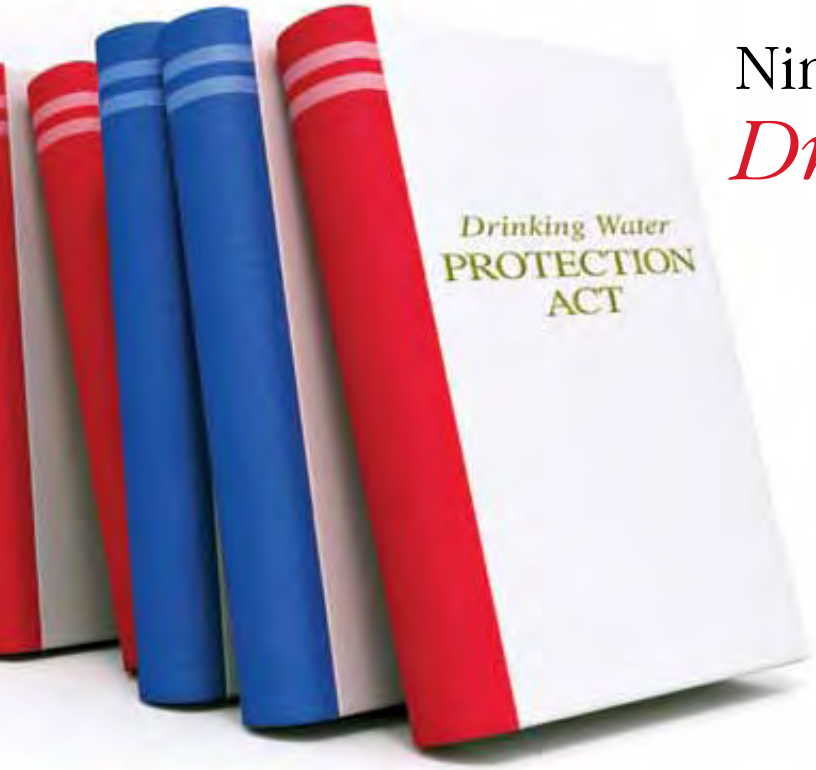

Nine years after the *Drinking Water Protection Act*

By Denny Ross-Smith, Small Water Users Association of BC

Small system compliance

The BC government, with the best of intentions, aims to protect its citizens from the various risks associated with untreated drinking water. To this end, the *Drinking Water Protection Act* and the *Drinking Water Protection Regulation* set out certain requirements, and drinking water officers are given wide latitude as to what additional requirements they may wish to impose in order to achieve the stated goal of 'potable water' (defined in the legislation as: 'water provided by a domestic water system that meets the standards prescribed by regulation, and is safe to drink and fit for domestic purposes without further treatment'). Large water systems have been the primary focus of the regional health authorities, and good progress has been made to improve the overall level of treatment for many municipal and regional district water systems (albeit with the assistance, in most cases, of generous government grants). The statistics for enteric disease attributable to water borne pathogens appear to be steadily declining, with fewer large outbreaks being recorded.

Meanwhile, nine years after the introduction of the *Drinking Water Protection Act*, not a whole lot seems to have changed for small systems (estimated by various sources to number some 3,500-4,500). Although many small systems have partially or fully complied with the legislation, the number of boil water notices has increased by 50%, from 338 in 2002 to 508 in 2010. While this can be partially explained by increased system inspections, it is, nevertheless, a clear indicator that small system compliance is well below government expectations. But, this is hardly surprising. The present approach is clearly not working well, and is unlikely to ever succeed, except on a fairly limited scale. Many, if not most, small systems, in particular those on surface water, simply cannot afford the cost of meeting 4-3-2-1-0 or similar expectations, at least not without the type of financial assistance available to municipalities and regional districts.

Some people have suggested that the answer might be for regional districts to acquire most of these small systems. In practical terms, this is impossible. Still others have suggested that small systems amalgamate in order to take advantage of potential cost savings resulting from economies of scale. However, this is unrealistic for the majority of small systems. One partial solution might be the development and availability of low cost treatment technology suitable for a substantial number of small system applications, coupled with an approval process that reduces or eliminates the need for the involvement of a professional engineer in the design phase of the treatment plant. The former might be accomplished with treatment trains or packaged treatment plants using certified components, pre-tested and pre-approved for certain typical ranges of inlet water quality. Such an approach would likely not be popular with the engineering firms, many of the equipment vendors or the public health engineers. The usual argument against this approach is that every situation is different, and treatment must be specifically designed for each supposedly unique inlet water quality. At the very least, this assumption should be challenged.

This is not to say that there has not been some progress. The approach taken by the health authorities has not been consistent, and their results have varied, with greater success having occurred in some regions than in others. Too often, though, priority attention has been focused on the larger water systems, and little practical advice or help has been offered to small systems. It will be interesting to see if this changes over the next few years as the health authorities respond to the recommendations contained in the 2008 Ombudsman's

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report *Fit to Drink, Challenges in Providing Safe Drinking Water in British Columbia*. However, it is doubtful if the threat of orders, tickets and fines will accomplish much. At a minimum, the health authorities should dedicate more drinking water officers to inspect and, more importantly, to provide advice to assist small systems. It would be better still if this could be coupled with an approach similar to that used by INAC with the First Nation drinking water systems: circuit riders, knowledgeable in water treatment and operations, who can meet with small systems to provide ongoing practical advice and help.

Operator training and certification

On a related matter, it is surprising that more concern has not been expressed about the change to the drinking water legislation in 2005, whereby small water system operators are no longer required to be certified, and training is not specified. While small system operators may be (and usually are) ordered by the health authorities to take some level of training, the fact that they are usually not required to write the EOCP certification exam is disturbing. One has to wonder how seriously a new operator will take a training course knowing that he/she will not have to pass an exam. Equally importantly, the small system operator is not required to obtain continuing education credits (CEUs), as is the case for a certified operator. This has the potential to increase the risk of operator error on small systems in compliance with the legislation, where the users assume that their water is completely safe to drink.

Should individual responsibility and decision making for certain types of small systems be an option?

Many of the small water supply systems in BC, such as water user communities and private water societies, are both owned and managed by the end users. These end users directly decide (usually by vote) on all matters regarding water treatment and system operations. In many such cases, these end users, or at least the majority of them, are by no means convinced that the potential risks involved are serious enough to warrant the costs of full treatment as expected by the health authorities (e.g., 4-3-2-1-0 for surface water and GWUDI). In addition, many are convinced (not without reason) of the dangers of chlorine, even though they may have little real understanding about disinfection by-products. Providing that such systems do not serve the general public, an argument could be made that the users should be entitled to decide for themselves on the appropriate level of treatment, as is presently the case for property owners with their own individual water supply system. Some might boil their water, while others might use five-gallon bottled water containers for drinking, vegetable washing, etc., while still others could elect to install point-of-entry or point-of use treatment.

This approach is somewhat analogous to the decisions people make at home regarding various other potentially dangerous situations, such as fire protection (smoke alarms), hazardous chemicals or drugs (safe storage), etc. By the same token, it should be expected that the drinking water legislation be fully enforced for those systems where the end users have no direct input on decisions regarding their water supply, such as municipal and regional district systems, water utilities, and all systems that directly serve the public such as restaurants, rest stops, lodges, etc.

Where to from here?

The likelihood is that not much will change over the next five years or so. Governments are strapped for cash, and there is little chance that they will introduce financial assistance programs (grants or loans) beyond what is currently available to local government. There may be some greater consistency in the approach taken by the regional health authorities, and some shift in staff resources from large systems to small systems. Both of these would be welcome changes, however, they would do little to address the fundamental issue of financing. Some small systems will manage to raise their user fees substantially and negotiate a timeframe with their drinking water officer within which to bring their system up to compliance. This is a sensible approach to take, but a difficult one to 'sell' to the users, particularly in low income rural areas of the province or for those systems where the majority of users remain unconvinced that their untreated water poses a real health risk. If the potential threat is as serious as we are led to believe, one action the provincial government could take is to provide information on these risks directly to the rural public so that they will be better informed and thus, presumably, more willing to pay for the cost of full compliance.