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DHFS Releases Manganese Health Consultation for Public Comment

The Wisconsin Department of Health and Family Services (DHFS) recently released for public comment its Health Consultation report on Manganese in City of Madison Drinking Water. Copies of the Health Consultation report can be obtained from the DHFS web site, <http://dhfs.wisconsin.gov/eh/WISites/index.htm>, Public Health Madison - Dane County (210 Martin Luther King Blvd., Room 507), or the City of Madison Water Utility (119 E. Olin Ave.). Written comments should be sent to Henry Nehls-Lowe at the Division of Public Health, DHFS, 1 West Wilson St, Rm 150, Madison WI 53701 or nehls@dhfs.state.wi.us. The public comment period runs through September 29, 2007.

The purpose of the health consultation was to evaluate the manganese exposures experienced by Madison residents during 2006, review the current literature of health effects associated with manganese in drinking water, and address the health questions and concerns raised by the public. The report concluded that, "Manganese levels in water samples collected from the City of Madison drinking water system during 2006 were not at levels that are likely to cause adverse health effects for residents." The report recommended that Madison residents avoid drinking, cooking, or preparing infant formula with discolored water to avoid potential elevated exposures to manganese. Instead, residents should run the tap water until the water clears.

Water Quality Test Results – August 2007

MICROBIOLOGY – As part of routine water quality testing, Madison Water Utility collected 440 water samples in the month of August from Water Utility facilities and representative sample locations in the water distribution system. These samples were tested for coliform bacteria – indicators of potential water contamination. A single sample, collected from Unit Well 24, initially tested coliform-positive but follow-up samples later tested coliform-negative. The remaining 439 samples collected in August were found to be coliform-negative.

VOLATILE ORGANIC COMPOUNDS – The utility also collected samples from 10 wells and had the water tested for the presence of volatile organic compounds – man-made contaminants that may be present in ground water. Samples were collected at Unit Wells 9, 10, 12, 15, 18, 20, 27, 28, 29, and 30 and tested for 41 volatile organic compounds including tetrachloroethylene and carbon tetrachloride. Currently, Wells 9, 15, 18, 28, 29, and 30 are tested four times annually while the remaining wells are tested once annually. The table below shows the level of the contaminant detected and EPA's maximum contaminant level (MCL). None of the 41 compounds tested were detected at

Wells 10, 12, 28 or 30. Contaminant concentrations in the table below are consistent with previous test results.

VOLATILE ORGANIC COMPOUND	Units	MCL	UW 9	UW 15	UW 18	UW 20	UW 27	UW 29
Bromodichloromethane	ug/L	80	[0.42]	ND	ND	[0.25]	ND	1.4
Bromoform	ug/L	80	[0.39]	ND	ND	ND	[0.21]	ND
Chloroform	ug/L	80	ND	ND	ND	ND	ND	1.6
Dibromochloromethane	ug/L	80	[0.65]	ND	ND	ND	[0.31]	[0.63]
Tetrachloroethylene	ug/L	5	2.4	3.1	0.90	ND	[0.32]	ND
Trichloroethylene	ug/L	5	ND	[0.28]	ND	ND	ND	ND

Values in brackets, [], denote a detection above the level of detection (LOD) but below the level of quantification (LOQ).

Bromodichloromethane, bromoform, chloroform, and dibromochloromethane are disinfection by-products – compounds that form when chlorine, added as a disinfectant, combines with impurities in ground water. Because ground water has very little organic matter and low levels of chlorine are needed to kill bacteria and deactivate viruses, the concentrations of disinfection by-products are fairly small.

Additional information on tetrachloroethylene can be found at http://www.epa.gov/safewater/contaminants/dw_contamfs/tetrachl.html

DISINFECTION BY-PRODUCTS - The Water Utility annually tests for the level of disinfection by-products at several locations in the distribution system. Samples are collected in the warmer summer months when concentrations of disinfection by-products are expected to be highest. By-products form when chlorine interacts with impurities in ground water. The tables below show the maximum amount detected of the four trihalomethane (TTHM) and five haloacetic acid (HAA5) compounds. Measured concentrations are well below the regulatory limits.

DISINFECTION BY-PRODUCT	Units	MCL	MAX
Bromodichloromethane	ug/L		1.3
Bromoform	ug/L		0.66
Chloroform	ug/L		0.69
Dibromochloromethane	ug/L		1.5
Total Trihalomethanes (TTHM)	ug/L	80	4.2

DISINFECTION BY-PRODUCT	Units	MCL	MAX
Dibromoacetic acid	ug/L		0.53
Dichloroacetic acid	ug/L		ND
Monobromoacetic acid	ug/L		ND
Monochloroacetic acid	ug/L		ND
Trichloroacetic acid	ug/L		ND
Total Haloacetic Acid (HAA5)	ug/L	60	0.53

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<http://lavos.wiscnet.net/mailman/listinfo/drinkingwaterquality>

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