

Questions & Answers:

Trichloroethylene (TCE) Presence at the Former Site of Outboard Marine Corporation of Canada

Note: $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air. A microgram is one millionth of a gram.

How long has TCE been present in this area?

Outboard Marine Corporation of Canada Ltd. (OMCC) operated a factory at 910 Monaghan Road that manufactured outboard motors and related marine products as well as other small engines from 1913 to 1990. TCE was used in the manufacturing processes and it was the practice at the time to occasionally discharge waste onto the ground. It is unknown how often TCE waste was discharged onto the ground and in what quantities. All TCE discharges should have ceased around 1986-1987 when new waste management regulations came into effect. These new regulations defined TCE as a “hazardous waste” requiring a certificate of approval from the Ministry of the Environment. However, it is possible that discharges onto the ground may have ceased even earlier, with regulations that governed transfers of liquid industrial waste.

Is the drinking water safe?

Yes. The municipal drinking water supply continues to be monitored and is safe to use. The municipal water is drawn from the Otonabee River and treated at the Peterborough Water Treatment Plant prior to distribution to homes. Homes in the affected area are serviced by municipal water and sewer systems, therefore the tap water remains unaffected and is suitable for drinking.

How large is the affected area?

Environmental investigations conducted by an environmental consulting firm as part of the 2001 remedial action plan for the former OMCC site identified two groundwater [plumes](#) containing TCE. The two plumes are immediately adjacent to each other in the residential area south of Lansdowne Street West. Groundwater monitoring in 2000 identified concentrations below MOE Guidelines at locations south of King George St. indicating that the impacts do not extend significantly beyond this point. For further details about the plumes, their sources, and the remedial action plan, please visit www.omccanada.ca.

Why is air quality sampling being done now?

The indoor air sampling program is being conducted as a precautionary measure. Test results from outdoor monitoring locations received in November 2011 showed that TCE levels in indoor air might exceed the standard of 0.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). This indicated the need to assess indoor air quality of nearby properties and determine the level of TCE exposure due to soil vapour intrusion through their basements, if any, to residents.

How many homes will be sampled?

The initial indoor air sampling program includes approximately 45 homes located on the north side of Brioux St. and on the south side of Romaine St. If the results show there is not TCE exposure caused by soil vapour intrusion, no further sampling will be undertaken. If results indicate TCE exposure due to soil vapour intrusion, the indoor air quality of more homes will be sampled.

How is the air quality sampling being handled?

Air quality sampling is currently being offered at no charge to residents of homes in closest proximity to the monitoring locations at 511 Romaine St. and 843 Park St. that showed elevated levels of TCE. Once the results are received, this will determine if further testing of more homes in the area is necessary.

What is the level of health risk in the affected area?

The level of health risk is dependent on several factors and will be based on the results of the indoor air monitoring.

Potential health effects of TCE differ depending on:

- how much a person was exposed to;
- how long a person was exposed; and
- how susceptible a person is to the effects of TCE.

The level of health risk will be determined by how long a person has lived in the affected area, and if they have been exposed to TCE from other sources, such as at their work or from existing materials in the home (e.g. adhesives, rug cleaning fluids, paints, etc.).

The recommended action levels are primarily based on cancer risk; however, an additional level has been developed as a precaution to reduce the risk of developmental effects to unborn children.

What are the recommended action levels?

Cancer risks are based on the assumption that people are continuously exposed to TCE in air all day, every day for a lifetime (70 years). This is rarely true for most people who, if exposed, are likely to be exposed for only part of the day and part of their lifetime.

These action levels are for the general population, including infants, children, the elderly and those with pre-existing health conditions.

The recommended action levels are as follows:

- (TCE levels less than $0.5 \mu\text{g}/\text{m}^3$) - No further sampling or mitigation action required.
- (TCE levels greater than $0.5 \mu\text{g}/\text{m}^3$ and less than $5.0 \mu\text{g}/\text{m}^3$) - Annual monitoring recommended.
- (TCE levels greater than $5.0 \mu\text{g}/\text{m}^3$ and less than $20 \mu\text{g}/\text{m}^3$) - Semi-annual monitoring with option to mitigate. More immediate action may be required where pregnant women may be exposed.
- (TCE levels greater than $20 \mu\text{g}/\text{m}^3$ and less than $50 \mu\text{g}/\text{m}^3$) - Semi-annual monitoring with option to mitigate, also recommended that pregnant women, or those who could become pregnant, avoid indoor air exposure at these concentrations.
- (TCE levels greater than $50 \mu\text{g}/\text{m}^3$) - Monitoring and high-priority for mitigation action, also recommended that pregnant women, or those planning on becoming pregnant, avoid indoor air exposure to these concentrations.

Should residents be concerned about potential health impacts?

Anyone with health-related concerns should contact their local health unit or their family physician.

Can vegetable gardens be grown in this area?

Yes. The roots from vegetable gardens and fruit trees do not reach the area where contaminants may be present.

What remediation steps can be undertaken for my home if TCE is present?

As with any indoor air contaminant, removing household sources of TCE will help reduce indoor air levels of the chemical. Maintaining adequate ventilation will also help reduce the indoor air levels of TCE. If TCE is in the indoor air as a result of soil vapour intrusion, appropriate mitigation measures can be taken in homes. These include sealing of basements and empty sumps, or installation of heat recovery ventilation (HRV) systems. Houses will be assessed for the best way to remove TCE if it is found to be present.

What are the roles of the local government agencies?

The MOE is responsible for monitoring site contamination and developing a remediation plan and doing the clean up. The Health Unit and the City of Peterborough will support the MOE's investigation and ensure that ongoing communication with the neighbouring residents is maintained. Health Unit staff will also assess potential health risks to residents in collaboration with the MOE.

I'm concerned about contamination on my property. Can I also get it tested?

Please contact the Ministry of the Environment to discuss TCE testing for your property. Inquiries can be directed to Kelly Andreoli, District Engineer, Ministry of the Environment at (705) 755-4326.

How will this affect my property value?

It is difficult to predict if potential TCE exposure will affect individual property values. You may wish to consult a local real estate professional for the most up-to-date information.

For further information, please contact:

Peterborough County-City Health Unit
705-743-1000