



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

fact sheet

Sampling Requirements for Drinking Water Vending Machines that are Consecutive Public Water Systems¹

Attention: Owners & Operators of Drinking Water Vending Machines (WVM) & Public Water Systems that Provide Water to WVMs

The following information is applicable to water vending machines (WVM) owners and operators and public water systems (PWS) that provide water to WVMs. It is also applicable for plumbing inspectors, local boards of health, and others that are involved in the approval and operations of WVMs.

WVMs are defined by USEPA as public water systems on a Memorandum dated July 26, 1976, with a subject "Status of Water Vending Machine Under Public Law 93-523." See EPA memorandum attached to this document.

WVMs are subject to all requirements applicable for a transient non-community (TNC) public water system.

If a WVM is supplied by another PWS (seller or parent), it is also classified as a *consecutive PWS* in accordance with Massachusetts Drinking Water Regulations 310 CMR 22.12. This factsheet clarifies sampling requirements for WVMs that are consecutive systems to systems using surface water (SW), groundwater under the direct influence of surface water (GWUDI) and groundwater (GW), including water that is bulk delivered from an approved source.²

In addition to bacteria WVMs that obtain their water from systems with SW or GWUDI sources must report a chlorine residual or heterotrophic plate count (HPC) if no chlorine residual is detected. WVMs that obtain their water from systems with ground water sources (GW) only have to test for bacteria as required in 310 CMR 22.05 and 22.26. The table below summarizes WVMs monitoring requirements. Note that each type of sample may require different preservation (e.g. dechlorination, acidification) and handling procedures (e.g. cooling) as instructed by a certified laboratory.

Type of Sample	Sampling Location	Sampling Frequency	
		Before MassDEP-DWP issues approval to operate ³	After MassDEP-DWP issues approval to operate (Routine Testing)
Bacteria			
<p>➤ If the drinking water source is SW or GWUDI:</p> <ul style="list-style-type: none"> as per 310 CMR 22.05 <u>and</u> Chlorine Residual, per 310 CMR 22.20A, <u>or</u> Heterotrophic Plate Count (HPC).⁴ <p>If no chlorine residual is detected HPC at the tap/nozzle must comply with 22.20A(3)(a)4 and 22.20A(5)(a).</p>	At sampling tap prior to the connection to WVM (seller's water)	✓	✓ (Monthly) ⁵
	At dispensing nozzle (finished water)		
<p>➤ If the drinking water source is GW only:</p> <ul style="list-style-type: none"> as per 310 CMR 22.05 and 310 CMR 22.26 	At sampling tap prior to the connection to WVM (seller's water)	✓	✓ (Monthly) ^{5,6}
	At dispensing nozzle (finished water)		
Volatile Organic Compounds (VOC)			

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Type of Sample	Sampling	Sampling Frequency	
➤ If the drinking water source is: GW, SW or GWUDI:	At dispensing nozzle (finished water)	✓	✓ (Annually) Only if parent PWS is on an increased monitoring schedule for VOC.
Lead & Copper (LCR)			
➤ If the drinking water source is: GW, SW or GWUDI:	At dispensing nozzle (finished water)	✓	Not applicable <u>unless</u> otherwise determined by MassDEP.

Notes:

¹ WVMs that only sell water from on-site sources must meet the general requirements for Transient Non Community (TNC) Public Water Systems.

² Additional water quality monitoring may be required for water vending machines that are supplied water from sources that are not MassDEP PWSs.

³ These samples are taken before the system is turned on for operation to create a baseline for water quality determination. **The sample(s) shall be taken after the WVM is flushed in accordance with manufacturer's specifications.** A recommended flush is for at least two minutes. A PWS must use a MassDEP Certified Laboratory for all analysis and report all results on MassDEP approved forms or formats within 10 days of the reporting period.

⁴ **Compliance with HPC at the sampling tap prior to the vending unit:** Parent and consecutive water vending system must identify and agree on a distribution sampling tap that will be considered representative of the water entering the vending unit. MassDEP shall codify this location in its letter of approval to operate issued to the water vending system and provided to the parent system. If samples are collected as specified all parties should have sufficient sampling data to determine who is responsible for HPCs over 500/mL. If the department cannot establish the parent or consecutive system responsibility based on available sampling collected in accordance with the bacteria monitoring program, the surface water treatment rule, and the consecutive system regulations and policy, both systems must conduct a study to determine the cause.

⁵ **Coliform:** A well maintained and operated unit with no positive coliform or other water quality or operation and maintenance issues may be reduced to quarterly monitoring after 1 year of operation.

⁶ **Ground Water Rule (GWR):** These samples should be collected on the same day and time. If the dispensing nozzle sample is total coliform positive, MassDEP may use the results from the sampling tap that represents the seller's water to determine if triggered source water monitoring by the parent system as per 310 CMR 22.26(3)(a) is required. Note that all total coliform positive samples must be reported to the parent system as per 310 CMR 22.26(3)(a)5.

Additional information

MassDEP may require additional case specific monitoring and analysis. For more information on water vending machines, visit the MassDEP Drinking Water Program Webpage at: <http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#31> or contact the MassDEP Drinking Water Program at: Program.Director-DWP@state.ma.us or 617-292-5770 or Mr. Otavio DePaula-Santos at: Otavio.Paula-Santos@state.ma.us or 617-556-1085.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WSG 3

Date Signed: July 26, 1976

Revised: November 1998

Revised by: Wendy Warren

MEMORANDUM

SUBJECT: Status of Water Vending Machines Under
Public Law 93-523

FROM: Victor J. Kimm (signed by Victor J. Kimm)
Deputy Assistant Administrator for Water Supply (WH-550)

TO: Regional Water Supply Representatives

Background

Region IV has asked that we determine the status of water vending machines under P.L. 93-523. Brochures were enclosed describing a unit which provided filtration and ultraviolet disinfection. Water was then dispensed into the customer's own container when a coin operation mechanism was cycled.

The definition of a public water system as given by Section 141.2(e) of the NIPDWR is:

"The public water system" means a system for the provision to the public of piped water for human consumption, through pipes or other constructed conveyances if such a system has at least fifteen service connections or regularly¹ serves at least twenty-five individuals daily at least 60 days out of the year.

A water vending machine provides piped water for human consumption, and it would probably serve an average of 25 people a day for at least 60 days out of the year. The coverage section of the NIPDWR, Section 141.3, includes all public water systems unless all three of these conditions are met:

- (a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);
- (b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;
- (c) Does not sell water to any person.
The whole point of water vending machines is to sell water so that condition (c) is not met. Most machines treat the water in some way so condition (a) is not met.

If any one of (a) (b) or (c) is not met, the public water system is covered by the regulations.

Conclusion

Water vending machines which either treat water in some way or sell water are covered by the NIPDWR as a non-community, public water supply.

¹ The regulations under the SDWA explain the term "regular" by stating that a public water system must have at least fifteen service connections or regularly serve an average of twenty-five individuals daily at least sixty days out of the year. 40 CFR 35.603(c), 41 F.R. 2913, Jan. 20, 1976.