



Health Protection Drinking Water Report, Winter 2013

Welcome to the Interior Health (IH) Drinking Water Report. This quarterly newsletter provides information about key activities, projects, and policies relating to the IH Drinking Water Program.

We Need Your Input

IH Health Protection is currently developing a strategic plan to set direction for our large drinking water systems program. Building on the recommendations of the 2011 Drinking Water Program Audit (summarized in [Summer 2011 DW Report](#)), this document will focus our resources on providing the best possible service to our clients and the public. We'd like to hear your perspective on what that service should be, whether we have any significant gaps in our approach, and if you can support our efforts. If you haven't received a package from us in the mail by March 1st, please e-mail Laurie.Bourdin@interiorhealth.ca.

Operation Unity – Live Exercise

On the morning of September 23rd, IH Health Protection received report of a plane crash at the Kelowna airport. During descent, the flight crew dumped 8,000L of fuel in order to reduce the risk of explosion upon landing, an unknown volume of which fell into a local drinking water reservoir. Health officers immediately contacted the affected water system and, within minutes, the supplier was prepared to initiate the Emergency Response Plan to protect their 15,000 users. This included isolation of the reservoir, deploying a HAZMAT crew to contain the spill, and implementing focused monitoring. Thankfully, this was only a test, part of the regional emergency response exercise 'Operation Unity' (pictures available at <http://www.cordeoc.ca/2012-09-13-Operation%20Unity%202012.htm>). Congratulations to those involved for demonstrating the value of proactive emergency planning and knowing your water source.

Backflow in Building Water System Threatens Users

In early September, residents at a Central Okanagan apartment complex noticed their water had started to bubble. Suspecting backflow from the heating system, health officers worked with building management to issue a *Do Not Use* advisory and inform residents to seek medical attention if experiencing symptoms consistent with consuming ethyl glycol (e.g. blurred vision, dizziness, seizures, kidney/flank pain, blood in urine). Subsequent investigation confirmed the source was likely a damaged solar panel which back-siphoned when a potable water hose was mistakenly attached to the back flow prevention device test tap. The building was subject to a *Do Not Use* notice for over a week during flushing and sampling. The water supplier was immediately able to confirm the water lines were isolated by two backflow prevention devices tested earlier that year, thus avoiding the need for broader notification. Fortunately, the product of concern turned out to be a low-risk propylene glycol, and there have been no reports of illness from the building residents as a result of this event.

Grant opportunity for source protection planning

The BC Water and Waste Association, in partnership with the BC Ministry of Health, is offering a grant for small water system operators to participate in source protection workshops throughout the province. Those interested should visit <http://www.bcwwa.org/industry-news/615-small-water-systemsource-water-protection-government-grant-program.html>.

Do You Know Your DWO?

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North Canyon comes off Boil Water Notice

In March, the North Canyon Irrigation District (NCID) lifted its 19-year-old Boil Water Notice (BWN). With new wells, upgrades to storage, and a new chlorination system, NCID users can now drink their tap water without concern. This, along with Balfour's decade-long BWN ending last year, and improvements to the Robson-Raspberry Irrigation District system ([see our Fall 2011 newsletter](#)), reflects the trend of improvements in drinking water safety throughout the Kootenays.

Columbia Shuswap Regional District secures \$3 million for Anglemont

As reported in our [Summer 2012 newsletter](#), users of the Anglemont water system voted for Regional District takeover of their faltering water supply last year. That takeover was based on users taking on the full costs of upgrading the system to acceptable standards. The CSRD's continued efforts to solicit support from senior government were rewarded with the [recent announcement](#) that \$3 million in Gas Tax Fund transfer have been made available for the improvements. Work on the new Shuswap Lake intake, new treatment plant, and distribution system upgrades are underway with plans to remove the long-standing Boil Water Notice this fall.

Updates to provincial turbidity response decision tool

Following the Minister's Technical Advisory Committee report on turbidity in 2008, the Ministry of Health created a provincial tool for responding to elevated turbidity in drinking water. Based on a recent review, and to align with the new BC Drinking Water Treatment Objectives ([see Summer, 2012 newsletter](#)), the Ministry released an updated version of the tool on their website (www.health.gov.bc.ca/protect/dw_treatment-objectives.html) in April. IH Health Protection staff is reviewing the new document and will be consulting with affected water suppliers on how best to implement changes over the coming months.

Construction permits ... when do you need one?

A developer builds a new subdivision, including water supply and waste collection systems, then comes to the water supplier asking to connect. Under the *Drinking Water Protection Act*, all works intended to provide drinking water require a permit before they are constructed. So, is doing this work without a permit a breach of the *Act*? If it is, who is responsible: the developer who did the work, the utility that will provide the water, or the local government overseeing development? Such situations can be confusing enough before even considering "system within a system" provisions of the *Regulation*. The best approach is to contact your DWO and/or Engineering Direct (call 1-855-743-3550 or [by e-mail](#)) early and often regarding proposed expansions, repairs and renovations. Our goal is to be a resource for ensuring safe, sustainable design and ongoing operations of your water system.

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Wildfires and fire retardants

Fire suppression using heavy equipment and fire retardants can introduce sediments and chemicals into drinking water sources. However, the risks posed by properly managed fire suppression are typically outweighed by the long-term negative impacts resulting from wildfire in a community watershed. This fire season Phos-Chek will again be the primary retardant employed by fire fighters. Phos-Chek contains ammonium sulphate, ammonium phosphate, a gum thickener, a flow conditioner, iron oxide (colour) and a cyanide-free corrosion inhibitor. Phos-Chek is considered to have a low toxicity and be a low risk to human health. Nitrogen concentrations can be used as an indicator of contamination of downstream water supplies. For more information on wildfire management in BC visit <http://bcwildfire.ca/>.

New liner puts community on Do Not Use

In December a small water system in the Cariboo installed a new PVC liner in their reservoir. At over 30 years old the reservoir had been showing its age. PVC provided a cost-effective way to protect the wood roof from moisture while isolating stored water from pressure-treatment chemicals in the wood. Within days of installation the operator received an odour and taste complaint. Initial investigations focused on chlorine levels but after additional complaints attention turned to the reservoir and new liner. It turned out an error was made during installation resulting in a non-potable product being used instead of the NSF61 PVC liner prescribed in the design and construction permit. Subsequent human health risk assessments indicated the threat to human health from this particular incident was very low. However, users were subject to a Do Not Use advisory for several weeks while the owner provided an alternate source and responded to numerous questions and concerns from customers.

Upgrades to District of Lake Country water system

In February the District of Lake Country was able to downgrade the three year old Boil Water Notice for residents on the Oyama source. As part of the District's ongoing water quality improvement initiatives these homes are now serviced primarily through an interconnect to the Kalamalka Lake source, which has both chlorine and UV disinfection. For more information on this project and the District of Lake Country's long-term water improvement plan visit <http://www.okanaganway.ca/municipal/municipal-services/water/>.

Break-in leads to Do Not Use advisory

Last fall the operator of a small community water system in the Southern Interior found the padlocks to their concrete reservoir had been removed. Lacking any significant security (i.e. no barbed wire fencing or alarm system) the reservoir had been subject to vandalism and break-ins in the past. Although no evidence of contaminants was apparent at the scene, this deep-well is neither chlorinated nor has on-line monitoring. As such, there was no information (e.g. of increased chlorine demand; changes/ patterns in conductivity) to rule out that a contaminant had been deliberately introduced. The operator implemented a Do Not Use advisory pending bacterial and chemical sampling. This was downgraded to a Boil Water Notice three days later when comprehensive chemical analyses came back clear. The BWN was lifted several days later once consecutive bacterial sample results were clean.

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Tell us where we should focus our work with small water systems

With over 1,800 registered small water supply systems in the IH region, focusing our resources is crucial. Our staff identified some key areas where we can improve our operations including focusing more on education and advocacy in order to facilitate clean, safe, reliable small water supply systems. Now, we would like to hear from you. You can share your opinions by e-mailing Laurie.Bourdin@InteriorHealth.ca or calling 250-851-7305. Five-year goals will be set for the IH small water system program and those goals will be shared in our Spring 2014 newsletter.

BC drinking water treatment objectives for surface water

As reported in our [Summer 2012 newsletter](#), the provincial government has set specific criteria for treatment of surface water sources under the *Drinking Water Protection Act*. We are currently assessing all large water system treatment plants in the region against these new objectives. Results will be shared with individual water suppliers before being released publicly in the spring. If you have any questions about the new objectives or how they apply to your system please contact your DWO.

Beware...not all UV bulbs are created equal

UV bulbs are expensive and getting a reliable supply of replacement bulbs can be tricky, especially if your system's manufacturer goes out of business. Be cautious when using bargain and generic bulbs. Some water systems in our region have been using non-certified bulbs for replacement in NSF 55A certified UV systems. Water systems using bulbs not supplied by the original manufacturers void the NSF 55A certifications; this is because the certification process tests not only the reactor units but the specifically identified bulbs. Specific replacement bulbs are identified [on the NSF site](#) along with the certification of the unit as a whole. If you have any concerns or questions about UV system components don't hesitate to contact your DWO or call IH Engineering Direct at 1-855-743-3550.

Living with power outages...preparation pays off

Although inevitable, short-term power loss to a water treatment facility does not need to result in significant disruptions to service or risk to public health. When the District of Summerland lost power for over two hours last October their emergency generators ensured the community's water system remained functional and maintained pressure. In another recent incident, tens of thousands of people including the entire commercial centre of a large community were subject to a BWN for over two days when a UPS isolation valve failed and untreated water bypassed full treatment. These two situations resulted in very different outcomes due to the availability and use of reliable back-up power.

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