

Finalized Health Consultation with Response to Public Comments:
“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 criterion for soils that can enter ambient air and be inhaled.

DCH released a draft health consultation for public comment on August 1, 2007. Since that time, DCH and DEQ toxicologists have reviewed the criterion of interest and more recent toxicological information on manganese. Additionally, DEQ has conducted further soil sampling in the communities of River Rouge and Ecorse.

Average annual air concentrations of manganese in River Rouge have exceeded the U.S. Environmental Protection Agency Reference Concentration (RfC) 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). The risk is likely overestimated when comparing TSP to PM10.

It is not clear how much manganese in the ambient air in the cities of River Rouge and Ecorse comes from the soil and how much comes from on-going sources of manganese emissions. The U.S. Steel Great Lakes Work plant in Ecorse has recently been idled. The plant may have contributed to air concentrations of manganese in the past. It is not yet known whether their temporary closing has significantly affected air quality.

The hazard posed by the manganese-contaminated soil cannot be determined at this time. DEQ has begun air monitoring for manganese in the PM10 fraction in River Rouge. Long-term data (at least one year’s worth) are necessary before public health conclusions can be made. Additionally, assuming that U.S. Steel resumes operations in the near future, conclusions must be based on normal industrial conditions in the area.

The health consultation is available 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.”