Results of a Draft Public Health Evaluation about Contaminants at the UC Richmond Field Station

The University of California Richmond Field Station is going through a cleanup process because the environment there is contaminated due to historic activities. Part of the cleanup process involves understanding what is in the environment, how much of each contaminant people could be exposed to, and how people who come into contact with these contaminants can be protected.

The Contra Costa County Health Services Department requested that the California Department of Public Health review the information collected so far to determine the health risks of a worst-case exposure scenario. See the side box, "Precautionary Principle."

Results of Review

Walking on the grounds at the Richmond Field Station does not pose a health risk from exposure to contaminants present in the soil.

There is no risk to Bay Trail users from exposure to contaminants at the Richmond Field Station. The dust will be controlled during future cleanup activities at the Richmond Field Station to avoid exposure to Bay Trail users.

Precautionary Principle

In environmental health, the precautionary principle adds a margin of safety to risk calculations.

We used the precautionary principle and assumed exposure scenarios that are probably not occurring. For example, we calculated risk for children who play over 2,000 hours in the marsh over a period of 10 years. It is unlikely that any one child will be exposed for that amount of time.

Overestimating exposure rather than underestimating it helps us make sure we do not overlook a potential health impact.

The possibility of elevated levels of naturally occurring radionuclides is being investigated at the neighboring Zeneca/Campus Bay site. If such levels are found, there is the possibility they may have leached into the marsh at the Richmond Field Station.

There is no evidence that indoor air quality at the Richmond Field Station poses any health hazard. However, there should be some additional sampling for at least formaldehyde and arsenic.

CONTRA COSTA HEALTH SERVICES

Full Report Open for Public Comment

The report outlining this evaluation in greater detail is in draft form. Public comments are welcomed and can be submitted by September 24, 2007, to the Environmental Health Investigations Branch of the California Department of Public Health, c/o Tracy Barreau, 850 Marina Bay Parkway, P-3, Richmond, CA 94804, or by fax at (510) 620-3720. To request a copy of the report, call (510) 620-3671.

Possible Past Exposures

There are potential concerns for employees who in the past may have dug in areas of the Richmond Field Station that are most contaminated.

The calculations used to determine potential risk assumed that a worker dug in the most contaminated areas for 2 hours a day, 100 days per year, for 23 years. If a worker was exposed at this level, some health impacts such as immune effects, skin effects, kidney effects, and gastrointestinal symptoms could be possible. The increased risk of developing cancer for a worker from 30 years of exposure is low.

The most contaminated areas known to date, that have not been excavated, are currently fenced. With reasonable precautions, current workers are quite safe.

There is some potential concern for a child or teenager in the past if they played in the West Stege Marsh for over 2,000 hours over a 10 year time period.

It is unlikely that any child or teenager was spending this much time in the marsh but if they did, skin effects, kidney effects, neurodevelopmental effects, gastrointestinal symptoms, and immune effects are possible, but still not likely. The increased risk for developing cancer is estimated to be very low.

The West Stege Marsh is now fenced and the likelihood for current and future exposure is low.

Recommendations

The state public health department recommends the following and the Contra Costa County Health Services Department concurs:

• Although some information is available now, more should be collected to understand the extent of the contamination in soil and groundwater.

• Additional testing of indoor air for formaldehyde in Building 163 and arsenic in Building 175 will provide reassurance that these contaminants are still at levels below health concern.

• The Richmond Field Station neighbors the Zeneca/Campus Bay site, where the possibility of elevated levels of naturally occurring radionuclides is being investigated. If radionuclides are found at the Zeneca/Campus Bay site, they should be sampled for in the marsh and at the Richmond Field Station as well.

• In addition to the environmental monitoring that is on-going, additional sampling should be done yearly to help determine if contaminants are migrating from other areas into to the marsh. The air along the perimeter of the site should be monitored during future activities that disturb the soil or generate dust.

• Staff at the Richmond Field Station should be kept up-to-date and receive maps with the most recent information about contamination. Workers that may be involved with handling or digging in contaminated soils at the Richmond Field Station should receive training in how to properly handle contaminated soils and adequately protect themselves from potential exposure.

This informational sheet was developed by the Contra Costa County Health Services Department. The public health evaluation was funded by the federal Agency for Toxic Substances and Disease Registry, part of the U.S. Department of Health and Human Services.