

Operating a Water Bottle Operation or Water Vending Machine during a PDWA or EBWO

Background

Operators of water bottling equipment or facilities including grocery stores that have point-of-use systems such as water vending machines connected to a communal water system may seek approval to operate and supply drinking water in the event of a Precautionary Drinking Water Advisory (PDWA) or Emergency Boil Water Order (EBWO). In these situations, the Saskatchewan Health Authority (SHA) may allow for the operation to continue provided that the combined treatment of the communal system in its current operational state and the facility's treatment system can achieve 3-log removal of *Cryptosporidium* and *Giardia* as well as 4-log inactivation of viruses. It is likely that this level of treatment will need to be achieved with only the facility treatment system.

Request to approve an installation prior to the issuance of a PDWA/EBWO

Upon receipt of such requests, the SHA will advise the facility owner:

- To submit technical and equipment details including certification details, manufacturer claims, operation and maintenance requirements, and information on which taps will receive the treated water.
- To submit bacteriological water samples on a regular basis (at least quarterly) and keep results on-site for review.
- That in the event of a PDWA/EBWO, the owner must contact the SHA for approval prior to usage of the system during the event.

The SHA will not provide a blanket "approval" or endorsement of the system at the time of installation for use during a future adverse water quality event. It is in the supplier's/facility's best interest that they provide the technical details in advance as, during a PDWA/EBWO, public health officers may be unable to evaluate the treatment system due to other priorities.

Request to approve a system for use during an active PDWA/EBWO

For systems that have been approved by the SHA, the facility must not provide drinking water until the local SHA office agrees that the water is safe at the time of the PDWA/EBWO. If there is a desire to continue operations during an active PDWA/EBWO, the operator of a facility or point-of-use system should request approval from the local SHA office to use the water treatment system. Before making a decision, the local SHA office may:

- review the information on the SHA file (for treatment details as the system may have been installed some time ago; review the initial determination and the certification of the units);
- inspect the system for appropriate water treatment and ensure the system remains in conformance to information on file;
- test total dissolved solids in source and product water to ensure a minimum 75% reduction;
- review maintenance records that should be kept by the facility; and,
- review operational practices (continuous operation versus standby).

Other information that can influence the SHA's decision:

- discussions with any other regulatory agency that has involvement in regulating the supply water or bottling of water;
- reason for issuance of PDWA/EBWO;
- treatment capabilities and certification to remove the contaminant(s) of concern;

- discussion with equipment manufacturer;
- a review of the operation and maintenance records for the facility; and,
- test results.

At the time of PDWA/EBWO issuance, there are a number of outcomes that could result based on the information collected before/during a PDWA/EBWO and the SHA's professional judgment. Outcomes may vary from: not allowing the use of the system; allowing the use of the system after bacteriological testing (causes a delay of several days); to use with caution (ensure proper maintenance, follow manufacturer information, provide information on upset operating conditions, etc.); or other options.

Other Considerations

Sampling

A bacteriological sample will usually be requested to be taken for the initial approval to ensure that the treated water is safe. During a PDWA/EBWO event, the operator must routinely check the drinking water device is operating properly. The SHA may inspect at any point to ensure that a health hazard is not present.

If the PDWA or EBWO is expected to remain in place for a significant period of time, the SHA may require the facility owner/operator to submit treated water samples for lab analysis.

Standards

Any Point-of-Use (POU) and Point-of-Entry (POE) systems intended to be used during a PDWA/EBWO must conform to an appropriate standard. The appropriate standard is dependent upon the reason for the PDWA/EBWO issuance. The following is a list of applicable standards:

- ANSI/NSF Standard 53: Drinking Water Treatment Units - Health Effects;
 - This standard allows certification for different parameters. For example, only some NSF 53 certified devices are certified to remove cysts.
- ANSI/NSF Standard 55: Ultraviolet Microbiological Water Treatment Systems;
 - Class A systems (40,000 uwsec/cm²) are designed to disinfect and/or remove microorganisms from contaminated water, including bacteria and viruses, to a safe level.
- ANSI/NSF Standard 58: Reverse Osmosis Drinking Water Treatment Systems;
- ANSI/NSF Standard 62: Drinking Water Distillation Systems; and,
- CSA B483: Drinking Water Treatment Systems;
 - Drinking water treatment systems or all components of a system must comply with the requirements specified in this Standard and the structural integrity and materials extraction requirements specified in NSF/ANSI 42, NSF/ANSI 44, NSF/ANSI 53, NSF/ANSI 55, NSF/ANSI 58, NSF/ANSI 61, or NSF/ANSI 62, as applicable.
 - Point-of-use treatment systems must comply with the health-related contaminant reduction requirements specified in NSF/ANSI 53, NSF/ANSI 55, NSF/ANSI 58, or NSF/ANSI 62, as applicable.

Any product selected as part of a drinking water treatment system, point-of-use or point-of-entry treatment system should be independently certified to an applicable standard. Information on the certification that different treatment systems carry is posted on NSF's website at www.nsf.com/Certified/DWTU/ as well as other certifying bodies' websites.

It should be noted that each standard is subdivided by parameter. For example, a particular device could be certified to Standard 53 for arsenic but not cysts. Therefore, it is important that the device selected is certified for the parameter(s) of concern. For example, if the concern is high turbidity, and surface water is the source water, the certification should show that the treatment unit is certified to remove cysts and, if present, the ultraviolet light disinfection unit is Class A Standard 55 certified.

Water Vending Machines and Other Treatment Systems

Operators of water vending machines and other water treatment units in public places may wish to seek approval for use during a PDWA/EBWO. Requests for approval for using a water vending machine or other water treatment device during a PDWA/EBWO can be handled similarly to the above situation of a POU/POE system on a communal water supply.

Both water vending machines and POU/POE treatment systems may have operational concerns such as bacteriological regrowth in storage reservoirs. These issues should be considered during the inspection and review of maintenance records

The link below provides the contact information for public health officers throughout the province:

<https://www.saskatchewan.ca/residents/health/public-health/public-health-inspectors>