Memorandum

Date: May 8, 1987

From: Director
Center for Environmental Health

Subject: Missouri Dioxin Sites Cleanup

To: Barry L. Johnson, Ph.D.
Associate Administrator
Agency for Toxic Substances and Disease Registry

In response to your request regarding the subject sites, we offer the following information.

Based upon the information provided below, no further site sampling after remediation is necessary; however, continued surveillance of the area for erosion or disturbance in the paved areas will be necessary. In addition, if the use of the site changes, the previously done remedial action will have to be reevaluated at that time. This recommendation does not apply to any area that is to be used for agricultural purposes.

1. Residential sites: Where surface soil in residential areas exceeds one part per billion of 2,3,7,8-TCDD (hereinafter referred to generically as dioxin), removal of the surface soil to a level 1 foot is recommended. If at 1 foot deep, the residual dioxin is 5 to 10 parts per billion, then addition of clean soil to the original grade will be sufficient. In no case is it necessary to remove the soil to a depth of more than 4 feet, provided 4 feet of clean soil is added to reestablish the original grade.

2. Recreational sites: Recreational sites, such as riding areas, etc., should be cleaned to the same level as residential sites except that there should be at least 2 feet of clean soil above the soil containing 5-10 parts per billion.

3. Industrial sites: In Industrial sites in areas where worker contact to contaminated soil does not occur, it would be acceptable for the average dioxin levels up to 20 parts per billion remain in place. Areas exceeding 20 parts per billion would be evacuated until the residual concentration of less than 20 parts per billion is reached. Then the evacuated areas would be backfilled with appropriate noncontaminated material to the original grade. In no case would evacuation need to proceed beyond a depth of 4 feet.

In certain areas where the area is paved, it is acceptable to leave surface concentration below the pavement of greater than 20 parts per billion under the paved surface. This would require continued monitoring for integrity of the paved surface where the average dioxin levels exceeding 20 parts per billion are left under the pavement.
I have attached correspondence from Mr. Morris Kay to Dr. Renate Kimbrough dated January 16 and from Dr. Kimbrough to Mr. Morris Kay dated January 22 on this same subject. We concur with the information contained therein.

In conclusion, if the contaminated sites are remediated and monitored as outlined in Mr. Kay's management plan, as expressed in his January 16 letter to Dr. Kimbrough, the sites would no longer represent a risk to human health and would no longer need to have surface level measurements for 2,3,7,8-TCDD performed. The reason is that the level at the surface with potential exposure to humans would be significantly below the 1 part per billion level, which is at present the level of concern. These areas would need to be visually inspected for erosion frequently, and if it occurs, action to prevent further erosion taken.

Vernon N. Houk, M.D.
Assistant Surgeon General

Attachments

cc:
Dr. John Bagby
Missouri Department of Health