

Windsor ozone effect studied

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A ground breaking study into how ozone treatment of Detroit River water cleans up pharmaceuticals, pesticides and other organic compounds is under way in Windsor and Detroit.

The Windsor Utilities Commission, which has used ozonation treatment since 2001 for its drinking water, is taking part along with its Detroit counterpart. The University of Windsor, Oakland University, Wayne State University, U.S. and Canadian government agencies and the International Joint Commission are also involved.

It is the only such study going on in the entire Great Lakes region, said Saad Jasim, director of water quality and production for WUC. While all drinking water processed by WUC is ozonated, only one of Detroit's four treatment plants uses the process. The study, which began in May and will be completed in 2006, will compare ozone-treated drinking water with water cleaned up the conventional way, Jasim said Monday.

TARGETS MICROBES

Ozonation uses the same kind of ozone found in the atmosphere. By adding ozone to the water supply and sending an electric charge through the water, disease-causing microbes are inactivated.

"We found there was a reduction (in contaminants), so we want to look further," he said before presenting a paper on the subject to the 2004 annual conference of the International Ozone Association in Windsor.

"We are looking at the presence of these compounds in the raw water before and after ozone use. We find the ozone removes these compounds."

Locally, drinking water in Windsor and LaSalle as well as parts of the former Sandwich South area is ozonated because it comes from WUC. Other Essex County water systems do not use this process, relying instead on traditional disinfectants like chlorine.

Ozone has already proven itself effective against pathogens such as the potentially deadly *cryptosporidium* parasite and *E. coli* bacteria, Jasim said. Now, increased concern is being registered on pesticide runoff as well as

traces of prescription drugs, personal care products and even fire retardants entering the water system. Sewage treatment plants don't eliminate these compounds, he warned.

"The health issues are still under study: But these compounds could affect the endocrine system," he said of the potential health hazard.

Jasim was echoed by former deputy prime minister Herb Gray, now the Canadian chairman of the IJC, who told conference delegates these "endocrine disrupters" are increasingly being found in source waters.

"Many of these compounds have been shown to enter the Great Lakes through wastewater or storm runoff," Gray said. "It is important for us to understand the relative effectiveness of conventional treatment and ozone treatment on removing these contaminants from our drinking water."

Windsor was the first in Ontario to adopt ozonation. Jasim said it cost WUC \$4.7 million to introduce ozonation, and so far the utility has saved about \$1 million in reduced chemical use. Ozonation does not replace use of chlorine, but Jasim said WUC now uses 60-per-cent less.