



**STAFF REPORT
ACTION REQUIRED**

**Establishment of a Toronto Water Lead Content
Mitigation Rebate Program**

Date:	March 25, 2009
To:	Public Works and Infrastructure Committee
From:	General Manager, Toronto Water Medical Officer of Health, Toronto Public Health
Wards:	All
Reference Number:	P:\2009\Cluster B\TW\pw09008

SUMMARY

Recent testing has found some elevated levels of lead in the water supply in homes constructed prior to 1955. Lead in drinking water is considered a health risk for children under the age of six and pregnant women. This report recommends the implementation of a Faucet Filter Rebate Program for residents of this ‘at risk’ group whose combined household income is below \$50,000 and has a confirmed lead service (the water line connected to a City’s watermain). The program provides an annual \$100 rebate for the purchase of an NSF/ANSI-053 faucet mounted filter certified by the National Sanitation Foundation (NSF) to remove lead until the City-side service connection is replaced.

In addition, studies have also shown that when service connections are replaced an increase in lead levels can occur and last up to several months. To reduce this health concern for this period of time, upon completion of the City-side service connection, a one-time rebate of \$50 is recommended for the ‘at risk’ group to purchase new cartridges and/or a faucet filter.

RECOMMENDATIONS

That the General Manager of Toronto Water and the Medical Officer of Health recommend:

1. Implementation of a Faucet Filter Rebate Program to assist with the purchase of an NSF/ANSI-053 certified lead filter, including replacement cartridges, that consists of the following:

- a) an annual reimbursement, to a maximum of \$100, for residents who are deemed to be ‘at risk’ as a result of meeting certain eligibility criteria as listed in the Implementation Points below; and/or
 - b) a one-time reimbursement, to a maximum of \$50, for residents who are deemed to be ‘at risk’ as a result of meeting certain eligibility criteria as listed in the Implementation Points below and have had the City-side portion of their water service line that was composed of lead pipe replaced within the past six months.
2. The combined household income limit for the Faucet Filter Rebate Program be adjusted as the limit of the Water Relief Program changes;
 3. The City Treasurer investigate the feasibility of offering a voluntary based loan policy to assist the homeowner in the replacement of the private-side lead water service connection and to report back to Public Works & Infrastructure Committee; and
 4. This report be submitted to the Board of Health for their information.

Implementation Points

- For the annual maximum \$100 rebate, residents are deemed to be ‘at risk’ if they meet all of the following eligibility criteria:
 - a) Have a child under six years old, or a pregnant woman living in the home;
 - b) Reside in a single family, duplex or triplex home;
 - c) Earn a total combined annual household income of less than \$50,000; and
 - d) Have the City-side portion of their water service line composed of lead pipe.
- For the one-time maximum \$50 rebate to mitigate possible short term increases in lead levels that may occur after the City-side portion of the service connection is replaced, residents are deemed to be ‘at risk’ as a result of meeting the following eligibility criteria:
 - a) Have a child under six years old, or a pregnant woman living in the home;
 - b) Reside in a single family, duplex or triplex home;
 - c) Earn a total combined annual household income of less than \$50,000; and
 - d) Have had the City-side portion of their water service line composed of lead pipe replaced within the past six months.
- Toronto Water administer the Faucet Filter Rebate Program and provide reimbursements either in the form of a credit to the household’s water bill, or as a cheque mailed out to applicants (tenants) without a water bill account.
- Only one rebate application form will be accepted from eligible residents on an annual basis.
- Proof of purchase in the form of a receipt providing evidence that the faucet mounted lead filter system and cartridges meets the testing standards of NSF/ANSI-053 for lead reduction.

Financial Impact

The Faucet Filter Rebate Program will have an estimated annual cost of \$400,000 and can be accommodated within the Toronto Water 2009 Operating Budget.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At the June 13th, 2007 Public Works and Infrastructure Committee meeting, a report was tabled providing information on the status of lead in Toronto's drinking water and proposed a new program directed at accelerating the replacement of lead water services. A new Lead Water Service Replacement Program was approved to accelerate the replacement of the remaining lead water service connections within the next 9 years.

<http://www.toronto.ca/legdocs/mmis/2007/pw/decisions/2007-06-27-pw07-dd.pdf>

At the November 15th, 2007 Public Works and Infrastructure Committee meeting, a report was received that considered the policy and financial impacts of the City providing zero interest loans to private homeowners interested in replacing the private side of the lead water service connection. The Decision Document can be found at the following link:

<http://www.toronto.ca/legdocs/mmis/2008/pw/decisions/2008-01-09-pw12-dd.pdf>

ISSUE BACKGROUND

Exposure to lead is a health concern for children under six and pregnant women. Recent test results of water samples collected from private residential properties with lead water service connections have shown lead levels above the provincial standard. Toronto Water has a program in place to replace the City portion of the service lines over the next 9 years. To mitigate the health impacts until the City portion of the lead service can be changed, it is proposed that an annual \$100 rebate be offered to the 'at risk' population to cover the cost of purchasing NSF/ANSI-053 approved filters and cartridges.

COMMENTS

Health Effects of Lead in Drinking Water

While lead is a common environmental contaminant found in all parts of Canada, exposure to lead is a preventable health risk. The three major sources of lead exposure to Toronto residents are food, dust/dirt and water. Lead seldom occurs naturally in water sources such as rivers and lakes but is found as a result of corrosion from lead in pipes, solder and fixtures and in lead service lines. When drinking water contains lead above the drinking water quality guideline it can be the major source of lead.

Exposure to lead can result in adverse health impacts. Acute poisonings from exposure to high levels of lead are very rare in Canada. The health effect of primary concern is a subtle lowering of children's mental abilities. This effect is not noticeable to an individual or to their physician, but is detectable in scientific studies and is significant at a population level. Infants and children under the age of six are more sensitive to harm from lead

because their brains are still developing and they absorb lead more easily than adults. Levels of lead in the body generally peak at approximately two years of age and then decline.

Infants fed formula made with tap water are most at risk from lead in drinking water since their relative consumption of water is high. Fetuses are also very sensitive to lead. Mothers can pass lead in their blood to the fetus. Therefore, it is important for pregnant women, infants and young children to minimize their exposure to lead. Although paint chips, dust, soil, and toys are important sources of lead exposure, lead in drinking water is an important contributor to overall lead exposure that can be prevented. The most health protective approach is to guide families with houses built before the mid 1950s who also have pregnant women, infants, and young children to take interim measures to reduce their family's exposure to lead from all sources, including drinking water and get their lead service line replaced.

Regulated Drinking Water Sampling Program

Changes to the Drinking Water Systems Regulation O. Reg. 170/03 were introduced in 2007 to address the issue of lead in drinking water. Under this provincially regulated program, Toronto Water is required to collect samples from 100 homes with known or suspected lead service connections, 10 non-residual locations and 20 points within the distribution system twice a year, from December 15 to April 15 and from June 15 to October 15. All results are forwarded in writing to the homeowner, Toronto Public Health and the Ministry of the Environment. The results of the first two rounds of regulated sampling are summarized in the table below.

Toronto Water Regulated Lead Sampling Program Data Summary						
Testing Period	Locations	Number of Locations	Lead Result - µg/L*			% of Samples ≥ 11 ppb
			Maximum	Minimum	Average	
Round 1 December 2007 - April 2008	Private Residential Plumbing	100	14	<0.51	3.8	6
	Private Residential Plumbing (Lead ≥ 11 ppb)	6	14	11	12.8	-
	Non-Private Residential Plumbing	10	2	<0.51	0.6	0
	Distribution System	20	6	<0.51	0.7	0
Round 2 July 2008 - October 2008	Private Residential Plumbing	100	82	<0.51	11.9	52
	Private Residential Plumbing (Lead ≥ 11 ppb)	52	82	11	18.6	-
	Non-Private Residential Plumbing	10	6	<0.51	0.8	0
	Distribution System	21	5	<0.51	0.6	0

*Ontario Drinking Water Quality Standard for Lead = 10 ppb

The Medical Officer of Health expressed a concern as to the results from the second round of sampling and has requested Toronto Water assist in immediately mitigating any potential health risk for households with children under the age of six and those with pregnant women.

Mitigation Measures

Toronto Water conducts frequent testing at the water treatment plants and within the distribution system for lead and other substances. The results have consistently revealed that the water leaving the plant and within the City's distribution system consistently meets or exceeds all Ontario Drinking Water Quality Standards. When lead is detected in drinking water at a household tap, it is primarily a result of the corrosion or wearing away of materials containing lead that may be found in water service connections and internal building plumbing. The most common sources are lead water service connections which were generally used to service homes built before the mid 1950s. A further review of the Lead Service Replacement Program has revealed that it is not feasible to accelerate the program beyond its current nine year schedule. However, a program has been in place where residents with a lead service line can request testing of their water. Those homes with a lead test result above the provincial standard of 10 parts per billion qualify for priority replacement outside of the nine year capital program schedule. This priority replacement is unaffected by the filter program.

Residents are encouraged to replace their private side of the lead service connection when the City is replacing the City portion of the lead service at an average cost of \$1,800 - \$3,000 to the homeowner. To encourage private side replacement, if cost is significant barrier for homeowners, it is proposed that the City Treasurer examine the feasibility of providing a loan to the homeowner to carry out this work.

To reduce exposure to lead from drinking water, all residents can use flushing techniques as prescribed by Toronto Public Health. Water sitting in pipes for more than six hours should be run until it is cold to the touch and then run for at least one more minute.

The Medical Officer of Health has recommended that the 'at risk' population be provided with an enhanced level of protection through the use of filters. Toronto Public Health has recommended that an NSF/ANSI-053 approved filter be used as the product of choice. These filter products are readily available at local retailers and are easily and quickly installed.

It is proposed that the City provide a filter rebate program to the 'at risk' population whose combined household income is less than \$50,000. This rebate in the amount of \$100 per year will cover the cost of the filter and replacement cartridges. Residents will be eligible to receive this rebate for as long as they meet the following eligibility criteria:

- a) Have a child under six years old *or* a pregnant woman living in the home;
- b) Reside in a single family, duplex or triplex home;

- c) Earn a total combined annual household income of less than \$50,000;
- d) Have the City-side portion of their water service line composed of lead pipe.

As stated above, Toronto Water's Lead Service Replacement Program will result in the change out of approximately 65,000 lead service connections over the next nine years. Studies have shown when these service connections are replaced, a spike in lead levels can occur and last up to two months. It is therefore also recommended that the 'at risk' group whose City-side service connection is replaced be eligible to receive a one-time rebate of \$50 to cover the period when the lead levels may increase after construction.

Using Census data and Toronto Public Health demographic information there are approximately 2,000 residents in the 'at risk' group. The cost for the Faucet Filter Rebate Program is estimated to be \$400,000 annually and includes the \$100 annual rebate, the \$50 one-time rebate and administrative costs.

Public Education and Communications

Toronto Water offers public education regarding lead water services. This includes providing information on flushing practices, using cold water for drinking or cooking; requesting water quality testing; and information regarding the Water Service Replacement program. The messages are provided to residents through a number of mass media methods. In addition, Toronto Public Health also provides corresponding information to the public through various outreach, education and media programs. Joint communication plans between Toronto Water and Public Health will be established to accompany the launch of the Lead Filter Rebate Program.

Enhanced communication is planned in 2009 to reach 'at-risk' residents. This includes placing awareness ads in community papers and translating existing and new material into various languages to reach all affected residents. Three publications will print an article in their spring publications: Parenting Guide, Today's Parent and Our Toronto.

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