

Healthy H₂O

Municipalities support new water testing requirements but struggle with the cost

OVER THE PAST FOUR years, Kevin Hill has spent a lot of time and money working to ensure that when citizens of Napanee, Ontario, attend wedding receptions, stags or other social events at three municipally-owned community halls they have safe drinking water. Hill is Director of Parks and Recreation for the town of 15,000, located 35 kilometres west of Kingston. His department has spent between \$14,000 and \$19,000 at each centre on water purification systems that include ultraviolet lights, carbon filters and chlorination devices. On top of this, Hill has closed public washrooms at community boat launches and baseball diamonds rather than install such systems, replacing the permanent facilities with porta-potties. “The costs are huge,” he says, with a mix of exasperation and disbelief. “This has a huge impact on a small municipality. Other services suffer. We’ve had staffing cuts.”

All of this is due to the long shadow cast by the tainted-water tragedy in Walkerton, a pretty, farming town of 4,800 tucked away in the Saugeen River valley in southwestern Ontario. In May, 2000, a combination of heavy rain, human error and bad luck led to the contamination of groundwater wells by agricultural run-off laced with a deadly bacterium known as *E. coli*. Seven people died and more than 2,300 became ill. The provincial government set up a judicial inquiry to find out what went wrong. But even before Mr. Justice Dennis O’Connor released his findings and recommendations – phase one in January 2002, and phase two in May of that same year – the provincial government had adopted tough new laws and regulations to control the treatment and testing of water supplies.

Municipal councillors and their officials universally support the spirit of the new regime, but many say they have been saddled with higher operating costs and, in some cases, major financial burdens, all without offsetting provincial funding. Max Christie, manager of the Greater Napanee Utilities and president of the Ontario Water Management Association (OWMA), says rural municipalities have been especially hard hit.

Christie notes that any facility that serves the public, including community halls, churches and restaurants, must have their water supplies evaluated by a professional engineer, they must install purification systems, and samples must be sent out for regular testing. OWMA estimates that there are 18,000 to 20,000 such small, non-residential facilities across the province. The capital cost of upgrading their water systems has been estimated at \$100 million. In addition, testing could cost the owners \$25 to \$30 million per year.



“The Ministry of the Environment realizes they have probably gone too far,” he says. “They are looking for ways to minimize the impact without jeopardizing public health.”

The repercussions of Walkerton have been felt across the country. Provincial governments have reviewed and, in some cases, amended their laws. And managers of municipal water utilities have become much more cognizant of the dangers of contaminated water supplies.

“Ontario is changing the fastest,” notes Kara Fehrman, manager of policy and legislation with the Ottawa-based Canadian Water and Wastewater Management Association. “The other provinces don’t have the pressure that Ontario does.”

While regulatory regimes vary from province to province, most now stipulate that water supplies must be tested at accredited laboratories. These facilities can be owned by provincial govern-

ments, municipalities or private companies. But they must be inspected and approved by an organization, such as the Canadian Association of Environmental Analytical Laboratories (CAEAL), and accredited by the Standards Council of Canada. In Ontario, there are 24 privately-owned labs that are CAEAL approved and accredited by the Standards Council, and a similar number of publicly-owned facilities.

Municipalities that choose to test in-house must set up a laboratory that meets the standards required for accreditation. Alternately, they can send their samples out to an accredited private facility. Most smaller municipalities are opting for the latter. Napanee's Christie says his community relies on a private lab in Kingston and each month employees drive 40 to 50 samples there from two water plants, eliminating the need to use courier services. Still, the municipality spends \$15,000 to \$20,000 annually on the tests.

Reid Campbell, plant operations manager with the Halifax Regional Water Commission, says his municipality uses both private and public labs to test samples from eight small facilities and two large plants, one on the east side of the city's harbor, the other on the west side. With 300,000 customers, the Halifax utility is the largest in Atlantic Canada and spends about \$135,000 annually on testing. Bacterial testing is done at a publicly-owned lab, while testing for chemical contaminants is handled by a private company.

"Both would like to have all our business and both are very competitive," says Campbell. "We get prices that most other municipalities aren't offered."

He adds that the city has decided against in-house testing because it would cost too much to set up and operate such a facility and to cover the expenses associated with accreditation. As well, city officials also believe that third-party testing enhances public confidence in the system. "We don't want to be seen as both inmate and jail keeper," he says.

The City of Fredericton, which stands on the banks of the St. John River but relies on groundwater from a sand and gravel aquifer, sends its samples to a lab operated by the provincial Department of Environment and Local Government. Danny Lanteigne, supervisor of the city's water treatment plant, says the municipality serves 47,000 customers and spends about \$40,000 annually on testing, but lacks the personnel and financial resources required to set up its own accredited lab.

Edmonton is a community that is large enough and prosperous enough to operate its own lab. The city has established an arms-length corporation called EPCOR Inc. to run its two treatment plants, which draw water from the North Saskatchewan River. Les Grammie, EPCOR's director of quality assurance, says provincial regulations have been amended and tightened since Walkerton and utilities across Alberta are now subject to more audits, inspections and assessments of their plants. EPCOR also operates water and wastewater plants in the Alberta communities of Canmore, Strathmore and Red Deer, as well as Port Hardy, BC.

The Alberta government, like its counterparts elsewhere in the country, stipulates that water testing takes place in accredited labs. Grammie says EPCOR operates such a facility at its Rossdale

Water Treatment Plant in Edmonton and staffs it with close to 30 technicians. They conduct tests for bacterial contaminants, such as *E. coli* and coliforms (bacteria commonly found in the large intestine of humans and some other animals), and look for traces of metals and other non-organic material. The Rossdale plant, as well as the E.L. Smith plant – also on the North Saskatchewan, are equipped with online analyzers that provide continuous data on chlorine levels and turbidity, or cloudiness.

Colleen Cotter, CAEAL's assessment manager, says that fees vary so much, depending on the size of the lab and the number of variables for which they are testing, that it is impossible to provide general estimates of the costs of being accredited. As well, there are several different fees. Accredited labs become members of CAEAL and pay an annual membership fee of \$400. They must undergo an initial site assessment and a second assessment one year later, both of which can cost \$4,250. Beyond that, the assessments occur every other year and cost \$2,850.

Labs must also participate in proficiency testing twice a year. CAEAL sends out samples contaminated with *E. coli*, coliform and inorganic substances which a lab tests for. Technicians analyze the samples to determine the levels and sources of contamination, and CAEAL confirms whether their results are accurate or not. "Costs vary significantly," says Cotter, "but we do have member municipalities across the country. And we do have a lot of small labs in the program." ❧

D'Arcy Jenish is a Toronto-based freelance writer.