LCP Chemicals Site Neighborhood Testing Review

June 2003

Overview

This newsletter reviews correspondence and meetings related to testing outside of the LCP Chemicals Site in the "Arco neighborhood" southeast along the site border. The Glynn Environmental Coalition requested early in 2003 that the Environmental Protection Agency submit a plan and a timetable to test the border neighborhood. EPA's response is that some sampling was done many years ago and did not find levels of contaminants at high enough levels to warrant more study. EPA also argues that site specific remediation goals still have not been set for the LCP site, and no path analysis has yet been undertaken for the site.

The GEC requested a TAG review of the EPA studies for "sufficiency." Essentially, the question is: has the EPA done enough testing in the neighborhood to reach a conclusion? Under Superfund law enacted by Congress, all of the EPA's decisions must have a formal scientific basis. Region 4 EPA's opinions, feelings, assertions and thoughts do not matter; they must have statistically relevant data to back any claim.

The EPA references two sources, the Remedial Investigation Report from 2002, and an off-site study conducted between 1994 and 1996, both of which were provided to the community for review. These studies show a track of site chemicals starting at the source areas on-site and running to the fence line marking the border of the property. Sampling beyond the fence line into the neighborhood was not an actual survey, only a few random spots. However, low to moderate levels of site chemicals were found in these samples. It appears the EPA lacks data to support their conclusions.

Background

The LCP Chemicals Superfund site is a 550-acre site along the Turtle River in Glynn County, Georgia. The site was the location of several industrial chemical plants producing bleach, petroleum products, or paint. These operations left the area heavily contaminated with chemical toxins from ground, water and air pollution routes. The site is in the process of being cleaned with Federal and State oversight. The site soils, local groundwater, marsh sediments, and surface waters have all been studied and, at least partially, cleaned up. Ross Road runs along the eastern site border, and 9th street along the southern edge.

One issue for the community is the extent of contamination from air pollution. Although no longer standing, various industries at the site used "stacks" and fans to vent chemicals directly into the air. These stacks were not tall, nor did they contain any chemical or particulate "scrubbing" equipment. Since the stacks were short and the gasses of low speed, most pollutants probably traveled only a short distance before settling back to the ground.

The question is: Did the pollutants travel as far as the neighborhoods near the site? There are several pieces of information needed to build a model for the "airborne deposition" process of particulates and chemicals settling out over the ground downwind from a site. These are: height, position, and diameter of the flue; types of chemicals and approximate speed leaving the source; prevailing wind direction and speed; and local ground characteristics. Essentially, light organic chemicals ejected at high speed from

a tall stack, over flat treeless ground where there are high steady winds, will travel much farther than heavy metal pollutants ejected at slow speed from a short source where winds are calmer and tall trees are common. Soil testing of the top few inches of the ground can be compared to predictions of the toxic "footprint" based on the model, and establish if pollutants traveled from the site to off-site areas. This type of study is often performed for industrial flues and incinerators. There are, in fact, many hundreds of airborne studies published.

LCP Site

As proof that airborne deposition is not a threat to neighborhoods near the LCP site Region 4 EPA references the 2002 Remedial Investigation Study Report, and provided results from one small study conducted in the neighborhood (summary list of residential sampling during 1994-1996).

The EPA's Remedial Investigation report, Section 7.1.3, Airborne Redeposition (page 42, Operable Unit One Upland Soils and Estuary March 2002) states:

"The mercury cell process used elemental mercury, which is a volatile liquid metal. Under an air permit held by the facility heated vapor containing mercury was ventilated from the cell building using large vertical-mounted fans. Mercury would be carried in vapor phase until cooling and condensation caused the mercury to fall to the ground surface. Atmospheric transport and re-deposition of elemental mercury is well documented in the scientific literature. The air permit allowed the evaporation of approximately five pounds of mercury per day. **It is very likely that this airborne deposition traveled with prevailing winds, and mercury was therefore distributed over a potentially rather large area. The prevailing wind direction for this area is from the northwest, away from the marsh area**." [emphasis added]. According to the EPA, the neighborhoods are directly in the "footprint" of the prevailing wind distribution of toxic mercury vapor from the former cell buildings. The neighborhood study provided by EPA has only 5 sample locations, one each on Ash and 9th Streets, and three along Ross Road. Each area was sampled twice, for ten samples. Mercury was as high as 2.2 parts-per-million and as low as 0.1 PPM. Action levels have not been set for this site for soil toxins; however, it is fair to say that half of the samples show elevated mercury levels. The testing report shows other site chemicals as well, one home showed levels of PCB (Aroclor-1268) of 2.2 parts-per-million in the yard. Since the LCP site is the likely source for these contaminants, and an airborne route is indicated by EPA, it is fair to say the neighborhood has not been properly tested for potential health threats from past plant operations.

Conclusions

The neighborhood study provided by the EPA shows chemicals in the neighborhood—mercury and PCB—are likely from the LCP Superfund site. Remedial Investigation surface soil data shows a track of chemicals flowing across the site to the fence line, where further sampling stops. The same heavy metals and PCB are found at the five sample locations off-site in the neighborhood. EPA also states in the RI that mercury and other chemicals were fan-forced into the air and would be expected to deposit in a wide area southeast of the site—which is, of course, the neighborhood.

Five sample locations from an area comprising dozens of streets is not sufficient to determine safety in the neighborhoods. Clearly, the site borders are not established at this time, and further studies are needed to clarify the presence of site chemicals at nearby residences. Airborne deposition studies are common at Superfund sites. Similar studies have been conducted at sites around Region 4. Neighborhoods bordering other Superfund sites near Glynn county have been modeled for airborne

deposition based on far less evidence than EPA has now for the LCP site. The community should request a study for the neighborhood near the site, and the EPA should conduct a study or provide clear scientific evidence to the lack of need.

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