

Daycare Centers and Superfund: A Parent's Right to Know



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INTRODUCTION

This report reviews the events surrounding the discovery of contamination at a daycare center, and makes recommendations as to how federal and state agencies can better inform the public about potential hazards as well as improve communication among themselves. The events highlight inadequacies in the federal Environmental Protection

Agency's (EPA's) procedures for informing people living and working near Superfund sites about the sites. The recommendations are also applicable to some aspects of the parallel state hazardous waste cleanup program administered by the New York State Department of Environmental Conservation.

SUMMARY

In late February 2002, the Attorney General's Office was contacted by parents whose children had attended or were still attending the Tutor Time Daycare Center that is located among commercial and light industrial buildings in Mineola, New York. The parents had only recently learned that the Center abuts a federal National Priorities List Superfund site, the Jackson Steel site. National Priority List sites are those sites that have been determined to require federal investigation and cleanup and are generally the most contaminated sites within a state. Air sampling performed by the Nassau County Department of Health, in conjunction with the New York State Department of Health, in November and December 2001 had shown elevated levels of perchloroethylene (perc),¹ a common industrial solvent and a fluid used in dry cleaning, in air inside the Center. The parents were concerned about their children's potential exposure to

perc and other chemicals that might be associated with the Jackson Steel site, and also questioned, among other things, why they had not been previously informed that the Center was located so close to a Superfund site.²

Our investigation revealed that in fact, the first sampling of the air in and around the Center was performed only after a parent contacted the Nassau County Department of Health to ask about the Jackson Steel Superfund site next door. This sampling by the Nassau County Department of Health revealed moderately elevated levels of perc, but not levels that would have required closure of the Center. Based on this preliminary sampling conducted in November 2001, the Nassau County Department of Health, in conjunction with the State Department of Health, performed more comprehensive sampling in December, 2001. The Nassau County Department of Health also asked the Center to alter its ventilation system to bring in more outside air. In January 2002, within a day following receipt of the comprehensive sampling results that showed levels of perc above a state-recommended residential

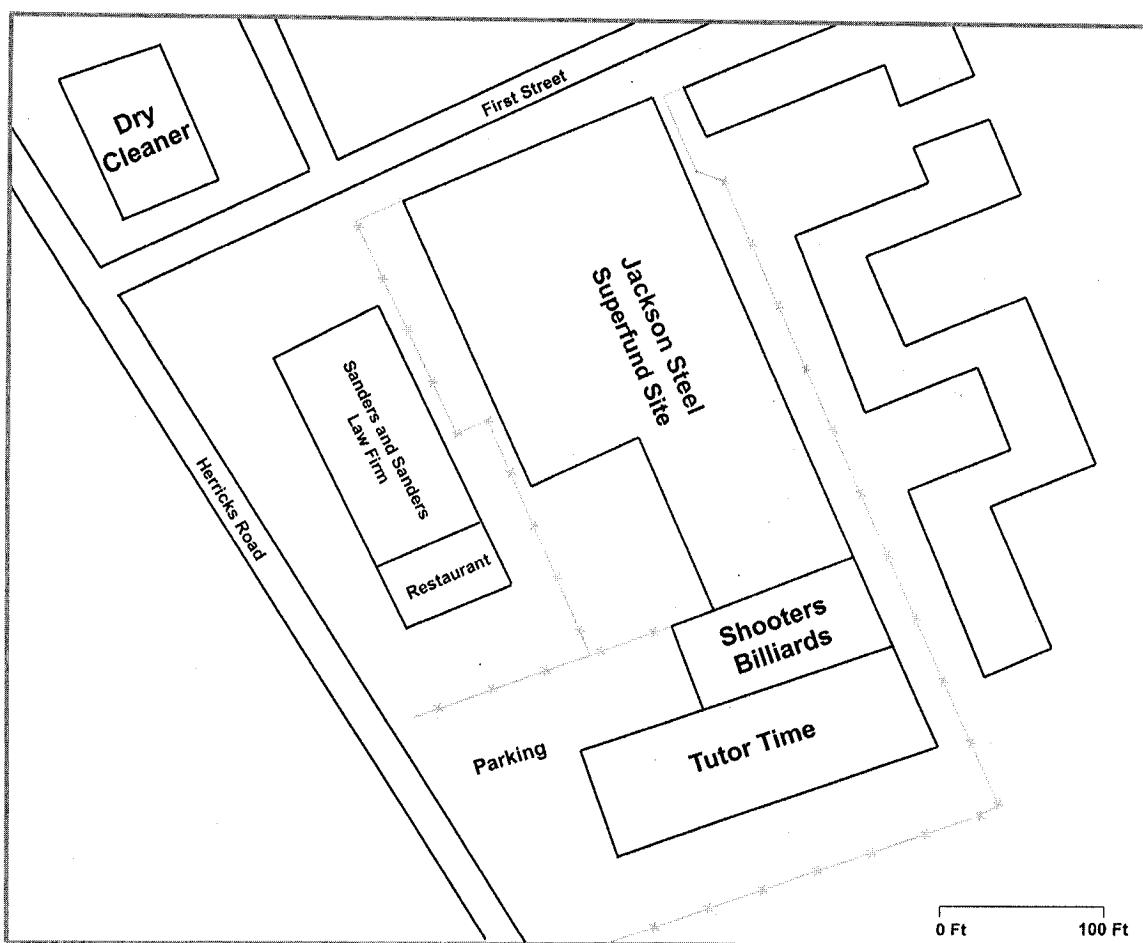
¹Perc is also known as tetrachloroethylene, tetrachloroethene, and PCE. It is a chlorinated solvent used in dry cleaning and for other applications where a degreasing solvent is needed. EPA classifies perc as a hazardous air pollutant because of its adverse impacts on human health. Perc is classified as a "probable human carcinogen" because it has been shown to cause cancer in animals in laboratory studies. High chronic perc exposure adversely affects the central nervous system, liver and kidneys, and the reproductive system. See Health Effects of Perc, pp. 9-10, *infra*.

²This report does not address how the Center obtained the various governmental approvals necessary for its siting in 1995. The Center's license was renewed in November 2001 by the New York State Office of Children and Family Services.

guidance level, EPA and the Center increased the fresh air flow into the building - which had not yet been accomplished as previously requested - and installed carbon filters and a sub-slab vapor extraction system designed to reduce contamination inside the building. Subsequent testing showed that these additional measures reduced perc concentrations to well below state guidance levels, although the indoor air perc level remained slightly above typical levels found in

residential settings.

Following disclosure of the sampling results at the end of January 2002, many of the parents removed their children from the Center. Others, for various reasons including the lack of alternative daycare services, kept their children enrolled at the Center. The Center ceased operating and closed on April 26, 2002.



RECOMMENDATIONS

1. *EPA, the Department of Environmental Conservation, and any other involved agencies should ask companies, service providers and other entities notified of the proximity of a Superfund site to so inform their employees, customers, and others who are on-premises regularly for extended periods. Schools and day care centers near Superfund sites should be asked to notify the parents of children using those facilities.* Entities that receive such notices should, with or without a request, notify all individuals who routinely spend extended periods of time on the premises. While many companies do inform their employees and such customers, not all do so.

2. *As an added precaution, federal and state officials should confirm that schools and daycare centers close to federal and state-listed Superfund sites have actually notified the parents of children who regularly attend those facilities of the sites' existence. If that notification has not occurred, federal and state officials should undertake efforts to provide such notification, and to keep the parents informed of developments.* While nearby residential property owners and business owners are advised by EPA community relation specialists or Department of Environmental Conservation officials of Superfund sites (as they were here), parents whose children may routinely spend three or more full days a week near the site in daycare centers and schools are not necessarily informed about the Superfund site.

3. *EPA should test daycare facilities and schools close to federal Superfund sites whenever there is good reason to believe that they may be affected by contamination migrating from a site.* Here, although the State Department of Health had warned of

the possible contamination of off-site buildings by chemicals traveling from the Superfund site, no testing was done at the Center until a parent inquired about sampling being done at the Superfund site next to the Center.

4. *Federal and state agencies need to follow up when they make recommendations for studies.* EPA should state whether and when it will implement recommendations from state and other federal agencies and should inform in writing the agency making recommendations. Here, the Agency for Toxic Substances and Disease Registry and the State Department of Health recommended to EPA in a draft report that studies be performed to insure that neighboring homes and businesses were not affected by migrating contaminated soil gases. However, no agency followed up on that recommendation, and such studies were not scheduled until more than a year later - only after the air contamination was discovered and publicized.

5. *When information, such as test results, is obtained providing a reasonable basis to believe that former students at daycare centers and schools near Superfund sites were exposed to potentially harmful amounts of a toxic substance, then the school or daycare center should notify the parents of those former students at their last known address. If that notification does not occur, federal and state officials should seek to provide such notification to the extent practicable.*

6. *Updated listings of federal and state Superfund sites should be provided to state and county agencies that license, oversee, or operate daycare centers, schools, and similar facilities.* These agencies, in

turn, should notify the affected facilities. The New York State Office of Children and Family Services, which licenses and oversees the operation of daycare centers in New York,

should not rely solely on daycare operators to inform it of the presence of Superfund sites near daycare centers.

DETAILED DISCUSSION

A. Jackson Steel Superfund Site

1. Initial Listing of the Site

The Jackson Steel federal Superfund site is directly adjacent to the Center. The site is an abandoned steel shaping facility that operated in the 1970's through 1991.

Contaminants of concern include perc and related chlorinated hydrocarbons that were used during metal shaping and other processes. In February 2000, EPA added Jackson Steel to the Superfund National Priorities List (NPL) – the list of sites that have been determined to require federal investigation and cleanup and generally the most contaminated sites within a

THE FEDERAL SUPERFUND PROCESS

Sites addressed through the federal Superfund program go through several steps that are specified by EPA's "National Contingency Plan" (NCP), a detailed federal regulation that sets out the procedures EPA follows when addressing potential Superfund sites:

Preliminary Assessment: EPA conducts a preliminary assessment collecting readily available information about a site and its surrounding area. This assessment is designed to distinguish, based on limited data, between sites that pose little or no threat to human health and the environment and sites that may pose a threat and require further investigation. The assessment also identifies sites that may need to be studied and evaluated for possible emergency response actions.

NPL Listing: A site that may pose a threat is further evaluated by EPA to determine whether it should be listed on the National Priority List – a federal list identifying those sites or other releases of hazardous substances that appear to warrant remedial actions.

RI/FS: Once listed on the NPL, a remedial investigation/feasibility study (RI/FS) is performed at the site. The remedial investigation collects data to:

- describe site conditions, such as the level of contamination of soil or groundwater;
- determine the nature of the wastes disposed of or present at the site;
- assess risk to human health and the environment; and
- evaluate the potential performance and cost of the treatment technologies that are being considered to cleanup the site.

The feasibility study evaluates and compares various actions that can remedy the contamination at the site.

ROD: When these studies are completed, EPA issues a Record of Decision, or ROD, that explains which cleanup measures will be used to cleanup or otherwise address a Superfund site.

Implementation of the Selected Cleanup Measures: First detailed plans are developed during the "remedial design" phase. Next, usually through private contractors, the remedy is actually constructed and implemented during the "remedial action" phase.

state. The Jackson Steel site is 1,000 feet east of another inactive hazardous waste site, at 150 Fulton Avenue, that is within the Garden City Park Industrial Area.

2. Agency for Toxic Substances and Disease Registry Public Health Assessment

In October 2000, the Agency for Toxic Substances and Disease Registry prepared a draft Public Health Assessment for the Jackson Steel site that was distributed to the state and federal agencies that were interested in or investigating the site.³ The draft Public Health Assessment relied on data from a 1991 limited site assessment conducted by an engineering firm at the request of a bank; samples collected in 1993 from the site; a 1994 Nassau County Department of Health inspection and sampling; and a State Department of Health site visit in August 2000. The information gathered by the Agency for Toxic Substances and Disease Registry demonstrated extensive below-surface contamination by a variety of volatile organic compounds (VOCs), including perc, and petroleum hydrocarbons. In addition, the Agency for Toxic Substances and Disease Registry considered groundwater studies for the nearby Garden City Park Industrial Area site that showed contamination of drinking water wells by perc and other related substances, although the exact sources of this contamination had not yet been determined.

The Agency for Toxic Substances and Disease Registry draft Public Health Assessment recommended, in part, that the

³Agency for Toxic Substances and Disease Registry, "Draft Public Health Assessment for Jackson Steel, Hempstead, Nassau County, New York," CERCLIS No. NYD001344456 (Oct. 26, 2000). The draft report was prepared by the New York State Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry.

presence and extent of contaminated soil gas⁴ should be investigated. The Agency for Toxic Substances and Disease Registry's draft found that, although direct release of contaminants to the atmosphere is not likely because the contamination is too deep below the surface,

... there is a potential for VOCs in soil gas to migrate through the subsurface and enter confined building spaces (basements) through crawl spaces, plumbing holes, other floor holes (e.g., sumps) and foundation cracks, and contaminate indoor air. Sampling has not been performed to determine the existence and migration of contaminated soil gas from the on-site source areas.

Draft Public Health Assessment at p.9 (emphasis added). The draft Assessment further recommended that indoor air sampling be conducted in on-site and off-site buildings susceptible to contaminated soil gas intrusion if such soil gas might be present. *Id.* at p.13.

The Agency for Toxic Substances and Disease Registry stated that as part of its proposed Public Health Action Plan (Action Plan), the Agency for Toxic Substances and Disease Registry and State Department of Health "will coordinate with the appropriate agencies regarding actions to be taken in response to those recommendations provided in this public health assessment for which no plan of action has yet been developed... [and] will provide follow-up to the [Action Plan] as needed, outlining the actions completed and those in progress. Follow-up reports will be

⁴Soil gas is the gas in the vapor spaces between soil particles.

placed in repositories that contain copies of this public health assessment, and will be provided to persons who request it." *Id.* Despite these statements, a final Action Plan has not been adopted since the distribution of the proposed Action Plan in the draft Public Health Assessment. The draft Public Health Assessment also has not been finalized. The State Department of Health and Agency for Toxic Substances and Disease Registry currently are updating both.

The Agency for Toxic Substances and Disease Registry has a "Child Health Initiative" that "emphasizes examining child health issues . . . including evaluated child-focused concerns through its mandated public health assessment activities" since children are of "special concern because of their greater potential for exposure from play and other behavior patterns." Children also have a different susceptibility to the effects of hazardous chemicals than adults. *Id.* at p.11. Accordingly, the draft Public Health Assessment examined the Jackson Steel site with children in mind, concluding that because the site was secure, paved, and the contamination only at depth, "children's exposures to site-related contamination are expected to be minimal." However, the Agency for Toxic Substances and Disease Registry was aware that the Center was adjacent to the site, and failed to link its identified concern for soil gas transmission to potential exposure of children at the Center.

3. Preparation of the Jackson Steel Work Plan

Six months after the October 2000 distribution of the draft Public Health Assessment, CH2M Hill, EPA's contractor, completed its proposed Work Plan for the Jackson Steel Superfund Remedial Investigation. Reviewing the data relied on in the draft Public Health Assessment as well as other investigations and sampling that had been made available to the contractor, the Work Plan concluded that the

quality of that data and information was uncertain and that additional data were needed to determine "the nature and extent of the contamination associated with the site, evaluate the associated human health risks, and identify appropriate remedial alternatives." While the Work Plan called for soil sampling both within and outside the site and installation of wells in order to obtain groundwater samples, the Work Plan did not provide for addressing the soil gas questions raised by the draft Public Health Assessment. Other agencies reviewing the draft Work Plan did not comment on the absence of testing addressing soil gas migration.

EPA held a public meeting in Mineola in April 2001 to discuss the planned Remedial Investigation. In connection with that meeting, EPA public participation personnel distributed flyers alerting neighboring residents and businesses of the meeting. EPA reports that the Center received such a notice by fax and hand-delivery. The Center did not post nor share the notice with parents or employees. No representatives of the Center or its parent company attended the meeting.

B. Tutor Time Air Sampling and Response

1. Initial Testing

In response to a parent's inquiry, the Nassau County Department of Health, in conjunction with the State Department of Health, sampled air at five locations in and around the facility on November 29, 2001. The parent had seen an EPA Community Update fact sheet about the nearby Jackson Steel Superfund site which described drilling at the site to sample groundwater. She was concerned that the drinking water at the Center might be contaminated and called the Nassau County Department of Health. The person she spoke to there explained that contamination of the drinking water supplied to the Center was

not a concern, but contamination of the air might be. The Nassau County Department of Health decided to conduct air sampling, in conjunction with the State Department of Health. The first set of air data, which was received in December 2001, showed levels of perc at 49-81 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$). These perc levels are elevated over expected background concentrations.

These initial readings did not exceed any standard or guidance value. The State Department of Health recommends that the average air level in a residential community not exceed $100 \mu\text{g}/\text{m}^3$, considering lifetime exposure and sensitive people. When perc levels are above $100 \mu\text{g}/\text{m}^3$ but below $1,000 \mu\text{g}/\text{m}^3$, the guidance calls for identifying possible sources of perc and consideration of remedial measures to reduce levels and/or exposure based on the history of readings, the number of complaints, the actual levels detected, and other factors. If levels are above $1,000 \mu\text{g}/\text{m}^3$, then the guidance calls for "immediate action" to reduce exposure.⁵ In all cases where elevated perc levels are discovered, the State Department of Health also recommends that "simple, common sense actions to reduce exposure should be taken even if a level is below $100 \mu\text{g}/\text{m}^3$."

On December 12, 2001 the Nassau County Department of Health advised Tutor Time to increase the amount of fresh air brought into the building by the facility's heating, ventilation, and air conditioning system. In a follow-up telephone conversation on January 7, 2002, the Nassau County Department of Health was told that Tutor Time had "not heard anything" from their ventilation contractor. Two days later, on January 9,

⁵State Department of Health Center for Environmental Health, "Fact Sheet on Tetrachloroethene" (October 1997).

2002, the Nassau County Department of Health spoke directly with the ventilation contractor who advised that it would have a plan to modify the ventilation system by January 11, 2002.

2. Second Round of Testing

Because the perc levels in air samples taken in November 2001 were above expected levels, the Nassau County Department of Health, working with the State Department of Health, also re-sampled in and around the facility on December 17, 2001, collecting samples from 13 locations within and adjacent to the Center. The analysis of the collected samples, which was received by the Nassau County Department of Health on Thursday, January 17, 2002, and was passed on to the Center on Friday, January 18, found that some locations in the Center had perc concentrations up to $280 \mu\text{g}/\text{m}^3$. This level is above the $100 \mu\text{g}/\text{m}^3$ residential guidance level but below the $1,000 \mu\text{g}/\text{m}^3$ "immediate action" level. However, the maximum level detected exceeded the acceptable non-cancer risk level of $200 \mu\text{g}/\text{m}^3$ then in use by EPA.⁶

Tutor Time then increased the fresh air flow into the Center's heating and cooling system and arranged to have charcoal filter canisters installed in its ventilation system. The filters were installed on either Saturday,

⁶USEPA Region 2, "Jackson Steel New York, EPA ID#NYD0013444-6 EPA Region 2, Congressional Dist 04, Nassau Co., Mineola/North Hempstead," February 5, 2002. EPA utilizes a "reference concentration" of contaminants in air to evaluate the effects of daily exposure to the human population including children. Concentrations of contaminants below the reference concentration are likely to be without an appreciable risk of health effects over a lifetime. The maximum concentration of perc detected at the Center was $280 \mu\text{g}/\text{m}^3$, which was above the reference concentration for perc then in use by EPA.

January 19 or Monday, January 21, 2002. EPA installed a sub-slab vacuum extraction system on Monday, January 21 which apparently began full operation on January 23, 2002.

3. Third Round of Testing

The Nassau County Department of Health again sampled the air inside the Tutor Time facility on January 22 and 23, 2002, after the heating and cooling system had been modified to supply more fresh air and the charcoal canisters had been installed. The results showed a significant reduction in perc levels to levels ranging from 14 to 32 $\mu\text{g}/\text{m}^3$. On Thursday, January 24, 2002, after the sub-slab vacuum extraction system had been activated, EPA sampled air in and around the Center. The results showed perc concentrations within the Center of between 7 and 21 $\mu\text{g}/\text{m}^3$, well below the guidance values. Outside of the Center, near the vents of the vacuum extraction system, elevated levels of 139 and 490 $\mu\text{g}/\text{m}^3$ were detected. EPA and the State Department of Health believe that the remedial response actions have mitigated the problem inside the Center.

C. Notice to Parents of Possible Exposure

1. **Superfund.** EPA appears to have complied with the National Contingency Plan (NCP) in its handling of public notice about the listing of the Jackson Steel site on the NPL and the planned remedial investigation work to occur at the site. EPA published notice of the site listing in the Federal Register and held a public meeting, sending news releases about the site and meeting to local newspapers. The *Mineola American* carried an article about the April 2001 public meeting several days before it occurred. In addition to these efforts, EPA distributed fliers about the site to residences and businesses in the vicinity, including the Center. EPA relied on the Center to notify parents of children at the daycare center about

its proximity to the Superfund site. Only one parent recalls any notice being posted at the Center, near the inner door to the Center in November of 2001, explaining the drilling that had begun at the Superfund site. It is not clear how long that notice may have been displayed.

This is one of the issues that most upsets the parents, who feel that little to no effort was made to alert them to the fact that their children were attending a daycare facility next to a hazardous waste site. EPA's community participation personnel who distributed the fliers have told the Attorney General's office that in the future they will not count on a daycare center to alert parents but, in these sorts of situations, will make the notifications themselves. However, no formal written policy to that effect has been adopted by EPA.

2. **Air Sampling.** The Center did not alert the parents of the children it cared for of the air sampling or the results until January 18, 2002, despite receiving data showing elevated concentrations of perc in December 2001. When the data that the Center had in early December showed that perc concentrations were higher than expected levels, the Nassau County Department of Health asked the Center to reduce the levels by bringing in more outside air into the building through alterations in the ventilation system. Only when the Center received data showing levels exceeding the State Department of Health residential guidance value of 100 $\mu\text{g}/\text{m}^3$ did the Center take action to alert current students' parents and begin steps to mitigate the contamination.

The Office of Children and Family Services, the state agency that oversees daycare facilities, commenced an enforcement action against the Center in January 2002 over the Center's failure to inform the agency of the air testing and results, in violation of 18 NYCRR § 418-1.15(a)(12). That provision, which governs the operation of licensed daycare

centers, requires a center to report any change affecting, or reasonably expected to affect, portions of the building in which the program is located. The Center paid a \$500 fine and the Office of Children and Family Services considers the matter closed.

The Office of Children and Family Services did not advise the parents of the enforcement action, and advised parents who inquired later that they could obtain a copy of the settlement of charges by sending a written request to the Office of Children and Family Services under the Freedom of Information

Law. The Office of Children and Family Services generally does not publicize settlements or determinations after hearings on violations.

Under Office of Children and Family Services regulations, the Center also was required to inform the agency whether there were any Superfund sites within the immediate area of the daycare center when it sought renewal of its permit in September 2001. See 18 NYCRR § 418-1.2(e)(4). The Center did not do so, instead stating to the contrary on its renewal form.

HEALTH EFFECTS OF PERC

Because they are growing and developing, infants and children are different from adults in how they respond to perc and other chemical exposures. Chemicals like perc that affect the nervous system may have greater impact for infants and children than for adults. Since all but one study – the Schreiber study, summarized on the next page – evaluated perc exposure just in adults, there is very little information available to evaluate perc's effects on the health of the young. The following information is summarized from two reports.

From "Chemical Information Fact Sheet on Tetrachloroethene," NYS Dept. of Health (Revised 1999):

- How does perc enter and leave the body?

When people breathe air containing perc, perc is taken into the body through the lungs and passed into the blood, which carries it to all parts of the body. A large fraction of this perc is breathed out, unchanged, through the lungs into the air. Some of this inhaled perc is stored in the body (for example, in fat, liver, and brain) and some is broken down in the liver to other compounds and eliminated in urine. Perc can also be found in breastmilk. Once exposure stops, most of the perc and its breakdown products leave the body in several days. However, it may take several weeks for all of the perc and its breakdown products to leave the body.

- What kinds of health effects can be caused by exposure to perc in air?

The strength (potency) of perc to cause health effects is low, but breathing air with high levels of perc can damage many parts of the body. In humans and animals, the major effects of exposure are on the central nervous system, kidney, liver, and possibly the reproductive system.

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The health effects of perc depend on the level and length of exposure. Not all people exposed to perc show effects at the same levels of exposure. This difference is due, in part, to the individual differences among humans. People, for example, differ in age, sex, diet, family traits, lifestyle, and state of health. These differences can affect how people will react to a given exposure. One person may feel fine during and after an exposure while another person may become sick. This is known as sensitivity. Differences in sensitivity should be kept in mind when examining the information on the human health effects of perc.

Studies with adult volunteers show that short-term exposures of 8 hours or less to high levels – 700,000 $\mu\text{g}/\text{m}^3$ – cause central nervous system symptoms such as dizziness, headache, sleepiness, lightheadedness, and poor balance. Exposures to 350,000 $\mu\text{g}/\text{m}^3$ for 4 hours affected the nerves of the visual system and reduced scores on certain behavioral tests (which, for example, measure the speed and accuracy of a person's response to something they see on a computer screen). These effects were mild and disappeared soon after exposure ended.

Studies of dry-cleaning workers indicate that long-term exposure (9 - 20 years, for example) to workplace air levels averaging about 50,000 $\mu\text{g}/\text{m}^3$ to 80,000 $\mu\text{g}/\text{m}^3$ reduces scores on behavioral tests and causes biochemical changes in blood and urine. The biochemical changes indicate liver and kidney damage. The effects were mild and hard to detect. How long the effects would last if exposure ended isn't known.

Some studies show a slightly increased risk of cancer and reproductive effects among workers exposed to high levels of perc, including dry-cleaning workers. The cancers associated with exposure included cancers of the esophagus and cervix and non-Hodgkin's lymphoma. The reproductive effects associated with exposure included increased risks of spontaneous abortion, menstrual and sperm disorders, and reduced fertility. The data suggest, but do not prove, that the effects were caused by perc and not by some other factor or factors. Workplace air levels are often considerably higher than those found in outdoor air or indoor air of homes or apartments.

There are few studies of long-term non-occupational exposure to low levels of perc. A German study reported reduced scores on behavioral tests in healthy adults exposed to elevated perc levels living (for 10.6 years, on average) in apartments near dry-cleaning shops. The effects were small; the average test scores of the residents were slightly lower than that of unexposed people. The average air level in studied apartments was 5,000 $\mu\text{g}/\text{m}^3$ and the median was 1,400 $\mu\text{g}/\text{m}^3$ (that is, half the measured air levels were above 1,400 $\mu\text{g}/\text{m}^3$ and half were below it).

From Judith S. Schreiber, Ph.D., et al., "Apartment Residents' and Day Care Workers' Exposures to Tetrachloroethylene and Deficits in Visual Contrast Sensitivity," Environmental Health Perspectives at pp. 655-664 (July 2002):

This New York study evaluated perc exposure in healthy female staff of a day care center and in residents living in perc-contaminated apartments who were exposed to airborne perc. Day care center staff were exposed to a mean perc level of 2,150 $\mu\text{g}/\text{m}^3$ for an average of 4 years. Residents, including children, in the apartments were exposed to a mean perc level of 778 $\mu\text{g}/\text{m}^3$ for an average of 5.8 years. Group-mean visual contrast sensitivity, a measure of the ability to detect visual patterns, was significantly reduced in the exposed individuals. The study suggested that chronic environmental exposure to airborne perc adversely affects neurobehavioral function in healthy individuals.

ANALYSIS AND RECOMMENDATIONS

1. EPA, the Department of Environmental Conservation, and any other involved agencies should ask companies, service providers and other entities notified of the proximity of a Superfund site to so inform their employees, customers, and others who are on-premises regularly for extended periods. Schools and day care centers near Superfund sites should be asked to notify the parents of children using those facilities. Entities that receive such notices should, with or without a request, notify all individuals who routinely spend extended periods of time on the premises. While many companies do inform their employees and such customers, not all do so. Here, Tutor Time had several opportunities to inform the children's parents but did not do so.

- A generic "Community Update" was distributed by EPA in March 2001 to the neighbors of the Jackson Steele site, including the Tutor Time director. This notice was not posted at the Center nor distributed to parents. The Center only posted one notice, which referred to drilling work visible to the parents, and that notice was only posted in November 2001. Few parents saw it.
- Air testing was performed in November 2001 and December 2001. No notice was given to parents by Tutor Time until after data from the second sampling were received in January 2002.

2. As an added precaution, federal and state officials should confirm that schools and daycare centers close to federal and state-listed Superfund sites have actually notified the parents of children who regularly attend those facilities of the sites' existence. If that notification has not occurred, federal and state

officials should undertake efforts to provide such notification, and to keep the parents informed of developments. While nearby residential property owners and business owners are advised by EPA community relation specialists or Department of Environmental Conservation officials of Superfund sites (as they were here), parents whose children may routinely spend three or more full days a week near the site in daycare centers and schools are not necessarily informed about the Superfund site.

Superfund sites are listed on the NPL because they pose a threat to the environment and people around those sites. Unfortunately, not everyone likely to be affected by a site receives notice of the NPL listing. Currently, governmental environmental agencies contact homeowners and businesses, but no notification is sent by governmental agencies to the parents of children in daycare or attending elementary or high schools near a site.

Notification is not difficult. Daycare centers and schools all maintain lists of parents of attendees and these lists could be used to notify potentially affected people. We believe that EPA has the legal authority pursuant to § 104 of CERCLA to require disclosure of names in the unlikely event that a daycare operator refuses to provide a list - or package of envelopes addressed to parents - voluntarily.

3. EPA should test daycare facilities, schools, hospitals, nursing homes and similar facilities whenever there is good reason to believe that they may be affected by contamination migrating from a site.

Although the Agency for Toxic Substances and Disease Registry and the State Department of Health recognized the

possibility that soil gas migration could cause contamination of buildings near the Jackson Steel site, EPA did not conduct any testing for such gas in any buildings, even those immediately adjacent to the site, until late January 2002. These agencies were aware that a daycare center was among those buildings immediately adjacent. Whenever an agency identifies a reasonable possibility for contamination that could affect sensitive populations such as children, EPA should conduct appropriate testing early in the Superfund process to determine whether in fact there may be such exposure.

Because these tests have not been completed, there are not sufficient data to determine the source of the perc contamination at the Center or how long staff and children were exposed to the contamination. While the perc contamination may have been the result of soil gas traveling from the Jackson Steel site, it may have other origins. Because the source is unknown, it is not possible to determine when exposure may have begun or its intensity. EPA is now completing the necessary testing, sampling and other scientific inquiries so these questions can be answered, if possible.

4. Federal and state agencies need to follow up when they make recommendations for studies. EPA should state whether and when it will implement recommendations from state and other federal agencies and should inform in writing the agency making recommendations. The public should also be kept informed about the fate of recommendations.

A health assessment was performed by the State Department of Health under an agreement with the Agency for Toxic Substances and Disease Registry, a federal agency that can recommend certain studies to insure that neighboring homes and businesses have not been affected by contamination at a

Superfund site. The studies the Agency for Toxic Substances and Disease Registry recommended, however, were not done and they were not even scheduled to be performed until after the air contamination was discovered and publicized. Agencies that study Superfund sites must better coordinate their recommendations and insure that they are not overlooked, as it appears happened here. This is especially important when children's health is at issue.

5. When information, such as test results, is obtained providing a reasonable basis to believe that former students at daycare centers and schools near Superfund sites were exposed to potentially harmful amounts of a toxic substance, then the school or daycare center should notify the parents of those former students at their last known address. If that notification does not occur, federal and state officials should seek to provide such notification to the extent practicable.

Even after EPA received the testing results from the Nassau County Department of Health, only some of the parents of affected children were notified. EPA initially did notify parents of children who were then attending the Center, and later those whose children attended since Tutor Time bought out the franchisee in January 1999.⁷ However, parents whose children had attended the Center before the sale of the franchise apparently have not been notified by EPA, although some have learned of the events and asked to be placed (and have been) on the EPA mailing list for future announcements. The parents of former students should be notified whenever there is

⁷The Center initially was operated as by a franchisee from 1995 to 1999, when Tutor Time, an international chain of daycare centers based in Florida, bought out the franchisee and began to directly operate the daycare center.

a reasonable basis to believe that their children were exposed to potentially harmful amounts of hazardous substances.

Since daycare centers and schools routinely maintain contact information for former students, it should not be difficult to provide notification to parents of all former students when necessary. EPA has now added many parents to its list of people notified about developments at the Jackson Steel site, but the parents added are those whose names were on an incomplete list of current and former parents given to EPA by the Center and others who contacted EPA themselves.

6. Updated listings of Superfund sites should be provided to state and county agencies that license, oversee or operate

daycare centers, schools, and similar facilities. These agencies, in turn, should notify the affected facilities. While the location of Superfund sites is routinely available on the Internet, specific notification of a new listing is a better way to insure that appropriate agencies receive and act on information in the most timely fashion. The New York State Office of Children and Family Services, which licenses and oversees the operation of daycare centers in New York, should not rely solely on daycare operators to inform it of the presence of Superfund sites near daycare centers.

TIMELINE

<i>Date</i>	<i>Event</i>	<i>Note</i>
2/00	Jackson Steel designated as a federal Superfund site	
10/00	Agency for Toxic Substances and Disease Registry issues a report calling for the investigation of soil gas at the Jackson Steel site	This investigation not included in the Work Plan for the Jackson Steel Remedial Investigation
4/23/01	EPA holds public meeting on Jackson Steel site in Mineola	EPA distributed fliers to site neighbors before the meeting
11/29/01	Nassau County Department of Health samples Tutor Time air after parent request	5 samples
12/01	Air data received	49 - 81 $\mu\text{g}/\text{m}^3$
12/17/01	Nassau County Department of Health samples Tutor Time air a second time	More extensive effort - 13 samples
1/17/02	Second set of air data received	63 - 280 $\mu\text{g}/\text{m}^3$
1/18 -21/02	Tutor Time modifies heating and cooling system to introduce more fresh air and installs charcoal filters in air system	Work done over Martin Luther King Day long weekend
1/22-23/02	Nassau County Department of Health samples Tutor Time air a third time	14 to 32 $\mu\text{g}/\text{m}^3$.
1/23/02	EPA installs sub-slab ventilation system	
1/24/02	EPA samples Tutor Time air	7 to 21 $\mu\text{g}/\text{m}^3$
2/13/02	EPA holds public meeting to discuss Tutor Time	
4/26/02	Tutor Time closes its Mineola center	