

Troubled Waters

Life & Death

Who's accountable?
172 Nations at high risk - 21 cited for help

Ottawa addresses
water crisis for 21 First Nations

Pan-Aboriginal approach to
healthcare is not working

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Light at the end of the tap?

Politicians of all stripes in municipal, provincial and federal government departments, as well as all levels of the civil service, have one thing in common: they want to be remembered; a footnote in history. What better way to gain recognition than to support cutting edge projects such as the Canadian Light Source Synchrotron at the University of Saskatchewan?

Few know what it is and what it does, but researchers from around the world are using it. (One of only 17 such facilities around the world, the Synchrotron produces extremely bright light by using radio frequency waves to accelerate electrons to nearly the speed of light and then bending the path of the electron stream into a circle using powerful electromagnets.)

It is a symbol of Canada's commitment to Research and Development. At the time the Synchrotron was proposed I was asked, by the president of the Saskatchewan Research Council, to write a letter about how it could be used to further water quality issues.

I then explained that in rural Canada the level of water quality knowledge and water treatment processes is so poor that even basic sanitation challenges have not been addressed properly - something we would only expect to see in developing countries.

A while back, I was asked by the CBC to cover the last two days of legal deliberations in the North Battleford inquiry into its waterborne disease outbreak caused by *Cryptosporidium*. I was curious to find out if the lawyers involved in this case had absorbed some of the technical details surrounding the provision of

safe drinking water. Unfortunately, the answer is not much. About a year earlier, as the inquiry was announced, an official web site was set up. The home page stated that the investigation will study the ill effects of the bacterium *Cryptosporidium* in North Battleford. The problem? *Cryptosporidium* is NOT a bacterium!

Unfortunately, after months of legal arguments, the level of water quality knowledge shown on these last days of the inquiry was extremely limited, but obviously scary enough for the Saskatchewan government to settle out of court. The settlements hinged on a legal concept called Due Diligence. If you know something is wrong it is your duty within your profession to ensure that people that need to know have this information.

Many surface water treatment plants in Aboriginal communities face tremendous challenges in removing the *Cryptosporidium* parasite in a sustainable fashion, and unfortunately most only use chlorine disinfection which is totally inadequate to kill this parasite.

Yet years after the North Battleford tragedy, Health Canada still depends on chlorine to eradicate problems in the water. However, chlorine determines the absence of coliforms in the treated water. Coliforms are easy to kill by chlorine, but many of the disease-causing microbes like *Cryptosporidium* cannot be killed by chlorine.

There were no coliforms in North Battleford, and only one in three waterborne disease outbreaks test positive for coliforms.

Is Health Canada aware of the meaning of Due Diligence? Health Canada's reaction to Due Diligence is a \$150 million cash infusion to increase its coliform testing from once per month to once per week. I just

don't get it, is more frequent inadequate monitoring supposed to be a solution?

Does the federal government need to be challenged in court before it takes these issues seriously? Does the Minister of Indian and Northern Affairs Canada (INAC) really believe that operator training and more chlorine will actually fix inadequate water treatment systems?

If the federal government is brave enough to actually look at the Canadian Drinking Water Quality Guidelines in their entirety (cities do) rather than a few carefully selected provisions, like the coliform one - it will find that most communities with conventional treatment systems fail. Not only are we trying to treat drinking water in these smaller communities within minutes, while cities take hours, we have poor quality water sources and water treatment processes that are simply not up to the challenge.

Compounding this problem is a lack of communication between Health Canada and INAC. One would think that any water quality data generated by Health Canada in Aboriginal communities would be shared with INAC? Not so! They do share coliform data, but not the more extensive data sets that are also collected. INAC is the funding agency for water treatment plants, yet they don't have the data to show whether these plants are working or not.

It is a pretty sad state and light years away from the Canadian Light Source Synchrotron. **▲**



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