully protects the health of susceptible populations (including pregnant women, infants, and children). This bill would require EPA to account for body weight (children are more susceptible), all exposure patterns, and all routes of exposure, particularly vapor intrusion, which occurs when TCE-contaminated soils release vapors that enter homes, threatening residents' health and reducing property values in communities living above TCE plumes. Finally, the measure would also require EPA to promulgate a national primary drinking water regulation (no later than 1 year after enactment for the proposed regulation and no later than 18 months after enactment for the final standard).

While awaiting a new federal TCE standard it is critical that we continue to act responsibly to address the contamination threats facing us. Wherever necessary, ground water and indoor air testing must be followed up with consistent remedial actions, from

air ventilation systems to safeguard indoor air, to "pump and treat" procedures to reduce groundwater contamination. In every case, we must delineate the toxic threats facing our communities and then take strong steps to eliminate them. Only then can our communities put their contamination problems behind them and move forward with the safety and security they deserve.

I want to thank the Subcommittee for taking up this important issue and holding this hearing in the Hudson Valley today. I welcome your interest and support for addressing the issues of toxic contamination and its adverse impact on public health. The future of East Fishkill and communities across New York and the nation are at stake, and we must work together to ensure that the future of such communities do not continue to be compromised and endangered by the legacy of industrial pollution.

Statement of

G. ANDERS CARLSON, PH.D.

DIRECTOR
DIVISION OF ENVIRONMENTAL HEALTH INVESTIGATION
CENTER FOR ENVIRONMENTAL HEALTH
NEW YORK STATE DEPARTMENT OF HEALTH

before

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

on

WATER RESOURCES CONTAMINATION AND ENVIRONMENTAL
CLEANUP IN THE HUDSON VALLEY

APRIL 11, 2008

Chairman Johnson and distinguished members of the sub-committee, thank you for inviting me to participate today in discussions on the impacts of Superfund sites and groundwater contamination in the Hudson Valley, and specifically the Department of Health's role in the investigation and clean up of Superfund sites. The potential health impacts from these sites and what is being done to protect the public, particularly with regard to Hopewell Precision, will be addressed.

The New York State Department of Health (NYSDOH) participates as a partner with the New York State Department of Environmental Conservation (NYSDEC), the U.S. Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR) in investigating, evaluating and responding to reported instances of toxic chemicals in the environment and particularly with inactive (Superfund) hazardous waste sites and active Resource Conservation and Recovery Act facilities (RCRA).

The Department's role is to assure that appropriate data are collected to evaluate existing or potential human exposures. The Department considers the toxicity of chemicals, the nature of the exposures and, as necessary, executes epidemiologic studies to identify adverse health outcomes. Further, outreach and education materials are developed for the community and physicians. This is done to identify, eliminate or reduce such exposures and recommend subsequent actions.

Over the nearly 30 years that the NYSDOH has been addressing health issues with hazardous waste programs, many lessons have been learned. During this period, there have been great improvements in the investigatory tools, analytical methodologies and an enhanced understanding of how chemicals behave in the environment leading to an improved ability to evaluate potentially environmentally induced disease. Communication has been greatly improved between the Department and the affected communities.

During the evaluation of potential health impacts, particularly at federal superfund sites such as Hopewell Precision, the DOH partners with ATSDR to develop Public Health Assessments (PHA). A PHA is an evaluation that is conducted to determine whether and to what extent people have been exposed to hazardous substances from a site. If the assessment indicates that there have been exposures, the associated risks and possible health effects, particularly for children are then examined. Community concerns are considered and what follow-up actions are necessary to remove or reduce the exposures are established. This evaluation results in a public health action plan that offers measures to protect the community. As part of my testimony, a copy of our recently completed PHA for the Hopewell Precision Area Contamination is attached and can be accessed on the department's website at:
(http://www.nyhealth.gov/environmental/investigations/hopewell/docs/public_health_assessment.pdf)

The PHA made several recommendations that were directed at reducing exposures to contaminated drinking water and contaminated soil vapors. This will be done by fully defining the area of contamination with the state or federal government providing and

maintaining the appropriate treatment systems to mitigate exposures. In the area surrounding Hopewell Precision, EPA has sampled over 450 private water supplies. DEC and EPA have provided individual treatment systems for approximately 53 wells that exceeded state and federal drinking water standards. In addition, over 200 homes were tested for soil vapor intrusion resulting in the installation of 53 home remedial systems.

As part of the PHA Public Health Action Plan, the department continues to work with the community of Hopewell Junction by including them in the New York State Volatile Organic (VOC) Chemical Exposure Registry.

The VOC Exposure Registry was established in 1999 as a tool for health status assessment and long-term follow-up for communities and individuals with documented exposures to VOCs. The Registry is currently evaluating exposures and the health status of New York State residents at locations where drinking water or indoor air was contaminated with VOCs from landfills, industrial sites, spills or other sources. People who are enrolled in the Registry are kept informed of the research results that come from that data.

For the Hopewell Precision and Shenandoah Road sites, sampling information was used to identify impacted households. Questionnaires requesting information concerning exposures and health outcomes were distributed to 75 Shenandoah Road households in 2000. In 2003, contact was made with 47 Hopewell Precision households who had private well water contamination and, in 2006, 192 households who may have been

affected by soil vapor intrusion. There was a 61% response rate at Shenandoah Road and 26% in the Hopewell Precision community. Because many people did not respond to the survey, the information from this effort is, of course, incomplete. This information collected was used to identify any obvious or unusual health problems/patterns. Nothing atypical emerged from this data, but because the response rates were so low, the results were not meaningful.

The next step now underway addresses the response rate problem by using existing health outcome data from New York State Vital Records (Birth Certificates), the NYS Congenital Malformations Registry and NYS Cancer Registry. Data are being analyzed to evaluate possible adverse birth outcomes, some of which are low birth weight, congenital malformations and cancer for both Shenandoah Road and Hopewell Precision and other sites with similar exposures in New York State. (This review includes total congenital malformations - birth defects - and the prevalence of specific malformations that have been associated with VOC exposure. These include neural tube defects, oro-facial clefts and cardiac malformations)

These data will be used to compare levels of adverse health outcomes in impacted areas to the levels in the rest of New York State, excluding New York City. This type of review, sometimes called a health statistics review, cannot link causes and effects but can suggest relationships that merit additional research. It is anticipated that the birth outcome portion of this evaluation will be completed in approximately one year, spring 2009. The cancer portion is expected to be done six months later.

The Department staff worked with Hopewell Precision area residents as the boundary area for the evaluation was defined. The communities will continue to be engaged as the project moves forward. Once completed, the report that summarizes the findings at the specific sites will be shared with residents and other stakeholders. For small areas like these, reviews that combine sites with similar exposures will be undertaken. Because of the high level of interest in specific communities, results will be shared, but without compromising confidential health information.

In summary, in collaboration with ATSDR, the Department developed a comprehensive evaluation of environmental contamination around hazardous waste sites to identify exposures. The DoH worked together with ATSDR, EPA and DEC to identify appropriate actions to mitigate the exposures. During the process, the Department worked with the community, heard their concerns and as necessary, developed and carried out health studies.

Thank you for the opportunity to address this very important issue. I will be happy to answer any questions.

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I'd like to thank Congressman John Hall for inviting me here today and our host Supervisor John Hickman. I'd also like to thank Chairwoman Eddie Bernice Johnson and Ranking Member John Boozman and all the members of the Committee on Transportation and Infrastructure for keeping eyes on the Hudson River Valley and our local challenges for water quality.

I live and work in Brewster, Putnam County, NY. In ten short years my community has moved from being one of the worst polluters of the NYC watershed to a community that embraces its social, economic and environmental responsibilities for all its stakeholders. We have made significant progress for our environmental systems and yet major challenges remain.

Brewster is also home to a superfund site. In 1978, Brewster discovered VOCs in its municipal water supply. Investigations discovered a rogue drycleaner had used a drywell to dispose of his production waste for about 20 years. The drywell was immediately adjacent source of the village water supply.

The site was placed on the National Priorities List of Superfund sites in December 1982.

Shovels in the Ground to Ensure Safe Drinking Water in Brewster:

In 1984 the village under a cooperative agreement with EPA installed a full-scale air stripper which is currently providing safe drinking water to the village.

A Groundwater Management System was developed, installed and fully operational by April of 1997. Four extraction wells feed a packed column air stripper treating a volume of about 50 gallons of water per minute. The extracted treated water is discharged into the East Branch of the Croton River.

In late 1991, approximately 160 tons of contaminated soils were removed from the source site. Final confirmation samples showed that the target cleanup goal of 4 mg/kg for PCE in the un-saturated zone was accomplished- an acceptable health-based level.

In 2007 EPA modified its GMS by adding two extraction wells and a new air stripper at the source site. The new stripper continues to extract approximately 50 gallons of water per minute and discharges into the East Brach of the Croton River. A sub-slab mitigation system was also installed at the source site.

My Observations

The Village of Brewster in partnership with the EPA, DEC, DEP and the Putnam County Board of Health delivers safe drinking water to its residents.

Quoting from the Five Year Review Report prepared by the EPA in 2007: "Groundwater monitoring results do not indicate that the mass reduction of PCE is occurring at the rate anticipated." The 1986 Record of Decision estimated 10 years. Further, "the anticipated

duration of the pumping to reach maximum contaminated levels (MCLs) is not presently known."

PCE levels at the source property continue to exceed safe drinking water standards.

Concentrations of contaminates are generally lower than what was previously observed on the 30 acre site, showing the remedy is improving the quality of the groundwater.

EPA left a door open with the 2007 Five Year Report. What enhancements to the groundwater remedy should be considered? What are the results of air monitoring in the source building? Soil gas samples suggest that residual source material may remain underneath the building. Has the capture plume moved? Has EPA evaluated the performance of the modified GMS? Does the EPA have a plan of action?

EPA Director of Emergency and Remedial Response Division George Pavlou closes his report of 2007 by suggesting that these questions be addressed prior to project transfer to the State.

Documentation and Communication:

The EPA website is a good source for information. The background and case are well documented. Two five year reports from 2002 and 2007 are readily available to anyone wishing to review the history.

In preparation for my testimony I interviewed the current and past Water Superintendents of Brewster, both men were unaware neither of the modified GMS at the source site nor of the potential for residual source material at the source site.

The EPA makes reference to correspondence shared with the Planning Board of the Town of Southeast. It is my recommendation that any correspondence generated by the EPA also be shared with the Brewster Board of Trustees

In the 11 years I served the village in public service, I developed working relationships and friendships with the men and women of the DEC, DEP and County environmental representatives. I am a big proponent of stakeholder engagement from the bottom-up and a systems approach to environmental management. I have not, until today, met representatives of the EPA. I know the Village Board of Trustees would value an opportunity to meet our regional EPA representatives. In partnership, we can work together for continuous improvement of water quality

Next Practices and Stemming Root Causes of Water Pollution:

In addition to all the good work of local, City, State and Federal agencies charged with keeping our water safe for drinking I offer the following:

The EPA has worked closely with the Massachusetts Department of Environmental Protection in creating the MA Environmental Results Program for environmental self-certification in the drycleaners, photo-print shops and printing businesses of Massachusetts. Compliance has risen from under 10% to over 90% in the years since the program's inception. The ERP program is conformance based rather then compliance based. MA DEP offers education, training, and tools to individual business to create an environmental management system. MA DEP performs unannounced audits to ensure compliance.

Auto-body shops, nail salons and any other private enterprise which threatens our drinking water through products or services delivered should be included in the self-certification program.

It is my belief that New York State and water pollution prevention initiatives here could benefit significantly from the implementation of an Environmental Results Program similar to that of Massachusetts.

Closing Comments:

In my opinion, the EPA has earned an academic "A" for taking the lead in protecting drinking water in Brewster. A grade of "B" on the 26 year timeframe thus far (it took 9 years to get to the remediation of source contamination soils). A grade of "B+" for transparency and recommendations listed in the 2002 and 2007 Five Year Reports (I ask for a more proactive approach on the part of the EPA in sharing current information). This is the record, the history.

From a local stakeholder, I pray that the EPA, in collaboration with its partners, earns excellent grades for the future here- anything else would be irresponsible and a danger to the health of Brewster's people.

Thank you for the opportunity to address you today and I look forward to our collective water quality success stories.

Water Resources Contamination and Environmental Cleanup in the Hudson Valley

Congressional Testimony
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For the Congress of the United States
Before the Subcommittee on Water Resources and Environment
Friday, April 11, 2008
East Fishkill Town Hall
New York

Hopewell Precision dumped thousands of gallons of trichloroethylene directly on the ground outside the building they leased during the 1970's. A good Samaritan alerted the EPA in a letter written in 1979. Between the EPA and the New York State Department of Environmental Conservation (DEC), very little was done except for an inept investigation. The DEC, looking to de-list the site, asked for comments. The New York State Department of Health wrote to the DEC and said it did not concur, urging it not to "close" the site. This was the only comment the DEC received, and it was completely ignored. The DEC closed its books on the site.

Looking to archive the Hopewell Precision case during 2003, EPA investigators decided to do what should have been done two-and-a-half decades earlier. The EPA tested the water in a large number of homes in

order to be positive that the dumping of Hopewell Precision's discarded TCE did not make its way into the aquifer. Private wells are the only source of water for hundreds of homes here. I think the EPA knew what the DEC should have known in 1994. TCE had been dumped and it had to go somewhere. Since then over one hundred twenty homes have been found to have some sort of contamination. Hopewell Precision's lack of ethics and responsibility for this site is unconscionable.

Since 2003 our homes have been stigmatized. Some buyers have had to contact a few mortgage companies before they were able to find a loan. For some it is difficult to get refinanced. It has been especially hard because of the mortgage fiasco. Still we have a sense of community. We love this neighborhood and our neighbors. It shows in how we take care of our properties and how we relate to each other.

My heart aches for many, though. You see, my family is lucky. We had only lived here for two years before finding out about the water. Some families have been exposed for almost three decades. As I walked around knocking on doors, I heard stories of illnesses. One cannot prove all these similar health issues are caused by TCE exposure. But many of us know it in our hearts. I know some people with terrible health problems that got better months after getting a carbon filter installed. Coincidence? I had two parakeets that were young and healthy until moving into my home. After two years both had died from liver cancer. Coincidence? Some people are vocal and some are not, but we all know that if our homes had been protected sooner, perhaps some of our neighbors and loved ones would still be here with us. And although the government knew about the possible danger, residents were never informed. If residents had been told, they could have tested their water for VOC's.

My name is Debra Hall. For the past seven years my husband and I have lived above the plume of chlorinated solvent contamination emanating from the Hopewell Precision plant here in Hopewell Junction, New York. I would like to thank Congressman Hall, Chairwoman Eddie

Bernice Johnson of Texas, and Ranking Member Boozman from Arkansas for coming to hear directly from people whose health and property are impacted by toxic contamination.

I have five simple messages for you today:

- The EPA must promptly promulgate a protective standard for trichloroethylene (TCE).
- EPA needs to finalize its 2002 Vapor Intrusion Guidance using ideas from impacted communities.
- The EPA should organize a genuine national forum for vapor intrusion stakeholders.
- Congress needs to reinstate the Superfund tax.
- Impacted homeowners, not polluters, deserve property tax relief.

The EPA must promulgate a protective standard for trichloroethylene, one of the contaminants that polluted my private well as well as the air in my home. Five parts per billion is no longer acceptable. We had hoped that the EPA would finalize its 2001 draft Human Health Risk Assessment, which found that TCE was 5 to 65 times as toxic as previously believed. In 2002 EPA's Science Advisory Board conducted a generally positive peer review, but instead of finalizing the risk assessment, EPA bent to the wishes of federal polluting agencies and sent the question to the National Academy of Sciences for re-review.

The Academy concluded that "The evidence on carcinogenic risk and other health hazards from exposure to trichloroethylene has strengthened since 2001… the committee recommends that federal agencies finalize their risk assessment with currently available data so that risk management decisions can be made expeditiously."

Now we are told that there is so much new information about TCE that it would be best to do a

completely new study. Stakeholders agree that more is being learned all the time, but we also know that the standard needs to be lowered. Our health and lives depend on it. A completely good report is going into the garbage instead of getting implemented. Instead of our families being protected by a more protective standard, we will now have to wait years for another study. This does not make any sense.

It is like building a four-lane bridge but never using it. Instead it gets demolished because a six-lane bridge is now needed. It just does not make sense!

Furthermore, EPA needs to finalize its 2002 Vapor Intrusion Guidance using ideas from impacted communities as well as other experts. We believe that vapor mitigation units should be installed wherever volatile organic compounds are detected above outdoor air levels. It would be protective and cheaper in the long run, since testing and mitigation usually cost about the same. This is what was done at our site, and we feel it is working out very well. Every home must be re-tested to make sure the system is working. I was disappointed to learn recently that there is no plan to complete the Guidance, despite ongoing technical work and the constructive input from impacted communities.

The EPA should organize a genuine national forum that brings vapor intrusion stakeholders from all across the country together with experts and government officials. Last month I presented to a room full of officials and consultants with four other stakeholders. We all provided lots of information and even taught the audience a thing or two. EPA is organizing another forum this fall, but it will again be a handful of community stakeholders with hundreds of paid people in suits unless EPA provides travel assistance to enable people like me, from all over the country, to attend. The EPA and others should learn what is important to the people who are affected. Concerns are very different when you walk in our shoes.

Congress needs to reinstate the Superfund tax. In the near future, hopefully, we are going to find out

what remedies will be used to clean the Hopewell Precision site, but we aren't sure EPA will have the money to implement them. And if we get the money here, it will be at the expense of some other contaminated community. It has been five long years already since this began for us. Without enough money our community will be indefinitely stigmatized. We want action to help us climb out of this hole.

Impacted homeowners, not polluters, deserve property tax relief. Instead of taxing Hopewell Precision, the government is allowing the company to laugh all the way to the bank. It was allowed to lower its property assessment by almost eighty percent because the property is contaminated, BECAUSE OF THEMSELVES! The law is different for homeowners. Our assessments are close to those of homes without contamination. Hopewell Precision's large building and five acres are being assessed the same as some homes with one acre.

Please understand that I am not complaining about the work that EPA did here at the Hopewell Precision site. In fact we are extremely pleased with Angela Carpenter, Lorenzo Thantu and Don Graham's work. They are reliable, accessible, and personable. It is the policies, procedures, and of course the money that concern us.

Thank you for listening. I look forward to hearing how you will take action to address the issues I have raised.

April 11, 2008

Congressional Subcommittee Meeting on Water Resources and the Environment

Testimony by Town Supervisor, John Hickman

Good morning, my name is John Hickman and I am the Supervisor of the Town of East Fishkill. I would like to thank the Congressional Subcommittee on Water Resources and the Environment for meeting here in the Town of East Fishkill.

The Town of East Fishkill has two Superfund sites – one created by a contractor and another created by a business – who disposed of cleaning solvents carelessly, possibly criminally, seriously contaminating our groundwater. These activities continued unnoticed for decades resulting in widespread contamination by TCE, a silent, slow-acting, poison that affects unsuspecting people through groundwater contamination and vapor intrusion.

To those living in the affected areas, I can only say that people should not have to live such a nightmare. Indeed, the stories that I have heard first - hand of the health and developmental problems of families living in the Ryan Drive Superfund site are truly, truly heartbreaking and my heart goes out to those so affected.

I would like to commend the EPA on their response. In my capacity, dealing with Lorenzo Thantu and Damien Dudah of the EPA on the respective sites, I have found that both treat our citizens with sensitivity and understanding. I would state that the most frustrating part of the process is the time that it takes in analyzing the contamination, providing temporary services, and designing and implementing a remediation plan. It is indeed a long and drawn-out process.

I feel that we need stronger regulation and oversight, legislation and enforcement at a higher level, of individuals and businesses that use such chemicals so that we may prevent more Superfund sites from happening. Prevention of such situations is paramount, saving people the horrors of living in contaminated sites. In our case, sadly, when the damage has been done; we need help in protecting the health of our people and in the remediation of the contamination. The Town of East Fishkill does not have the resources to address such issues.

I would like to thank the members of the local group "Citizens for Clean Water" for their efforts in bringing the Ryan Drive situation to our attention. I would like to thank the members of this subcommittee for being here today. I would like to thank Congressmen John Hall and Maurice Hinchey for introducing legislation directing the EPA to set stricter regulations on TCE. We need your help in addressing an issue, not simply of contamination, but of families suffering tragically from daily exposure to TCE.

Testimony of George Pavlou
Director, Division of Emergency and Remedial Response
U.S. Environmental Protection Agency, Region 2
Before the Subcommittee on Water Resources
House Committee on Transportation and Infrastructure

April 11, 2008

Thank you, Madam Chairman and Members of the Committee, for the invitation to appear here today on behalf of the U.S. Environmental Protection Agency (EPA). I am George Pavlou, Director of EPA Region 2's Division of Emergency and Remedial Response. Thank you for the opportunity to discuss the EPA's efforts to address vapor intrusion issues and the actions we have taken at Superfund sites in New York's 19th Congressional District.

EPA considers vapor intrusion from contaminated soils or groundwater into homes and buildings to be a significant environmental concern and one in which the science is still evolving. EPA and the states have paid increased attention to indoor air concerns at sites where soil or groundwater is contaminated with volatile organic compounds or VOCs. A challenge in evaluating vapor intrusion, is the potential presence of some of the chemicals like commonly used household cleaning products and dry-cleaned clothing that may produce false positive-test results.

Due to the potential number of sites in Region 2 where vapor intrusion could be of concern, and given both the evolving science in this area, and the difficulty of relating contamination in the soil and groundwater to indoor air at a given location, EPA's

approach to determine whether there is a likely concern at a given location is to conduct sampling from beneath the slab of a building (sub-slab) and of the indoor air environment when the possibility of vapor intrusion at levels of concern cannot be ruled out.

Two common chemicals of concern for vapor intrusion sites are trichloroethylene (TCE) and perchloroethylene (PCE). These contaminants occur at approximately one-third to one-half of NPL sites, which includes Federal Facilities. The Agency's ongoing human health assessment of TCE is a complex scientific activity. While a 2001 draft TCE health assessment underwent independent peer review by the Agency's Science Advisory Board (SAB) and public comment, a number of scientific issues remained and a large amount of important new scientific literature had been published since the 2001 draft assessment. As a result, in September 2004, EPA and other federal agencies (the Department of Energy, National Atmospheric and Space Administration and the Department of Defense) commissioned a National Academy of Sciences (NAS) report to assess the critical scientific issues that should be addressed in any health risk assessment of TCE. NAS provided the report in July 2006. The Agency is considering the scientific advice of the NAS as well as recently published scientific literature, as it proceeds with the development of a new TCE health assessment. The TCE assessment is a top priority for EPA's chemical assessment program.

The PCE assessment is also a top priority for EPA's chemical assessment program. The toxicity of PCE is currently under review by EPA and is expected to be completed by 2010.

At this point, I would like to address how the Region 2 office of EPA is addressing vapor intrusion in New York State at several Superfund sites in the 19th Congressional District. These sites are the Hopewell Precision and the Shenandoah Road Sites in Dutchess County. Though these sites have similar groundwater contamination problems, one site has experienced widespread vapor intrusion while the other site has not. A key point to keep in mind is that individual site characteristics, such as geology and soil conditions as well as the chemicals present, can greatly affect the potential for vapor intrusion. In addition, much like the radon gas phenomenon, the extent of vapor intrusion within any given site, may be considerably different from one home to the next. This makes for challenging and resource intensive site investigations.

Hopewell Precision Area Groundwater Contamination Site

The Hopewell Precision Area Groundwater Contamination Superfund site is located in Hopewell Junction, NY. Hopewell Precision Inc., a manufacturer of sheet metal parts and assemblies, operated at the site since approximately 1977. Various painting and degreasing processes used at the facility generated wastes that the company disposed of directly on the ground resulting in a ground water contamination plume. The plume extends about 1.5 miles from the facility. The area surrounding the site consists mostly of residences, all of which are served by private drinking water wells and septic systems.

A Superfund Removal Action was initiated at this site in March 2003 to provide a quick response to the EPA's identification of several contaminated residential wells down

gradient and in close proximity to the Hopewell Precision facility. Our sampling of the wells found elevated levels of VOCs, including TCE and 1,1,1-trichloroethane (TCA), both of which present health concerns.

Since March 2003, EPA has sampled 450 residential drinking water wells located in the vicinity of the Hopewell site. The samples were analyzed for VOCs. Based on laboratory results, we identified TCE in 53 wells and TCA in 100 wells. For the 39 wells that were found to exceed the state and federal drinking water standard of 5 ppb for TCE, we installed carbon filtration systems which are highly effective in removing VOCs from drinking water. These systems are tested regularly by EPA to ensure that they are working as intended. For the 14 wells found to exceed the state standard of 5 ppb for TCA, the NYSDEC installed similar filtration systems.

Given what we know about the characteristics of the Hopewell Precision site, we were aware that there was the potential for TCE and TCA to volatize from groundwater and enter homes. EPA conducted sampling to investigate if TCE vapors were entering homes. Between April 2003 and March 2008, EPA collected air samples from a number of residences in the vicinity of the Hopewell Precision site. EPA collected air samples from underneath the homes (which we refer to as sub-slab samples) as well as from basements and first floors. EPA conducted sub-slab air sampling at 278 homes: of these, 67 homes were found to have detectable concentrations of TCE. Working with NYSDEC, NYSDOH, and the Agency for Toxic Substances and Disease Registry, EPA

determined that there were residences requiring mitigation due to elevated concentrations of TCE in indoor air.

To date, EPA has installed sub-slab ventilation systems in 53 residences to mitigate the intrusion of TCE vapors into these homes. The majority of the remaining residences have been re-sampled and future actions are pending evaluation of the analytical results. In addition, 148 residences have detectable concentrations of TCA in sub-slab air; however, they are not above levels of concern.

These ventilation systems, which are very similar to equipment used to reduce the level of radon in homes, have been successful in addressing vapor intrusion problems. A number of months, however, may be required to reduce the vapors to acceptable levels. The systems that have been installed have successfully remediated the vapor intrusion problems that can be attributed to the contaminated ground water (some homes have sources of TCE within the home not related to the site). We will continue to monitor these systems.

EPA initially addressed all homes with sub-slab TCE vapor levels exceeding 50 ug/m^3 However, in February 2005, we adopted a revised indoor air cleanup goal of 0.38 ug/m^3 for the Hopewell Precision site. This was a result of a number of considerations, namely, our growing experience with indoor air remediation, the effectiveness of the vapor mitigation systems at Hopewell Precision, the ability of laboratories to detect TCE

at lower levels using EPA analytical methods and the cost of mitigation compared to further sampling, for those homes where a sub-slab system is necessary.

To date, EPA has spent $8.5 million in Superfund funds on activities at the Hopewell site. On April 27, 2005, the Hopewell Junction site was placed on the National Priorities List, making it eligible for long-term federal cleanup funding. In December 2005, EPA initiated a remedial investigation and feasibility study (RI/FS) as part of the long-term site cleanup phase. The RI/FS will evaluate the nature and extent of groundwater, soil, sediment, surface water, and vapor contamination at the site, and will help EPA identify the appropriate cleanup alternatives and develop a comprehensive cleanup plan for the site. EPA completed all RI field activities during the summer of 2007 and expects to release the RI/FS reports to the public during the summer of 2008. In addition, EPA is also preparing a Focused Feasibility Study (FFS) to evaluate alternatives for the area of the identified groundwater plume. We expect that the FFS will be ready for public release later this spring. EPA continues to reach out to local residents in the Hopewell area in an effort to establish a close working relationship with the Hopewell community. Ensuring community involvement was a key to the progress and success we have achieved at the site.

Shenandoah Road Groundwater Contamination Area

Another site that EPA is currently working on in Dutchess County is the Shenandoah Road Groundwater Contamination Area Superfund Site, which is located here in East Fishkill. The site encompasses an area of contaminated groundwater in the

East Fishkill community known as Shenandoah. Investigatory work by NYSDEC and EPA discovered that PCE had seeped or leaked from a 1,200 gallon metal septic tank and acid pit and was responsible for contaminating groundwater. There are approximately 150 homes in the immediate vicinity of the site, which is predominantly a residential area where local residences obtain drinking water from individual wells. These wells draw from the bedrock aquifer which is contaminated with VOCs, mainly PCE. The IBM Corporation has been identified as a party potentially responsible for the contamination at the Shenandoah site.

In 2000, EPA excavated the septic tank and removed its contents for transportation and off-site treatment and disposal. EPA also excavated contaminated soil associated with the septic tank which was temporarily stockpiled on the site. Based on field screening results and post-excavation soil sampling results collected by EPA, it was evident that high levels of PCE still remained in the soil beneath the facility. As a result, it was necessary for EPA to demolish the facility prior to excavation of the underlying contaminated soil. During excavation of the contaminated soil associated with the former septic tank, two additional PCE disposal areas were discovered. Approximately 4,800 tons of contaminated soil associated with the former septic tank and the two PCE disposal areas were staged at the site and removed for off-site disposal by IBM. Field sampling results revealed high concentrations of PCE in the soil surrounding the acid pit and EPA directed IBM to excavate the contaminated soil. Excavation activities and off-site disposal of approximately 2,000 tons of contaminated soil associated with the former acid pit were completed by January 2002.

Residential well sampling conducted at the site by NYSDOH and EPA in 2000 indicated that a total of 60 residential wells contained PCE and/or TCE at or above the drinking water standard of 5 ppb. Of these 60 wells, 20 had levels exceeding the removal action level of 70 ppb for PCE, which posed an immediate threat to public health. Following discovery of these residential wells in June 2000, EPA initiated an emergency response action at the site and began the delivery of bottled water to the affected residents. Subsequently EPA installed carbon filtration systems at 57 homes. In addition, IBM installed 45 carbon filtration systems in homes that were "at risk" of having their wells contain elevated PCE and three homeowners installed their own systems. To date, a total of 105 residential well treatment systems have been installed and continued monitoring of affected homes and nearby wells is addressing the immediate threat.

As with the Hopewell Precision site, we were aware that there was the potential for PCE to volatize from groundwater and enter homes. Between April 2004 and March 2008, EPA collected air samples from a number of residences in the vicinity of the Shenandoah Road site. EPA collected sub-slab samples, as well as indoor air samples from basements and first floors. EPA conducted sub-slab sampling in 78 homes: of these, 16 homes were found to have PCE concentrations of concern in the soil gas underneath their sub-slab. After completing its evaluation of all the sub-slab and indoor air data, EPA has determined that five of the 16 properties should receive sub-slab vapor mitigation systems. The installation of these systems is expected to be performed by

EPA over the next few months. The other homes will continue to be monitored during the winter heating season.

EPA has also been working toward a permanent solution to address the groundwater contamination in the Shenandoah Road area. This solution involves securing a public water supply system to the area. Under an EPA order, IBM agreed to construct a waterline that will serve approximately 150 homes at a cost of around $10 million. Work on this portion of the project is progressing, and the waterline is expected to be completed by this fall. IBM is also performing a Remedial Investigation/Feasibility Study (RI/FS) investigation. The RI involves gathering of groundwater, surface water and hydrogeological data needed to determine the nature and extent of contamination at the site. The FS involves evaluating appropriate alternatives to address the contamination. The RI/FS should be completed in 2009.

Hudson River PCBs Site

In September 2005, EPA and General Electric (GE) Company reached agreement on a Consent Decree under which GE would implement the first phase of the dredging project. A legal challenge to the Consent Decree delayed construction of the sediment processing facility needed for the project and ultimately pushing the start of dredging to 2009.

GE began constructing the sediment processing/transfer facility in April 2007, which includes: the widening of the Champlain Canal for a wharf for unloading barges; a

rail yard with five miles of rail to facilitate the loading and transport of sediments by rail to a permitted landfill in Texas; a two-mile access road that will alleviate the impacts of project traffic on the Town of Fort Edward; a two million gallon per day treatment plant; and a dewatering plant capable of processing more than 5,000 cubic yards of sediment per day. Construction of the 110-acre facility is on schedule for GE to begin dredging the river in late spring of 2009. It is anticipated that GE will award a contract for the first year of dredging by the end of May 2008. GE has already entered into contracts for rail transport and disposal of the sediments.

EPA has developed a set of Engineering Performance Standards for the dredging project. The standards are intended to ensure that the cleanup meets the objectives for protecting human health and the environment, and does not cause adverse health or environmental impacts.

Other Superfund Sites in the 19th Congressional District

EPA has made substantial progress in addressing other Superfund sites in Congressman Hall's district. Substantial work has been undertaken at the Brewster Well Field, Carroll and Dubies Sewage Disposal, Katonah Municipal Well, Nepera Chemical, and Warwick Landfill sites.

Conclusion

In conclusion, I would like to emphasize that EPA will continue to work closely with NYSDEC and NYSDOH to address all phases of site remediation, including the vapor intrusion issue in New York State. The vapor intrusion issue presents unique challenges that EPA and the states will have to address. As more sites that have vapor intrusion problems are identified, we anticipate the challenge will only get larger.

Before I close, I would like to thank Representative Hall for his ongoing interest and support at these sites.

Thank you again for the opportunity to address the Subcommittee. I am happy to answer any questions you may have.

Testimony of

Val Washington

Deputy Commissioner for Remediation and Materials Management

New York State Department of Environmental Conservation

Before the

United States House of Representatives

Subcommittee on Water Resources and Environment

April 11, 2008

Chairwoman Johnson, Ranking Member Baker, Congressman Hall and members of the House Water Resources Subcommittee, on behalf of Commissioner Grannis I want to thank you for providing me with the opportunity to testify at today's hearing. The topic of the hearing – Water Resources Contamination and Environmental Cleanup in the Hudson Valley is timely and important to New Yorkers.

The Hudson River and the Hudson Valley have a special importance to New Yorkers. This Valley, home to our national symbol, the bald eagle, has long been revered for its beauty, its value as a transportation route, and its contribution to the livelihood of those who live near its banks. Our Nation's history is intrinsically tied to Henry Hudson's travels up this River and major Revolutionary War battles at Saratoga and Stony Point. The Hudson Valley has spawned its own school of artwork, and our literature abounds with written and sometimes fanciful images that describe life along the Hudson. We all grew up with stories of Rip Van Winkle, Ichabod Crane, the Last of the Mohicans, and others that were based on life along the Hudson.

The attributes that have made the Hudson River great have also led to its significant environmental contamination. As a major transportation route for the Northeast, the Hudson River has suffered from the degradation caused by toxic contaminants released by industries located along its borders, including PCB contamination which continues to impair the River's health. I can't think of a better location to discuss our Nation's legacy of environmental

contamination and how it directly harms our water resources than to be in East Fishkill in beautiful Dutchess County.

Just as the Hudson River is important to our Nation's history and development, New York is important to the history of environmental contamination. It was at Love Canal in Western New York that we first learned of the harm which toxic pollutants can cause. That site became the genesis for the national and New York State Superfund laws which still govern our remediation of hazardous waste sites.

While we continue to use these omnibus statutes, our knowledge of environmental remediation has grown to embrace brownfields sites and contamination caused by vapor intrusion. In these areas as well, New York's experience offer guidance that I hope will be helpful to the Subcommittee.

Superfund, Oil Spills and Brownfields

In the late 1970's, the threat posed by historic industrial contamination was dramatically illustrated at Western New York's Love Canal, which became a worldwide symbol of our careless chemical past. As a result, laws were enacted at both the State and Federal level to regulate hazardous waste, criminalize its mishandling, and clean up contaminated sites posing the greatest risk to public health and the environment. Both the Federal and State superfund laws provided legal tools to prod "potentially responsible parties" into cleaning up these sites, or paying the government to do so. Our own state Superfund list of sites that pose a significant threat to the environment includes 2,266 sites, 1,390 of which have been remediated, leaving about 876 that are either being cleaned up or are still to be addressed.

Of the 2,266 sites, 86 are also on the National Priority List and, as such, are considered federal Superfund sites under the primary jurisdiction of USEPA. USEPA also provides assistance to New York State through its emergency removal program. Each year, NYSDEC requests that USEPA assist with about 25 emergency actions where the immediate removal of hazardous waste is necessary.

In addition to the State Superfund Program, NYSDEC also administers a petroleum spill response program with a similar mix of public and private expenditures for remedial efforts which primarily involve petroleum contamination. With about 16,000 new spills every year, this is not a small program. The current annual appropriation for this program is $50 million.

Even with this level of effort and spending for cleanup programs, beginning in the early eighties it was becoming evident that there were many other contaminated sites that did not qualify for the Superfund and Spill Response Programs, but, because of fear of possible health impacts or other liabilities, were being abandoned with no hope of either cleanup or reuse. The fact that the cost of their cleanup can approach that of Superfund sites, ranging into the tens of millions of dollars, further discourages redevelopment. Some cities have done a rough count of the number of contaminated sites within their borders, but there is no complete or accurate inventory of these sites – now known as brownfields – though it is clear that they number in the thousands. And though they usually don't pose the same threat as Superfund sites, they often contain toxics of concern to the neighborhoods they scar, frequently threatening or causing groundwater or indoor air contamination as well.

With years of debate over what a New York brownfield program should look like – particularly in regard to cleanup standards – our State was late in its creation of a brownfields cleanup program. As the debate raged, many developers and landowners with contaminated but otherwise marketable property sought government review and "sign-off" of clean-up plans so that they could access financial backing and be freed from worry over potential legal actions under the State's pollution and hazardous waste laws. NYSDEC accommodated them with a "Voluntary Cleanup Program," or VCP, under which NYSDEC staff would review clean up plans and offer Closure ("No Further Action") Letters to those who completed approved remedial investigations and cleanup plans. Under the oversight of the State, 456 VCP sites have been or are being addressed. Of the 456 sites, 153 sites have been remediated and have received a Department release from liability.

The Brownfield Cleanup Program (BCP) was finally passed in 2003. It established cleanup goals and standards, offered liability relief to participants, and, most notably, provided for substantial "refundable" tax credits, meaning that if a participant's tax liability does not equal the credits available, the remainder would be given to the taxpayer as cash. To date, 390 sites have

applied to the BCP, with the number of applications growing each year. Forty-four have received a certificate of completion, meaning they have completed remediation except for any on-going operation and maintenance requirements or institutional controls. In addition to the State's Brownfield Cleanup Program, grants are available from USEPA to conduct planning and community involvement, create inventories, and carry out assessment and cleanup activities related to brownfield sites. Development projects around the State are benefiting from the State and federal programs, with some notable sites serving to lead an economic revival in the neighborhoods they used to burden with blight.

Experience shows that it is important that the suite of programs available at the State and federal level be fully funded and effective – whether they are grounded in enforcement or voluntary participation. In this regard, NYSDEC believes it is critical to restore full and ongoing funding for the federal Superfund. This will help to ensure that USEPA has the ability to comprehensively address NPL sites in New York in a timely and effective manner.

Reauthorization of the federal Superfund should be a top priority. Responsible parties are postponing the cleanup of their sites or otherwise entering into protracted discussions/negotiations with the USEPA. USEPA needs the funding to clean up these sites in the absence of cooperation with responsibility parties. USEPA's ability to do so can spur negotiation and, where negotiations fail, assure that the environment is protected – and the polluters are still on the hook for the government's costs.

It is equally important that the State and federal government enjoy a strong partnership in order to accomplish the shared goal of protecting public health and the environment from releases of hazardous wastes and substances. NYSDEC and USEPA Region 2 have developed such a positive partnership. NYSDEC generally handles contaminated sites through its State Superfund Program or one of its brownfield programs. This logically flows from the fact that our programs are well funded and mature. However, over time, we have concurred with listing some of the most seriously contaminated and complex sites on the NPL to bring USEPA funding and enforcement into play. USEPA takes the lead for cleanup of many of the NPL sites in New York and we work closely with USEPA on these sites through all phases of the remedial process.

One particularly important issue that has become a source of concern in the Hudson Valley and, indeed, around the State, is vapor intrusion related to contaminated sites and its potential impacts on surrounding communities.

Vapor Intrusion

"Vapor intrusion" refers to the process by which volatile chemicals move from a subsurface source into the indoor air of overlying or adjacent buildings. The subsurface source can either be contaminated groundwater or contaminated soil which releases vapors into the pore spaces in the soil.

Vapors can enter buildings in two different ways. In rare cases, vapor intrusion is the result of groundwater contamination which enters basements and releases volatile chemicals into the indoor air. In most cases, vapor intrusion is caused by contaminated vapors migrating through the soil directly into basements or foundation slabs. Although NYSDEC historically evaluated soil gas pathways, improvements in analytical techniques and the knowledge gained from remedial sites in New York and other states has increased our awareness of the prevalence of vapor intrusion exposures.

Contaminated soil vapor is not the only possible source of volatile chemicals in indoor air. Chemicals are part of our everyday life. Volatile chemicals are found in many household products, such as paints, glues, aerosol sprays, new carpeting or furniture, refrigerants and recently dry-cleaned clothing. Indoor air may also become affected through the infiltration of outdoor air containing volatile chemicals.

New York has emerged as a national leader in the field of vapor intrusion assessment. With the New York State Department of Health (NYSDOH), NYSDEC has developed a joint strategy to address this problem Statewide. For ongoing sites where final cleanup decisions have not been made, the vapor intrusion pathway will be evaluated as part of the site investigation along with other media, such as groundwater and soil. For sites where cleanup decisions were made before January 1, 2003, NYSDEC has developed a process to evaluate the potential for vapor intrusion

and, where the potential exists, to investigate and mitigate possible exposures. We have identified 421 of these older sites where volatile organic compounds, or VOCs, were known to exist. To date, evaluations have been commenced at all but 32 of the 421 sites. USEPA has taken the lead at all former and current NPL sites impacted by vapor intrusion, 55 of the 421 "legacy sites," and has begun addressing all of them. Dr. Carlson from the New York State Department of Health will discuss vapor intrusion in his remarks as well.

There are a number of sites contaminated with vapor intrusion in the Hudson Valley, including industrial sites, landfills and cleaners. Included in these sites are the Old Al Turi Landfill and the Orange County landfill, the Texaco Research Center, and Pawling Rubber Company. Each of these sites presents its own challenges, requiring carefully tailored remedial plans.

In all cases, NYSDEC and USEPA work cooperatively to address vapor intrusion at these sites. For example, a vapor intrusion site of particular concern in the Hudson Valley is the Hopewell Precision Area NPL Site in Hopewell Junction. NYSDEC is working closely with USEPA to investigate vapor intrusion impacts from this site and to implement critical measures such as water treatment, ventilation systems and monitoring to protect public health and the environment.

The Toxic Chemical Exposure Reduction Act of 2008

We greatly appreciate Congressional recognition of the problem of vapor intrusion, and the added cost and complication it represents in cleaning up contaminated sites. Congressman Hall's bill, H.R. 5527, will assists the states in their efforts to remediate vapor intrusion sites by requiring USEPA to publish a health advisory for trichloroethylene that fully protects susceptible populations such as pregnant women, infants and children. The bill also would require USEPA to promulgate a national primary drinking water regulation for TCE.

Let me note that in New York we already have well-thought out guidance on the remediation of vapor intrusion sites, which NYSDOH can best address. As I mentioned before, New York has been a training ground for environmental remediation efforts probably to a much greater extent

than we would like. As a result, we don't really need a federal standard in New York ... but, at the same time, the New York members of the US House of Representatives can certainly guide the House as a whole on how best to establish a nationwide standard for TCE.

I would like to note that the development of the appropriate risk concentration for TCE has been quite controversial. A few years ago, USEPA proposed a value of 0.25 micrograms/meter^3, which was challenged by industry and the Department of Defense. Ultimately, the National Academy of Sciences agreed with USEPA's methodology but suggested they do more work before finalizing a reference concentration. USEPA is now working to come up with a new value. I urge the Subcommittee to work with EPA to ensure that the standard that would be required by H.R. 5527 adequately meets the needs of state health and environmental agencies.

In New York, the vapor intrusion guidance promulgated by NYSDOH established a guideline value of 5 ug/m^3 for TCE, but includes recommendations for mitigation of homes at low or undetectable levels in indoor air if the subslab concentrations are sufficiently elevated. In other words, we often mitigate structures based on the potential for exposures not just current exposures. I'm sure that Dr. Carlson would be happy to join NYSDEC in providing additional information on New York's guidance for the Subcommittee.

Conclusion

Chairwoman Johnson and members of the Subcommittee, I would like to thank you again for coming to New York to learn about our experiences with water resource contamination and cleanup efforts. Without a doubt, New York has been a "laboratory" for these activities, and there is no better place to discuss them than in the historic Hudson Valley. On behalf of Commissioner Grannis, I would like to thank you again for allowing me to testify, and I'd be happy to answer any questions that you have.

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