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STATE DEPARTMENT OF
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F.E. Thompson, Jr., MD, MPH
State Health Officer

February 17, 1994

Ms. Diane Manning
Docket Office Manager
Division of Standards Development and Technology Transfer
NIOSH
4676 Columbia Parkway, C-34
Cincinnati, Ohio 45226

Dear Ms. Manning:

This letter is in response to NIOSH's request for existing information relevant to implementing the Workers' Family Protection Act. In November, 1993, two siblings here in Mississippi ages 13 and 39.5 months were noted to have blood lead levels of 24 and 28 mcg/dl respectively after being tested through the Medicaid EPSDT program. The family, which includes the mother, a male resident, and the two children, live in a mobile home. An environmental investigation was initiated because a nursing assessment revealed that the male resident was employed at a trucking firm that transports lead and/or lead-containing products.

On November 24, 1993, an Environmental Health Program Specialist along with a Public Health Nurse went to the home to identify potential sources of environmental lead and to collect samples. This investigation revealed that the dwelling was not likely to be a source, because no lead was used in the construction or finish of mobile homes. No other environmental sources were found on the premises. The source was felt to be due to the male resident's occupation. Therefore, wipe samples for dust inside the home and from shoes belonging to the male resident were taken. The mobile home has old shag carpet in place and consists of two bedrooms, a living room, a kitchen, and a bathroom. The results are as follows:

Specimens collected	Lead Amount(mcg)
12 x 12 inch Bedroom 1 Wall section, paneling	Not Detected
Bedroom 1 Window Well 2 x 96 inch, paneling	20
Male Resident's leather work boots, 6 x 6 inch	60
Living Room Window Well 2 x 72 inch, paneling	10
12 x 12 inch Kitchen Floor section, tile	20
Bedroom 2 Window Well 2 x 96 inch, paneling	20

The levels of lead inside the home ranged from Not Detected to 20 mcg/ft², essentially negligible levels. The lead dust detected on the shoes equated to 240 mcg/ft² which is slightly above the level of 200 mcg/ft² that several states and HUD have used as the limit for the level of lead in the dust on floors. This indicates that there is some lead dust being accumulated on the shoes and/or possibly the clothing of the male resident.

The following recommendations were made:

1. The male resident is to change to clean shoes and clothing before entering the home, and his work clothing should be washed separately.

2. The walls and tile floors are essentially free of lead dust; however, some lead could have accumulated in the carpet, upholstered furniture or curtains. The carpet should be shampooed (wet method), and the curtains should be washed. The tile floor should continue to be mopped, and the window wells should be wet cleaned with a high phosphate detergent.

3. Toys that could be put in a child's mouth should be washed.

4. Children's hands should be washed often and always before eating.

I hope that you find the enclosed information helpful and relevant to the implementation of the Workers' Family Protection Act. Please feel free to contact me at (601)960-7725 should you have any questions or need additional information.

Thank you.

Sincerely,

Linda F. Pollock

Linda F. Pollock, MD, MPH
Bureau of Preventive Health Services

Take-Home Toxins: Information from the Department of Energy
Prepared by D. Ordin, 2/94

Beginning 10/90, the Department of Energy (DOE), under DOE order 5000.3A, the reporting of ANY event which could "affect the health and safety of the public, seriously impact the intended purpose of DOE facilities, have a noticeable adverse effect on the environment, or endanger the health and safety of workers." In 2/92, this order was superseded by DOE order 5000.3B, which some modifications in reporting criteria. The requirements cover "events" related to radioactive as well as other hazardous materials and replaced a previous "unusual occurrence reporting system" instituted in 1984. There is no central repository of pre-1989 records or reports.

DOE order 5000.3B, which applies to all DOE operations, stipulates that it is DOE policy to ensure maintenance of a central DOE operational data base containing all occurrence reports. This database, called ORPS ((Occurrence Reporting and Processing System) is maintained by the DOE Office of Nuclear Safety. Eugenia Boyle (301/903-3393) is ORPS Program Manager.

Facilities Covered by ORPS

DOE is the at present the only occupational safety and health regulatory agency in DOE facilities except for a few areas within some DOE facilities which are covered by the Department of Defense.

Information Contained in ORPS

Occurrences which must be reported to ORPS by DOE contractors include:

1. Facility condition, including nuclear safety, fires/explosions, loss of control of radioactive material, equipment malfunction, and violations of procedures;

2. Environmental conditions, including release of radionuclides or other hazardous substances, regulated pollutants, or oil;

3. Personnel safety, including occupational illnesses and injuries and vehicular/transportation accidents;

4. Personnel radiation protection, including radiation exposure, personnel contamination, and internal uptake;

5. Safeguards and security, including criminal acts, loss of control of classified material, and substance abuse;

6. Transportation, including release of reportable quantities of hazardous or radioactive materials during transport offsite;

7. Unscheduled facility or process shutdowns.

Information recorded for each incident includes: description of the incident; immediate response actions and their results; direct, contributing, and root

causes; corrective actions taken; impact on the environment, safety and health; and programmatic impact.

Both chemical and radiologic contamination incidents are covered by the DOE reporting policy. The database is not classified; if any of the reports involve classified information, a computer entry notes that there is a classified report, with the detailed description maintained in a classified hard copy file.

The reported incidents are summarized weekly in a publication prepared by the Nuclear Safety Office of DOE (contact Sharon Root, 301-903-5011).

There are approximately 19,000 reports from 1990-present in the database, representing approximately 5000-6000 reports per year. To search the database for a category of cases, it is necessary to do a key word search, since off-site contamination of a home is not uniquely coded; the use of word searches with ORPS can lead to under-counting of relevant cases (ref) but appears to be the only methodology available for identifying potential take-home toxin cases.

Access to ORPS Data

The ORPS database is maintained by EG&G Idaho, a DOE contractor at the Idaho National Engineering Laboratory (contact: Bob Lyon, 208-526-1099). Any DOE employee or contrator may have access to the data. Certification from the DOE Manager (Jeanie Boyle) is required for access.

ORPS Reports Involving Take-Home Toxins

Eugenia Boyle, ORPS Program Manager, provided 16 reports related to contaminatio of workers' homes with hazardous substances transported from the workplace. These reports primarily describe breaks in procedure or poor work practices with potential rather than actual take-home contamination, or with take-home activity that did not result in contamination of the workers' homes or family members. The three incidents involving possible contamination of workers' homes or family members include:

1. Workers contaminated with thorium and protactinium while changing valves on cylinders apparently ignored positive readings on contamination monitors, resulting in contamination of one employee's pillow case and shirt and another employee's shoe. The incident led to major revisions in the facility's monitoring program and contamination control procedures. Based on survey information and monitoring data, which indicated no internal contamination of the workers and "minute" external (skin) contamination, the incident was anticipated to have "negligible effect on the health of the workers or the public".

2. An employee was found to have contaminated hands when monitored upon entering the facility; the employee had not gone through the monitoring process when exiting from work the previous night. Survey of the employee's home found that two items of personal clothing worn the previous day were contaminated. Levels of contamination were "extremely low" and there was felt to be no exposure to the employee's family. The employee and his clothes were decontaminated and the employee was terminated for "willful and flagrant disregard of health and safety procedures".

3. Initially-undetected damage to an americium source resulted in contamination of a worker's hat, which was found on routine survey several days after the event. Follow-up investigation identified americium on the diaper of a worker's infant child. A panel of independent experts from the national radiation dosimetry community, the radiological medicine community, and a local pediatrician guided the follow-up evaluation, which concluded that most likely explanation this was a false positive because of poor laboratory performance; the poor laboratory performance was well-documented by the evaluators and no subsequent samples were sent to the offending lab. The team reviewing the incident recommended more careful handling of and administrative controls for americium sources.