



Union Water Supply System

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SENT BY: mail
March 30, 2015

Ministry of Health and Long Term Care
Minister's Office
80 Grosvenor Street
10th Floor, Hepburn Block
Toronto, ON
M7A 2C4

Attention: Hon. Dr. Eric Hoskins, Minister

Ministry of the Environment and Climate Change
Minister's Office
77 Wellesley Street West
11th Floor, Ferguson Block
Toronto, Ontario
M7A 2T5

Attention: Hon. Glen Murray, Minister

Dear Sirs,

RE: Union Water Supply System's Position on Mandatory Fluoridation

At the January 17th, 2015 meeting of the Union Water Supply System (UWSS) Joint Board of Management a discussion was raised by UWSS Board members in regards to the November 27th, 2014 motion that was passed by Ontario MPPs that endorses water fluoridation as a healthy and essential measure to minimizing tooth decay. This motion was tabled to the Ontario Legislature by Mississauga-Streetsville MPP Bob Delaney.

In regards to this motion and other circulating correspondence that suggest possible provincial consideration for mandatory fluoridation of drinking water, the UWSS Board directed the UWSS General Manager to send correspondence to the Ontario Minister of Health and Long Term Care and the Ontario Minister of Environment and Climate Change to outline the UWSS' position on drinking water fluoridation.

History of Union Water Supply System

Prior to outlining UWSS' position on the subject of mandatory fluoridation of drinking water, it is somewhat important to first provide some historical information on the Union Water Supply System for context purposes.

The creation of the Union Water System (now the Union Water Supply System) came about through the Province of Ontario's drive to develop regional drinking water systems by the Ontario Water Resource Commission (OWRC) under the *Ontario Water Resources Commission Act*. The idea behind this Act was that clusters of municipalities would be better served by larger Regional Drinking Water systems rather than individual smaller systems.

For the development of the Union Water System, the OWRC signed agreements in southwestern Ontario with the municipalities of Essex, Gosfield North, Gosfield South, Leamington, Kingsville, Rochester and Sandwich South, Maidstone and Mersea and the H.J. Heinz Company to construct and operate facilities for joint use. This agreement to construct the Union Water System would ensure potable water to the partner communities, while at the same time promoting industrial development. The Union Water System was officially commissioned in 1960 by OWRC. It should be noted that the design of the Union Water System did not include a fluoridation scheme and equipment for fluoridation was not included in the construction of the Union Water System treatment plant.

The ownership of assets and control of the Union Water System remained with the OWRC until the OWRC's amalgamation into the Ministry of Environment in the early 1970's. The Ministry of Environment retained control and ownership of Union Water System assets until the creation of the Ontario Clean Water Agency (OCWA) in 1993, at which time ownership and control of the system was transferred to OCWA. In 1997, the Province of Ontario passed and implemented the *Municipal Water and Sewage Transfer Act, 1997*. This Act resulted in the transfer of Union Water System assets, ownership and control from OCWA to the newly amalgamated municipalities of Kingsville, Leamington, Essex and Lakeshore. This transfer of assets and control for the system was completed through a Transfer Order dated 2001 between the Province of Ontario and the Municipalities of Leamington, Kingsville, Essex and Lakeshore.

The Transfer Order stipulated the creation of a Joint Management Board of the Union Water Supply System (UWSS Board). The UWSS Board has full authority to manage the Union Water Supply System on behalf of the four respective municipalities. The UWSS Board is composed of 12 municipal councilors appointed by the municipalities in accordance with the representation requirements of the Transfer Order. Day to day administration of the Union Water Supply System is through the UWSS General Manager who reports to the UWSS Board.

The UWSS treats and transmits water to the four aforementioned municipalities for local distribution through municipally owned and operated distribution systems. Potable water from UWSS ultimately services approximately 60,000 residents, a variety of commercial and industrial businesses and a large agri/food processing industry that includes numerous canneries, food processors, and over 1,000 hectares of greenhouse.

UWSS and Drinking Water Fluoridation

As mentioned previously, the original design and construction of the UWSS treatment and transmission facilities did not include a drinking water fluoridation scheme. A review of available historical records indicates that the issue of drinking water fluoridation was briefly considered by the Union Water System Advisory Committee in the early 1960's. However, these records suggest that the Advisory Committee had concerns with the introduction of fluoride into the drinking water, especially in regards to the agri/food processing industry that utilized a significant portion of Union Water System's treated water. Large food processors (e.g. H.J. Heinz of Canada) were not in favor of utilizing fluoridated potable water within their food

products, which included infant food. As such, fluoridation of Union Water System's drinking water was never implemented and has never been introduced to this day.

UWSS' Position on Drinking Water Fluoridation

Firstly, it should be noted that the UWSS does not have an official position or opinion in regards to public health effects, positive or otherwise, of drinking water fluoridation. This is a public health issue, and not a water treatment issue. However, the UWSS does have concerns with the addition of a chemical to the UWSS drinking water that does not result in a net improvement in the water treatment process and thus an improvement to the potable quality of the drinking water.

Secondly, UWSS also has a number of other concerns that would be associated with the introduction of mandatory fluoridation at the UWSS facilities, specifically in regards to capital costs, health and safety concerns for treatment plant operations staff, and possible concerns to the agri/food processing industry "customers". These concerns are detailed further below.

Capital Cost Concerns

As aforementioned in this letter, a fluoride introduction scheme was never included in the construction of the UWSS treatment facilities. As such, introduction of fluoride into the UWSS drinking water treatment process would require significant capital investment on UWSS' part. This would require the construction of a building for bulk storage of the fluoride chemical, and to house the equipment needed to inject fluoride into the drinking water. The new building would require a heating, cooling and ventilation system and likely a scrubber system to prevent ventilation of fluoride chemical to the atmosphere. Monitoring equipment would be needed to monitor the dosage of fluoride. Significant upgrades/modifications to the Supervisory Control and Data Acquisition (SCADA) system would also be needed to allow treatment plant operators to monitor and control the fluoride system from the operator's control station.

Further, it needs to be noted that it is best practice to introduce the fluoride chemical after the water filtration step of the treatment process since filtration can extract fluoride thus potentially requiring boosting of the fluoride chemical to meet optimal dosage. This would not be operationally or cost effective. Also, the fluoride chemical solution typically has a low pH (approximately 1.0-1.5 on pH scale). The introduction of fluoride chemical after the filtration process would result in a decrease in pH of the treated water going to the contact chamber and reservoir. There would be a high potential for the lower pH water going into the transmission system to increase corrosion in the transmission and distribution system pipes and services. To mitigate this increase in corrosion, the UWSS would need to introduce a corrosion prevention system (e.g. lime dosing system) at the treatment plant to increase the pH of the water. UWSS does not currently need to increase pH of the water since it already meets the preferred pH range to minimize corrosion. Thus the UWSS does not currently have the equipment and monitoring instruments needed to increase the pH of the water within the treatment plant.

The capital costs associated with the construction of a fluoridation system and a pH balancing system would require a several million dollar investment by the UWSS. Operational and maintenance costs for these systems would be a few hundred thousand dollars on an annual basis.

Occupational Health & Safety Concerns

The implementation of a drinking water fluoridation scheme at UWSS would introduce occupational health and safety issues for treatment plant employees. Fluoridating chemicals, whether they be in solid form (i.e. sodium fluorosilicate and sodium fluoride) or liquid form (i.e. fluorosilicic acid) are hazardous materials. The design, construction and operation of equipment to receive, store and introduce the chemicals into the treated water require risk assessments for worker occupational health and safety issues and for the environment of and around the plant.

Operations and maintenance (O&M) of the UWSS treatment facilities is currently contracted out to an accredited drinking water O&M contracting firm under a multi-year fixed fee agreement. The existing O&M agreement does not include the operations and maintenance of a fluoridation or pH adjustment system. The introduction of a fluoridation scheme at the UWSS facilities would necessitate a renegotiation of the O&M agreement to include operations and maintenance of these systems; to ensure proper training of the treatment plant operators and maintenance staff in regards to drinking water fluoridation, and to address occupational health and safety hazards associated with handling of the fluoridation chemicals. This renegotiation would likely result in a significant cost increase to UWSS for O&M services.

Agri/Food Packaging Industry Concerns

UWSS provides potable water, through the local municipal distribution systems, to a large Agri/Food processing industry. This industry consists of small to large volume producers of canned food products such as tomatoes, tomato paste and sauce, beans and legumes, juice, and a variety of other products. A large greenhouse industry that consists of over 1000 hectares of small (less than 1 hectare) to very large (greater than 50 hectares) greenhouse operations are also serviced with UWSS' potable water. These greenhouse operations mainly produce hydroponically grown tomatoes, peppers, and cucumbers but also grow other produce in smaller quantities.

During the 1960's when drinking water fluoridation schemes were being implemented at many drinking water systems throughout Ontario, other provinces in Canada and in the United States, concerns were raised by local Agri/Food processing operations in regards to inclusion of fluoride within Union Water's drinking water. Based on available historic documents, these concerns by food processing operations were the main driver for not including fluoride within Union Water's drinking water. The local Agri/Food processing industry within the UWSS' service area has grown significantly since then. This industry is very important to the local economy. This industry is also dependent on a high quality potable water source such as UWSS'. Any changes to the quality of the drinking water, such as the introduction of fluoride, would most likely raise some concerns by this industry.

Closing Statement

The UWSS has identified some viable concerns that are associated with any consideration for mandatory fluoridation of UWSS' drinking water. It should be reiterated that the UWSS does not have an official position or opinion in regards to public health effects, positive or otherwise, of drinking water fluoridation. This is a public health issue, and not a water treatment issue. UWSS' concerns with any proposal for mandatory fluoridation are solely in regards to following:

- Significant capital costs to UWSS for designing and construction a drinking water fluoridation system;
- On-going operations and maintenance costs for the fluoridation system;
- Occupational Health and Safety hazards to water treatment plant staff and personnel; and
- Concerns associated with the large local Agri/Food processing and greenhouse industry that use UWSS' potable water.

Based on the UWSS' concerns as detailed in this correspondence, the UWSS would not be in favor of mandatory fluoridation of UWSS' drinking water. As such, the UWSS would not support at this time any consideration by the Province of Ontario to mandate fluoridation of municipal drinking water.

Should you have any questions or comments regarding the information contained within this correspondence, please do not hesitate to contact the undersigned at your convenience.

Sincerely,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
kmj

cc: WECHU - Gary Kirk, MPP Taras Natyshak, MPP Rick Nicholls, Peter Neufeld, Dan DiGiovanni, Russ Phillips, Tom Touralias