

Letter Health Consultation

FORMER CHAMPAIGN MANUFACTURED GAS PLANT
SITE

CHAMPAIGN, ILLINOIS

JUNE 23, 2008

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

You May Contact ATSDR Toll Free at
1-800-CDC-INFO

or

Visit our Home Page at: <http://www.atsdr.cdc.gov>

LETTER HEALTH CONSULTATION

FORMER CHAMPAIGN MANUFACTURED GAS PLANT SITE

CHAMPAIGN, ILLINOIS

Prepared By:
Illinois Department of Public Health
Under Cooperative Agreement with the
The U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry



Rod R. Blagojevich, Governor
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#605200801H

May 20, 2008

J. Stanley Black, Ph.D.
Illinois Environmental Protection Agency
Office of Community Relations
1021 North Grand Avenue East
Springfield, Illinois 62706

Dear Dr. Black:

At your request, the Illinois Department of Public Health (IDPH) has evaluated the April 2008 on-site surface samples (X103-X112) for the Former Champaign Manufactured Gas Plant Site. Your question was whether the levels of polycyclic aromatic hydrocarbons (PAHs) in on-site surface soils pose a public health hazard to trespassers.

The former Champaign and Urbana Gas and Light Company located at 308 North Fifth Street, at the intersection of Hill and Fifth Streets, operated a manufactured gas plant from about 1869 through the early 1930s. The site remained vacant and unused from the 1950s until the property was sold to American Legion Post 559 in 1979. The "Booster House" was maintained and used intermittently by the American Legion from 1979 until 1991. Illinois Power repurchased the property from the American Legion in 1991 and the site has since remained vacant.

As part of a voluntary cleanup program with the Illinois Environmental Agency, Illinois Power and now Ameren have conducted environmental studies at the site for about 20 years. Although the groundwater is contaminated, no one is using this water because the surrounding area is being served by American Water Company public water supply wells that are more than a mile from the site. Currently, Ameren is conducting an off-site investigation to determine the outer limits of contamination in the soil and groundwater.

IDPH used the Agency for Toxic Substances and Disease Registry (ATSDR) toxicity equivalency factors for PAHs to convert the sample results to benzo(a)pyrene (BaP) equivalents. IDPH calculated a maximum level of 19.2 milligrams of BaP equivalents per kilogram of soil (mg/kg) for the on-site surface soils. The BaP equivalents were then used to estimate a daily dose from an exposure scenario for children trespassing onto the site.

IDPH assumed that an older child trespasser with a body weight of 30 kilograms was exposed to 150 milligrams of soil for one day a week, nine months a year, for 16 years. Using 19.2 mg/kg of BaP in soil, we determined that this route of exposure poses no apparent increased risk of cancer. No adverse non-cancer effects would be expected.

IDPH concludes that, at the present time, trespassing on the site poses no apparent public health hazard. IDPH will evaluate any future data and provide a health based-interpretation.

If you have any questions, please contact me at 217-278-5900.

Sincerely,

Cary Ware
Environmental Toxicologist

cc: Central Office

Calculations for the Former Champaign Manufacture Gas Plant Site

Child Exposure

BaP Equivalents in soil (BE): 19.2 milligrams per kilogram

Soil exposure (SA): 150 mg/day

Frequency of exposure (F): 36 days per year (365)

Lifetime exposure (LE): 16 years of 70 year lifetime

Conversion factor (CF): 1 kilogram/1,000,000 milligrams

Body Weight (BW): 30 kilograms

Estimated Dose = $BE \times SA \times LE \times CF/BW = 2.09 \times 10^{-6}$ mg/kg-day

Estimated Lifetime Increased Risk = 2.09×10^{-6} mg/kg-day $\times 7.3$ (mg/kg-day⁻¹) = 2.86×10^{-7}