

OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT



December 14, 1995

Dear Interested Party:

Enclosed is a copy of the Office of Environmental Health Hazard Assessment's report, "Draft Addendum Health Risk Assessment of Ambient Fugitive Vinyl Chloride Emissions From the Class I Unit of the B.K.K. Landfill, West Covina, California." A public workshop to discuss the draft report has been scheduled for Thursday, January 11, 1996, at 7:30 P.M. in the City Council Chambers, West Covina. Written comments on this draft report will be received until Tuesday, February 13, 1996. The final addendum report will then be prepared and released.

If you have any questions concerning the draft report, please contact Lillian Kelly at (916) 324-2829.

Sincerely,

A handwritten signature in cursive script, reading "David M. Siegel".

David M. Siegel, Ph.D., Chief
Hazardous Waste Toxicology Section

Enclosure



CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Office of Environmental Health Hazard Assessment
HAZARDOUS WASTE TOXICOLOGY SECTION



Draft Addendum Health Risk Assessment
B.K.K. Landfill, West Covina, California



FACT SHEET

DECEMBER, 1995

This fact sheet summarizes the Office of Environmental Health Hazard Assessment's (OEHHA) "Draft Addendum Health Risk Assessment of Ambient Fugitive Vinyl Chloride Emissions From the Class I Unit of the B.K.K. Landfill, West Covina, California."

The addendum report is an update of the 1990 interim health risk assessment conducted by the Hazardous Waste Toxicology Section (HWTS).

In 1981, vinyl chloride was found in ambient air in residential neighborhoods adjacent to the B.K.K. Landfill. This is of concern because vinyl chloride is a known human carcinogen and is not normally detected in the South Coast air basin.

Emissions of vinyl chloride are clearly associated with the Class I Unit of the landfill. Wastes containing vinyl chloride were deposited in the Class I Unit until June 1981. Emissions from the now closed Class I Unit are due to vinyl chloride-containing wastes deposited in the Unit and to the breaking down of other wastes containing chlorinated hydrocarbons. The emissions have been significantly reduced over time.

OEHHA's health risk assessment is possible because there were monitoring data collected by a regulatory agency, in residential neighborhoods almost daily, for nearly a decade.

The B.K.K. Landfill

In 1963 the B.K.K. Landfill, opened on 130 acres in the San Jose Hills in the City of West Covina. In 1971 the B.K.K. Landfill expanded to its present size of 583 acres. In 1972 40 acres of the landfill were permitted as a hazardous waste (Class I) unit. The Class I Unit was expanded to 140 acres in 1975. In November 1984, the B.K.K. Class I Unit stopped accepting hazardous waste and in March 1989, was formally closed. The closing process included an extensive landfill gas collection system and the placing a low-permeability soil cap over 170 acres.

This cap covered the hazardous waste landfill and part of the adjacent Class III (solid waste) landfill. A separate Class III waste area of the B.K.K. Landfill is still permitted and is currently accepting waste.

In 1985 the State of California committed to complete three health studies of the B.K.K. Landfill: a cancer study, a reproductive outcomes study and a health risk assessment. In 1990, the cancer study, an initial pregnancy outcomes study and the interim health risk assessment were completed. A more comprehensive reproductive outcomes study is currently being prepared by the Department of Health Services (DHS).

At the time the interim report was being released to the public, the cancer potency of vinyl chloride was being reevaluated and a more potent value was expected. This would make the cancer risk estimated in the interim report an underestimate.

The final addendum report plus the interim report will complete the health risk assessment of the B.K.K. Landfill promised to the residents by the State of California.

Addendum Objective

The addendum report estimates the excess cancer risk associated with exposures to vinyl chloride detected at three monitoring stations located south-east and south of the closed Class I Unit of the B.K.K. Landfill.

Methodology

The addendum report uses the four components of a health risk assessment: hazard identification, toxicity assessment, exposure assessment, and risk characterization.

Hazard Identification

Vinyl chloride is the chemical of primary concern. Although other chemicals have been detected at the monitoring stations, these chemicals are also found in the South Coast air basin. It is not possible to tell how much of these chemicals are from the B.K.K. Landfill and how much are from other sources in the area.

Toxicity Assessment

To estimate the ability of vinyl chloride to cause cancer, OEHHA evaluated data from studies in humans, exposed at factories that made or used vinyl chloride, and from studies in laboratory animals (rats, mice and hamsters).

The cancer risk is estimated using the cancer potency value for vinyl chloride, 20×10^{-5} per part per billion (ppb). The cancer potency is an estimate of the probability of developing cancer as a result of daily exposure for 70 years to one ppb of a chemical in air.

Exposure Assessment

The vinyl chloride monitoring data were collected by the South Coast Air Quality Management District (SCAQMD) from June 1981 - March 1990, and by the B.K.K. Corporation from September 1993 - September 1994.

Station A was located at Marlena & Nogales Streets, Station B at Lynn Court and Station MY at Myra Court. These areas were exposed to the highest detected levels of vinyl chloride. Although other residential areas near the B.K.K. Landfill were exposed to emissions from the landfill, the levels were not as high or as frequent.

Risk Characterization

Assuming that individuals lived near the monitoring stations for 30 years (1980-2009; a "reasonable maximum exposure scenario"), OEHHA estimates that there is an added 0.006 to 0.009 percent chance of developing cancer as a result of exposure to emissions of vinyl chloride from the closed Class I Unit of the B.K.K. Landfill.

Addendum Findings

There are four findings of the addendum report:

1. For individuals who lived near the monitoring stations during the 1980's, past exposures were higher than current exposures. The majority of the estimated excess cancer risk was incurred by 1983-1984.
2. The landfill gas collection system and the clay cap covering the closed Class I Unit have been successful in lowering vinyl chloride emissions to levels that pose little, if any, risk to nearby residents.
3. Regulatory agencies may want to include past exposures of vinyl chloride near the monitoring stations in subsequent health assessments of emissions from the landfill to ensure future risks do not add significantly to the past cumulative risk.
4. There is uncertainty associated with the assumptions used in the draft addendum report. The actual excess cancer risk is likely to be lower than these estimates and may be zero. Because the number of people who actually lived or are living near Stations A, B, or MY is small, it is unlikely that excess cases of cancer will occur. Each exposed individual may have an increased risk of developing cancer, however the added risk is small.

Questions and Answers

Q - What is the difference between the DHS Cancer Study and the OEHHA Health Risk Assessments?

A - The cancer study investigated cases of diagnosed cancers for the years 1972-82. The health risk assessments estimate the theoretical probability, or risk, of developing cancer.

Q - What is meant by "estimated excess lifetime cancer risk"?

A - "Estimated excess lifetime cancer risk" is an estimate of the risk for an individual above the background risk of developing cancer during a 70-year lifetime. An individual living in the United States has a 40 percent (0.4) chance of developing cancer throughout a 70-year lifetime. An individual living from 1980-2009 near Station A, for example, may have an added 0.007 percent chance of developing cancer as a result of emissions of vinyl chloride from the closed class I Unit of the B.K.K. Landfill.

Q - Has there been an increase in diagnosed cases of cancer since 1982?

A - No, the DHS Cancer Surveillance Section recently reviewed the 1988-93 tumor incidence data for a one mile area around the landfill. DHS's review found no indication of increased cancer incidence.

If you have questions or comments about the addendum report described in this fact sheet, please contact:

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Copies of the cancer study, the pregnancy outcomes study and the health risk assessments are available at the West Covina, Walnut and La Puente libraries.

Public Workshop

A 60-day written comment period ends on Tuesday, February 13, 1996. You are invited to a public workshop to review and discuss the draft addendum report:

Thursday, January 11, 1996
7:30 P.M., 1st Floor, City Hall
City of West Covina Council Chambers
1444 West Garvey Ave
West Covina, California