

PRELIMINARY

Health
Assessment
for

N. L. INDUSTRIES

PEDRICKTOWN, SALEM COUNTY, NEW JERSEY

02NJD061843249

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

APR 10 1989

THE ATSDR HEALTH ASSESSMENT: A NOTE OF EXPLANATION

Section 104(i)(7)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, states "...the term 'health assessment' shall include preliminary assessments of potential risks to human health posed by individual sites and facilities, based on such factors as the nature and extent of contamination, the existence of potential pathways of human exposure (including ground or surface water contamination, air emissions, and food chain contamination), the size and potential susceptibility of the community within the likely pathways of exposure, the comparison of expected human exposure levels to the short-term and long-term health effects associated with identified hazardous substances and any available recommended exposure or tolerance limits for such hazardous substances, and the comparison of existing morbidity and mortality data on diseases that may be associated with the observed levels of exposure. The Administrator of ATSDR shall use appropriate data, risk assessments, risk evaluations and studies available from the Administrator of EPA."

In accordance with the CERCLA section cited, ATSDR has conducted this preliminary health assessment on the data in the site summary form. Additional health assessments may be conducted for this site as more information becomes available to ATSDR.

PRELIMINARY HEALTH ASSESSMENT
N. L. INDUSTRIES, INC.
PEDRICKTOWN, NEW JERSEY

Prepared by:
Office of Health Assessment
Agency for Toxic Substances and Disease Registry (ATSDR)

Background

The N.L. Industries, Inc. Site (NLI) is listed by the U.S. Environmental Protection Agency on the National Priorities List. The 46-acre site is located in Pedricktown (Salem County), New Jersey. The site is a former secondary lead smelting facility which operated from 1972 to 1984. In addition, a closed landfill exists on-site that contains process wastes (slag and rubber materials) from the plant and lead contaminated soils that were excavated from the facility grounds. Improper storage and processing of batteries and wastes on-site has been implicated to be contributing to on-site contamination. Access to the site is restricted. Removal operations consist of restricting access and capping the on-site slag piles.

The following documents were reviewed by ATSDR: (1) Remedial Investigation/Feasibility Study Workplan, May 1987, (2) Site Inspection Report, 1982, and (3) The Hazard Ranking System Package, August, 1983. These documents form the basis of this Preliminary Health Assessment.

Environmental Contamination and Physical Hazards

Preliminary on-site sampling results have identified lead (36 to 83,600 ppm in soil, 7.5 ppm in surface water, 0.01 to 11 ppm in groundwater). In addition, arsenic and cadmium was identified along with selenium (1 ppm) were identified in on-site groundwater. Arsenic and cadmium were reported "to be at concentrations that exceed standards." No further on-site sampling was reported. Moreover, off-site sampling information was reported by New Jersey Department of Environmental Protection (NJDEP) from 1979 to 1981. Physical hazards were not reported.

Potential Environmental and Human Exposure Pathways

Potential environmental pathways include those related to contaminated groundwater, surface water, on-site soils, and entrainment of contaminants in ambient air. In addition, bioaccumulation of contaminants in fish, waterfowl, livestock, and commercial agricultural products may be another environmental pathway.

Potential human exposures to contaminants include ingestion and direct contact with groundwater, surface water, soil, and possible ingestion of bioaccumulated contaminants in the food chain. In addition, inhalation of contaminants entrained in air is another potential source for human exposure.

Demographics

NLI is located in a rural area. There are about 2,500 people living within a 3-mile radius of the site. The distance from NLI to the nearest residence is approximately 200 feet.

Evaluation and Discussion

Private and municipal wells exist within the vicinity of the site. There are 8 to 10 private wells used for potable purposes. It was reported that past sampling results of area private wells were questionable. These wells are currently being retested and sampling results are pending. Municipal wells have been reported to be used for domestic purposes. Sampling of private wells in the vicinity by NJDEP in 1986 and 1987 showed no contamination.

A stream exists along the western boundary of the site. Another stream exists near the eastern site boundary. An "marshy" area surface water sample (1983) identified lead (7.5 ppm). No current sampling information has been reported.

On-site soil is contaminated with lead which has been confirmed from sampling. However, the most recent sampling information reported occurred in 1981. Current sampling information is necessary to adequately determine the possible public health implications of NLI. Off-site soil contamination has been confirmed.

Presently, the lead smelting operation ceased in January 1987. Air sampling measurements of lead were conducted (1979 to 1982) while the plant was in operation. Sampling results of lead were reported "and revealed high levels of lead in the air." Further air sampling measurements regarding the release of volatiles or gases has not been performed.

Food chain information was reported not to be available. ATSDR has prepared a Toxicological Profile on lead.

Conclusions and Recommendations

Based on available information, this site is considered to be of potential public health concern because of the risk to human health caused by the possibility of human exposure to hazardous substances. Direct contact and incidental ingestion of contaminated soil and surface water by area

residents is the most likely route of exposure. In addition, ingestion and direct contact with contaminated groundwater possibly by area residents may be another exposure route.

Additional information on contaminants released, populations potentially exposed, and environmental pathways through which the contaminants can reach these populations is necessary. At a minimum, future investigations of this site should include a characterization of the site and site contaminants to include current sampling information, and a characterization of the hydrogeology of the area.

Further environmental characterization and sampling of the site and impacted off-site areas during the Remedial Investigation and Feasibility Study (RI/FS) should be designed to address the environmental and human exposure pathways discussed above. When additional information and data, such as the completed RI/FS, are available, such material will form the basis for further assessment by ATSDR, as warranted by site-specific public health issues.