Health Department Releases Landfill Study

Albany, August 21, 1998 – The State Health Department today released a report on cancer incidence near landfills in New York with soil gas migration conditions during the period 1980–1989.

The report, the first done by the State Health Department, sought to find out if people living near certain landfills had an increased risk of cancer compared to people living elsewhere. While the report is preliminary and cannot prove a direct cause and effect relationship between exposure and disease, it provides a significant starting point for further studies. The Health Department is currently conducting follow–up investigations.

The study evaluated cancer incidence among people living in the zip codes containing 38 landfills across the state where soil gas migration conditions likely existed. All cases of leukemia, non–Hodgkins lymphoma, liver, lung, kidney, bladder and brain cancer diagnosed from 1980–89, as well as a random sample of people who did not have these cancers (controls) within the zip codes were mapped. Researchers then looked to see if people with cancer were more likely than people without cancer to live in the rings (extending 250 to 1,000 feet) surrounding the landfills.

The study found that of the people in the study zip codes diagnosed with any of the seven types of cancer over the ten–year period, fewer than one percent lived in the rings at diagnosis. It found no statistically significant increase in cancer risk for five sites: liver, lung, kidney, brain and non–Hodgkins lymphoma. A statistically significant elevation of cancer risk was found for bladder cancer and leukemia for females. The study estimated a four–fold elevation of risk for bladder cancer and leukemia among women living within the rings as compared to women living outside the rings.

None of the study's landfills remain open today. All of the landfills have been investigated by both the Health Department and Department of Environmental Conservation (DEC) with remedial actions taken to address landfill gas migration issues.

DEC regulates landfill sites to assure proper management of landfill gas, preventing it from migrating off site and into nearby residential areas. The gas migration issues raised in the study have been addressed by DEC through stricter environmental regulations requiring advanced gas venting and collection systems as well as gas monitoring around the perimeter of the landfill.

All landfills currently operating or closed under State regulations adopted in 1988 are required to have gas management plans in place to prevent gas migration. Older landfills would not be expected to produce these gases in any significant amount.

Landfill gas is primarily comprised of methane and carbon dioxide. The methane is produced by microorganisms as they breakdown the organic portion of the waste when there is no oxygen present. Carbon dioxide is a by product of this biological process. A third component of the gas, which accounts for less than 1 percent of the total quantity, is a group of compounds called non–methanogenic organic compounds.

The State provides funds to municipalities to cap inactive landfills and to install gas control systems. The State Environmental Protection Fund (EPF) and the 1996 Clean Water/Clean Air Bond Act have provided grants to 210 municipalities for landfill closures. Of these, 139 closures will be completed by the end of this year with the remaining closures to be completed during the next few years.

Between the EPF and the Bond Act, the State now has sufficient resources to close every inactive municipal solid waste landfill in the State over the next few years.

Health Department researchers also cautioned that the findings of the study need to be interpreted carefully in light of the many problems researchers face when studying cancer in communities. They warned that one study alone cannot prove a relationship between an exposure and a disease; several such studies are needed for scientists to agree that there is evidence for an exposure disease relationship. Some of the study limitations are:

- no data measured whether individuals were actually exposed to landfill chemicals;
- only a person's address at time of diagnosis was used for mapping location, and did not take into account the length of time one resided at the location; and,
- the researchers did not have information about each person's cancer risk factors such as smoking, occupational exposures, medical history, etc.

Note: A fact sheet for the report and complete study is available upon request.