

# Deaths Caused by Consumption of Drinking Water in Canada

## Quality Infrastructure

METROLOGY    STANDARDS    **TESTING**    CERTIFICATION    **ACCREDITATION**    QUALITY MANAGEMENT

### **PROBLEM** Contaminated drinking water

In 2000 the municipal drinking water system in Walkerton, Ontario (Canada) had an outbreak of E. coli 0157 bacteria, causing the contamination of surface water. The system serves about 5000 clients who were thus consuming the contaminated water. Within a few days 2000 people fell seriously ill and seven of them died. In addition industry, government and private households were confronted with a high economic loss.

### **BACKGROUND** Ineffective control system

The Ontario Provincial Government made a series of cuts in the sector of environmental and health protection. This led to a chain of systematic errors: Primarily, the contamination was caused by the entry of excrements into poorly sealed wells, from which the water was then obtained. Secondly, the water passed through a filter plant, inadequately maintained, where mistakes were made in the system of chlorine. From there the contaminated water was pumped directly into the households where it was then consumed.

### **SOLUTION** Changes in the regulations on water testing

- All laboratories or facilities conducting tests of drinking water must demonstrate their competence through accreditation.
- All certificates that approve water supply facilities in Ontario must be assessed by the Ministry of the Environment, at least every three years.
- The notification procedure for laboratories has to be clear enough to avoid any confusion regarding the reporting obligation. That is, if a test result indicates that the water is not potable the testing laboratory is obligated to inform the Ministry of the Environment, the Medical Officer of Health as well as the operator of the municipal facility of water.

### **IMPACT** Assurance of water quality and guarantee of welfare

Consumer protection is one of the main objectives of Quality Infrastructure. Drinking water is an area of everyday life and vital to the whole population. As the system of drinking water has a very high vulnerability to any mistake, its control must be much more exhaustive. In order to guarantee the reliability of the system and to ensure the quality of drinking water and thus social welfare, the new government requires the accreditation of testing laboratories. The costs of implementing this procedure are quite high, but fairly lower than the ones to be faced on an economic, social and environmental level when contaminated water is distributed to the population.

### **SOURCES**

<http://www.cbc.ca/news/background/walkerton>  
<http://www.attorneygeneral.jus.gov.on.ca/english/about/pubs/walkerton/part1>  
<http://www.sourcewater.ca/index/document.cfm?Sec=2&Sub1=2&sub2=0>  
[http://en.wikipedia.org/wiki/Walkerton\\_Tragedy](http://en.wikipedia.org/wiki/Walkerton_Tragedy)

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