

Health Consultation for Public Comment:
“Public Health Implications of Inhalation of Manganese in Downriver Soils
(Cities of River Rouge and Ecorse), Wayne County, Michigan”

EXECUTIVE SUMMARY

The Michigan Department of Environmental Quality (DEQ) asked the Department of Community Health (DCH) to evaluate the public health threat posed to people who inhale manganese-contaminated airborne soil in the River Rouge and Ecorse communities. Soil data indicated that there were some areas in the communities where soil manganese concentrations were higher than the DEQ’s generic criterion for soils that can enter ambient air as particulates.

Average annual air concentrations of manganese in River Rouge (0.10 µg/m³ maximum) have exceeded the U.S. Environmental Protection Agency Reference Concentration (RfC; 0.05 µg/m³) since 1994. The air concentrations are reported as “Total Suspended Particulate” (TSP) whereas the RfC refers to “Particulate Matter Less Than 10 Microns in Diameter” (PM10). There is likely an overestimation of risk when comparing TSP to a PM10 standard. However, more recent laboratory studies have suggested that it may be more appropriate to use an RfC based on TSP.

It is not clear what proportion of manganese as TSP in the ambient air in the cities of River Rouge and Ecorse is soil-derived and what proportion comes from on-going sources of manganese emissions (such as a nearby steel mill).

The hazard posed by the manganese-contaminated soil cannot yet be determined. DEQ should continue air monitoring in the area and conduct more soil sampling, especially soil sampling at potential sources. (DEQ’s consultant, Weston, has already begun collecting these data.) As more information is gathered regarding total source size, soil characteristics, and origin of airborne manganese (soil or stack), DCH will be able to determine if a health threat is posed.

The health consultation is available for public review and comment at the following locations:

- River Rouge Public Library, 221 Burke Street, River Rouge;
- Ecorse Public Library, 4184 W. Jefferson Avenue, Ecorse;
- The MDCH website at www.michigan.gov/mdch-toxics, under “Health Assessments and Related Documents.”

Comments are due by October 1, 2007. Please direct comments and questions to Christina Bush, Toxicologist, MDCH Division of Environmental Health, Capitol View Building, P.O. Box 30195, Lansing, MI, 48909 or at bushcr@michigan.gov. DCH will review all comments and prepare a follow-up Responsiveness Summary health consultation.