

Illinois Department of  
**Public  
Health**

George H. Ryan, Governor • John R. Lumpkin, M.D., M.P.H., Director

4302 North Main Street • Rockford, Illinois 61103-1209

October 20, 1999

#110199901

STEPHENSON COUNTY - Freeport  
Blackhawk Elementary School  
Environmental Toxicology Program

RECEIVED  
OCT 21 1999  
DIVISION OF  
ENVIRONMENTAL HEALTH

Dr. Richard Olson  
Freeport School District  
501 East South Street  
P.O. Box 387  
Freeport, IL 61032-0387

Dear Dr. Olson:

On October 19, 1999, Steve Johnson of our Rockford Regional Office conducted an indoor air investigation at the above school. This investigation was a result of a complaint we received regarding a sewer backup in the crawl space. You, Greg Munda, John Maaske and maintenance staff were present during the investigation.

As you are aware, a sewer backup was discovered in the crawl space of the building on September 28, 1999. At that time strong sewage odors were noted throughout the school. Although the sewer has been repaired, several staff members have experienced some health problems or expressed some concern over the incident.

During our investigation it was noted that:

- A. No sewage odor was detected on entering the school or in the janitor's closet (opened access to the crawl space).
- B. A dehumidifier was operating in the crawl space.
- C. The crawl space was sprayed with Tempo20 WP and a couple of rooms and the hallway were fogged with a diluted pyrethrin compound. These actions were taken to control sewer flies.

There are two basic problems related with exposure to raw sewage. The first is exposure to hydrogen sulfide gas. Hydrogen sulfide has a characteristic "rotten egg" smell and can be smelled at very low levels (below those expected to cause health problems). Since no odors were detected on entering the school, it is doubtful that hydrogen sulfide gas is a concern. The second problem is related to infections. There are three basic routes of exposure to sewage that may lead to infection:

- A. Ingestion (through splashes and hand to mouth activities such as smoking or eating).
- B. Inhalation (breathing spray or mists).
- C. Direct contact (direct contact of sewage to abrasions or cuts in the skin).

There does not appear to be any exposure route for students or staff since the sewage was confined to the crawl space.


Although we do not believe that the sewage caused any health concerns to staff or students, the resulting moisture and pesticide fogging may be a potential problem. Excessive moisture may lead to mold growth. Molds can cause allergic reactions and other health problems. Pesticide fogging may leave a residual that can cause an allergic reaction or other health problems in sensitive individuals.

Based on our investigation, we are recommending that the following actions be taken:

- A. Spread lime over the area of the sewage backup. Lime is commonly used to reduce pathogens and the attractiveness of sewage to flies and other insects. Please be aware that the crawl space is a confined area. Safety precautions should be taken to protect the person applying the lime. These precautions should include protective clothing and a quality respirator (fitted with HEPA filters).
- B. The crawl space should be dried out as quickly as possible. Additional dehumidifiers can be used to speed the process.
- C. Ventilate the crawl space. This can be done by using a fan in the access door in the boiler room. It may be advisable to ventilate the area for at least a couple of weeks.
- D. Prior to future applications of pesticides, it may be advisable to notify sensitive individuals known to have existing allergies or other health problems.

If you have any questions concerning this correspondence, please feel free to contact myself or Steve Johnson at our Rockford Regional Office, 4302 North Main Street, Rockford Illinois 61103, telephone 815/987-7511.

Sincerely,

  
Roger J. Ruden, P.E.  
Regional Engineer

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SJ:sj

- cc - Central Office  
- Rockford Regional Office  
- Stephenson County Health Department