

WATER EMERGENCY TOOLKIT

(For use with Boil Water Advisories, Do Not Use advisories, Do Not Drink advisories or events of no water to communities)

WELCOME!

This Water Emergency Toolkit (Toolkit) is for general guidance and use during a water emergency by Local Emergency Managers, Local Health District Emergency Coordinators, and/or other partner agency emergency response personnel. This Toolkit is For Official Use Only (FOUO). This Toolkit is NOT to be used to do the work of the responsible waterworks or the Virginia Department of Health Office of Drinking Water (VDH ODW). This Toolkit is for informational purposes only and any questions or concerns before, during, or after a water emergency should be communicated directly to VDH ODW.

Charles Fladhammer
Emergency Services Coordinator
Office of Drinking Water
Virginia Department of Health
Cell: (804) 573-1461
Charles.Fladhammer@vdh.virginia.gov

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

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Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

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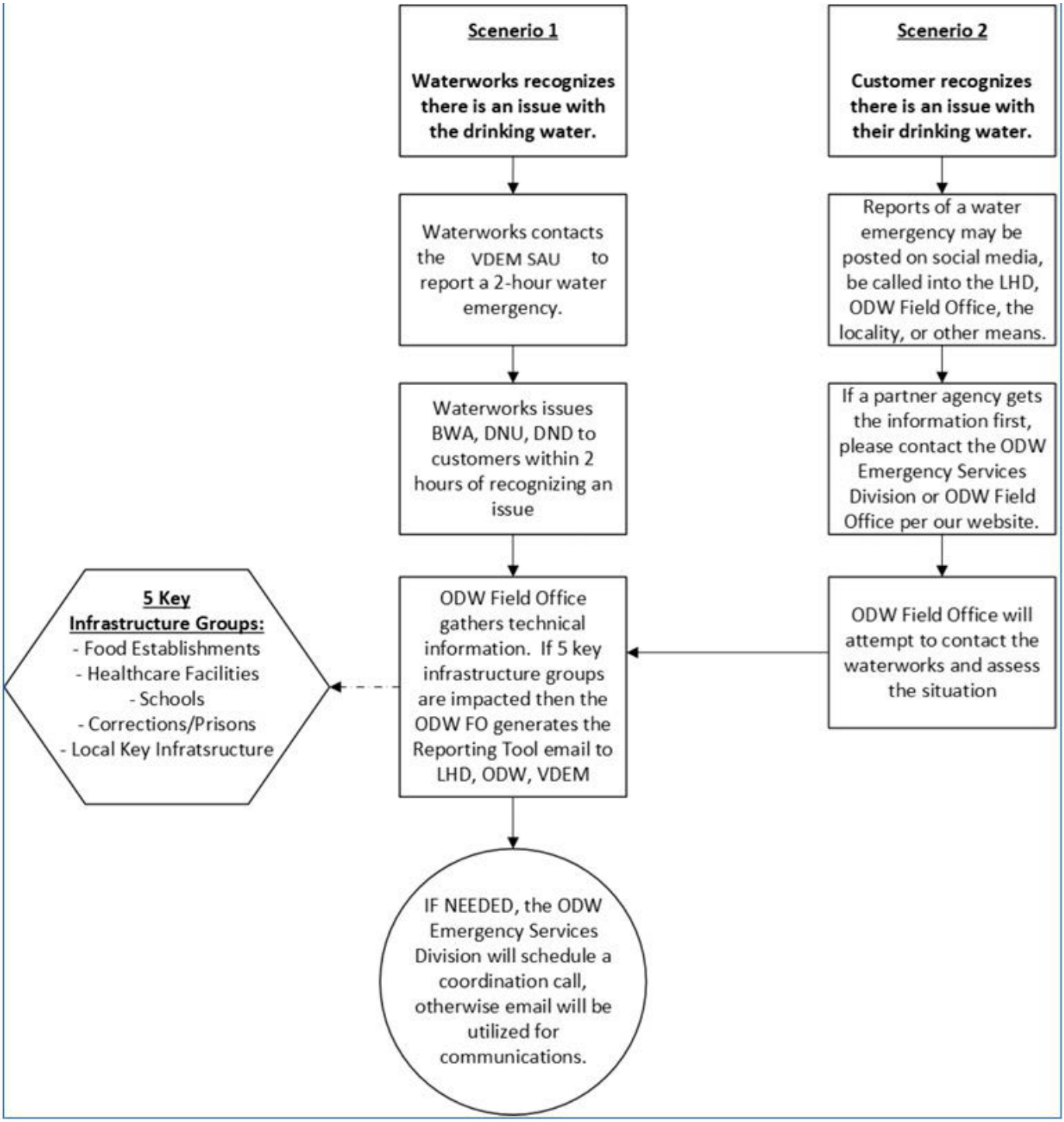
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Important Links

Office of Drinking Water Homepage - https://www.vdh.virginia.gov/drinking-water/
ODW Boil Water Advisory Guidance - https://www.vdh.virginia.gov/drinking-water/boil-water-advisory-guidance/
ODW 2-Hour Reporting Requirement - https://www.vdh.virginia.gov/drinking-water/2-hour-reporting-requirement/
ODW Emergency Preparedness and Services - https://www.vdh.virginia.gov/drinking-water/emergency-preparedness-and-security/

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Drinking Water Emergency Flowchart of Possible Event Reporting



Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

General Guidance on Process for Water Emergencies

(this is a guide and could change based on ODW Field Office Technical Assistance to the Waterworks or other unknown factors)

What needs to be done:	Agency with primary notification responsibility:	Agency with secondary responsibility:	Method of communication:	Goal:	Consequence for not doing:
Report a critical equipment or contaminant issue (water break/leak/loss of pressure, etc.) within 2 hours to ODW AND customers	• Waterworks to VDEM SAU • Waterworks to ODW Field Office or after-hours number Waterworks to customers	ODW with LHD	See below for issuing an advisory.	Communicate that there is an equipment failure or contamination of the community's drinking water and what the community needs to do to stay healthy.	1. Notice of Alleged Violation (NOAV) issued from ODW Field Office to Waterworks. a. New process to follow-up with all BWA by the regional ODW Field Office within 30 days 2. If the waterworks signs the NOAV and does not meet requirements, then move to Consent Order. If they do not sign NOAV move to Consent Order 3. If Consent Orders are breached the waterworks is then referred to the Office of the Attorney General (AOG) and/or localities Commonwealths Attorney (CA) for litigation. 4. Enforcement actions include permit revocation, administrative orders, and civil or criminal proceedings, and civil charges or penalties of up to $5,000 per day for each violation. 5. Ultimately compliance, enforcement and policy will all be in consultation with appropriate ODW staff.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

What needs to be done:	Agency with primary notification responsibility:	Agency with secondary responsibility:	Method of communication:	Goal:	Consequence for not doing:
Advisory Issued within 2 hours	• Waterworks to VDEM SAU • Waterworks to ODW Field Office or after-hours number • Waterworks to customers	ODW with LHD	Provide the public notice in a manner reasonably calculated to reach all people served. The form and manners shall fit the specific situation, and shall be designed to reach residential, transient, and nontransient users of the waterworks. To reach all the people served, owners shall use, at a minimum, one or more of the following forms of delivery: (1) Appropriate broadcast media (such as radio and television); (2) Posting public notice in conspicuous locations throughout the area served by the waterworks.	Communicate that there is an equipment failure or contamination of the community's drinking water and what the community needs to do to stay healthy.	See above.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

			(3) Hand delivery of the public notice to people served by the waterworks; or (4) Another delivery method approved in writing by the department.		
What needs to be done:	**Agency with primary notification responsibility:**	**Agency with secondary responsibility:**	**Method of communication:**	**Goal:**	**Consequence for not doing:**
Notification to Locality	ODW, but no official requirement	ODW	Reporting Tool email forwarded to EM by VDEM Region	Situational Awareness	None officially
Notification to Healthcare Facilities	ODW to Healthcare Coalition, except if a customer of waterworks, then it is the waterworks responsibility	ODW	Reporting Tool email forwarded to Healthcare Coalition by ODW Emergency Services Coordinator	Situational Awareness	None officially
Notification to Food Establishments (to include grocery stores and convenience stores)	ODW to LHD, except if a customer of waterworks, then it is the waterworks responsibility	ODW to VDACS in some cases	Reporting Tool Automatic Email to LHD, LHD to restaurants and VDACS contact	Situational Awareness; follow-up as needed	None officially
Notification to Schools	ODW to Locality, except if a customer of waterworks, then it is the waterworks responsibility	ODW	Reporting Tool email forwarded to EM by VDEM Region	Situational Awareness	None officially

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Emergency Services Planner
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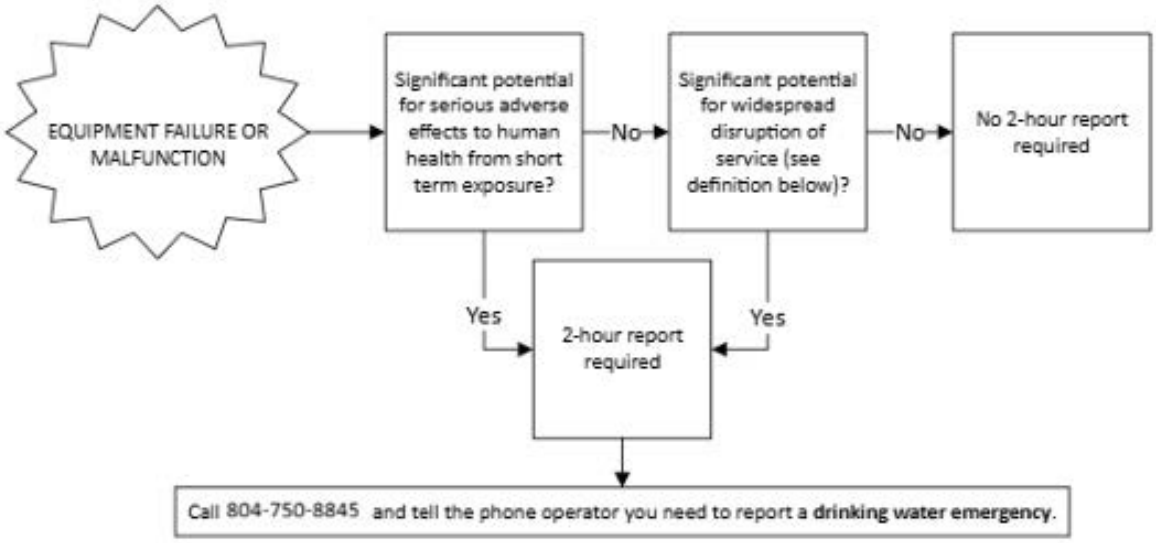
What needs to be done:	Agency with primary notification responsibility:	Agency with secondary responsibility:	Method of communication:	Goal:	Consequence for not doing:
Repair issue and flush as needed.	Waterworks in conjunction with vendors/county if needed	N/A	Updates on repairs should come from the waterworks but are not required.	Improve communication and to update community on situation	See above.
Bacteriological (Bacti) sampling	Waterworks to ODW	N/A - ODW will not take samples for the waterworks. Samples can be taken by the waterworks once the repairs have been completed, with the concurrence of the ODW Field Office.	Waterworks to ODW. There is no requirement that the waterworks must communicate results to the community unless FOIA request is submitted and appropriate for the waterworks to reply.	The waterworks must sample 2 times 16 hours apart. DCLS samples must be dropped off by Thursday, they will not typically be run over the weekend. The samples cannot exceed a 30 hour hold time. Samples may also be processed by the waterworks contracted state certified lab.	See above.
Lifting Advisory	Waterworks, with the concurrence of the ODW Field Office.	Waterworks, with the concurrence of the ODW Field Office.	Same form of communication ideal for issuing the BWA. To include flushing instructions.	Return community to normal drinking water standards.	See above.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Waterworks 2-hour Event Reporting Flowchart

2-Hour Reporting Flow Chart

This chart is intended to aid in the decision making process following an equipment failure or malfunction.
Any contaminant release requires a 2-hour report to ODW.



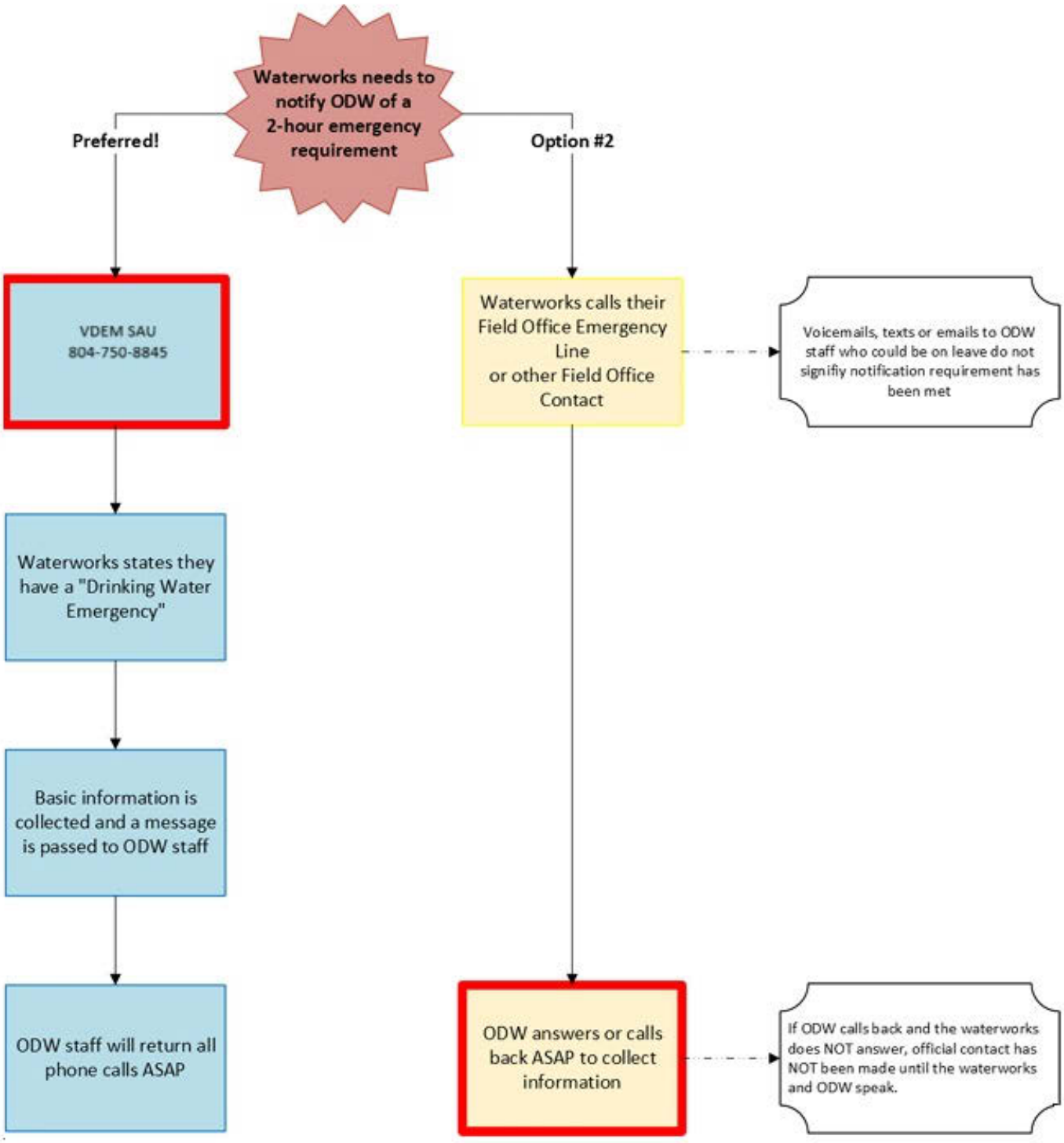
A "widespread disruption of water service" is a loss of water service to: (1) 500 or more service connections for waterworks with 5,000 or more service connections; (2) 10% or more of the waterworks' service connections for waterworks with 500 to 4,999 service connections; (3) 50 or more service connections for waterworks with fewer than 500 service connections; (4) a congregate care living facility (for example, a hospital, long-term care facility, correctional center, or prison); or (5) one or more connections provided by a wholesale waterworks unless the wholesale waterworks owner knows that the loss of water service to a consecutive waterworks will not result in a loss meeting any of the conditions established in (1) through (4). A "loss of water service" means no flow or low flow at the customer's tap caused by no or low pressure in the water distribution system. As a reminder, a water service outage due to planned removal from service, repair, or maintenance of equipment is not an equipment failure and does not need to be reported.

Except for items (4) and (5) in the above paragraph, ODW does not consider a disruption of water service to 49 or fewer connections to be a "widespread disruption of water service" requiring reporting within two hours; however, an owner would still have a duty to report a low or no pressure event within the distribution system to ODW within 24 hours pursuant to 12VAC5-590-570.B of the Waterworks Regulations.

Note: This flowchart is to be used as a tool in decision making, but it is not all encompassing of the full statute. The Owner must exercise its profesional judgement in a reasonable manner to promote coordination with and obtain needed assistance from ODW. If an event is not 2-hour reportable, there may still be 24-hour or monthly operations reporting requirements.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

How Waterworks Report a 2-hour Emergency to ODW



Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

General Types of Breaks/Advisories Needed

(this is a guide and could change based on ODW Field Office Technical Assistance to the Waterworks)

Waterworks **with** Permanent Chlorination (Chart 1 of 2):

Type of Break	General Description	Advisory Needed	Customer Notification Needed	Samples Needed	Customer Flushing Needed?
Type 1	Positive pressure maintained, repair made, no signs of contamination.	No.	No.	No.	No.
Type 2	Positive pressure maintained, possible controlled shutdown, no signs of contamination.	No.	No.	Yes. 1 bacteriological sample downstream. Customers do not need to be notified.	No.
Type 3	Loss of pressure at break w/ possible local depressurization, partial or uncontrolled shutdown, possible contamination.	Possible. Depending on the extent of depressurization	Possible.	If no BWA, 2 bacteriological samples bracketing the break. If BWA issued follow Type 4 guidance.	Yes.
Type 4	Loss of pressure at break with widespread system depressurization, possible/actual contamination.	Yes.	Yes.	Yes. 2 bacteriological samples taken 16 hours apart.	Yes.

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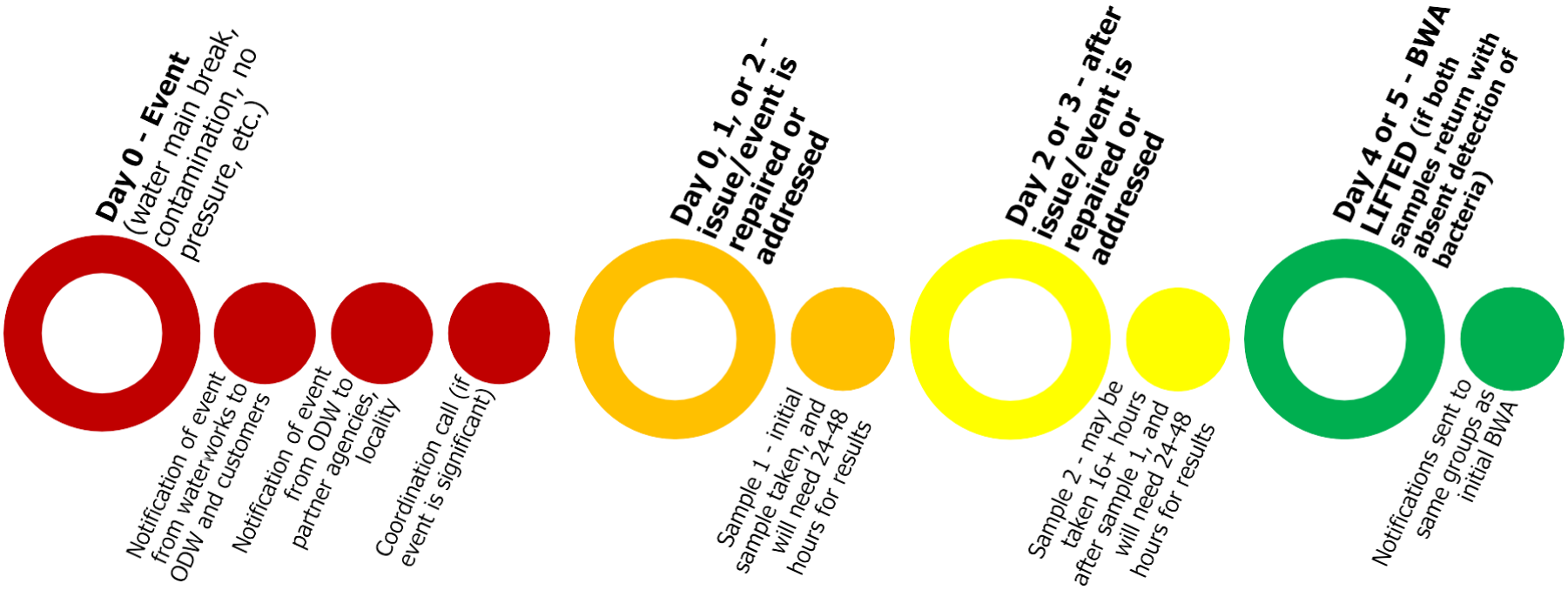
Groundwater Systems **without** Permanent Chlorination (Chart 2 of 2):

Type of Break	General Description	Advisory Needed	Customer Notification Needed	Samples Needed	Customer Flushing Needed?
Type 1	Positive pressure maintained, repair made, no signs of contamination.	No.	No.	No.	No.
Type 2	Positive pressure maintained, possible controlled shutdown, no signs of contamination.	Possible. May be limited to downstream.	Possible	Yes. 1 bacteriological sample downstream. Customers do not need to be notified.	No.
Type 3	Loss of pressure at break w/ possible local depressurization, partial or uncontrolled shutdown, possible contamination.	Yes.	Yes.	Yes. 2 bacteriological samples taken 16 hours apart.	Yes.
Type 4	Loss of pressure at break with widespread system depressurization, possible/actual contamination.	Yes.	Yes.	Yes. 2 bacteriological samples taken 16 hours apart.	Yes.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Boil Water Advisory (BWA) Timeline – Example

(Actual timeline will vary depending on the specific water emergency)



Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

General Recommendations for State or Local Partners During a BWA

General Recommendations for VDH ODW Field Office	**Recommendations for VDH ODW Emergency Services Division**
Provide technical assistance to waterworks and technical assistance when requested by the ODW Emergency Services Division, LHD or other partners.	View initial Reporting Tool notification. Determine with VDEM Regional staff if a Critical Incident Report (CIR) will be issued and coordinate as needed.
Complete online Reporting Tool initial notification within 2 hours of learning of a water emergency. This reporting tool creates the initial notification to many partners, and it is imperative to get done quickly when critical infrastructure is impacted.	Schedule Coordination Call if needed with stakeholders.
Update Reporting Tool as needed.	Coordinate information sharing across agencies and partners. Troubleshoot concerns as they arise from internal and external partners.
Finalize Updated Reporting Tool when event is complete.	Track/document response activities related to the need to create a local Incident Management Team and publish Incident Support Plans.
Consult with ODW Emergency Services Coordinator and ODW Division of Enforcement, Compliance and Policy, when needed.	Perform hotwash/debriefing for significant events to identify points of success and/or gaps for future emergencies.
Recommendations for Locality and/or other Partner Agencies	**Recommendations for VDH LHD**
Be available to provide information to schools, other local government offices and/or share information provided by state agencies to the community	Look at the initial email report to check if any restaurants are affected. If restaurants are affected reach out per local LHD protocol
Consult with regional VDEM staff if resources are needed for the community	Email back on the initial email report regarding restaurant updates as needed.
If available, a reverse 911 notification may be requested. Consider posting signage via various methods in affected area	Provide context about community affected (access or functional needs, language barrier, etc. if known).
Share available information with County Manager/Administration/Elected Officials	Check in with local health department to inquire if they know of any needs for the community
Provide context about community affected (access or function needs, language barrier, etc. if known).	Be prepared to issue advisory in conjunction with VDH ODW IF the waterworks are noncompliant.
Be prepared for a Coordination Call if requested or request a coordination call as you see fit.	Standby for MRC support to disseminate advisories if requested.
Reach out to state agencies proactively with questions/concerns for your community.	Be prepared for a Coordination Call if requested or request a coordination call as you see fit.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

BOIL WATER ADVISORY

Notice to Customers of {INSERT WATERWORKS NAME}

BOIL YOUR TAP WATER

Failure to follow this advisory could result in stomach or intestinal illness.

{DATE}

{INSERT WATERWORKS NAME} advises all customers to boil their drinking water.
The boil water advisory is in effect until further notice.
{SITUATION THAT LED TO BWA BEING NEEDED.}

DO NOT DRINK OR COOK WITH TAP WATER WITHOUT BOILING IT FIRST.
Boiled or bottled water should be used for drinking, beverage, and food preparation, and making ice until further notice. Boiling kills bacteria and other organisms in the water. Boiling is the preferred method to ensure that the tap water is safe to drink.

To boil your water - Bring all tap water to a rolling boil, let it boil for one minute, and let it cool before using, or use bottled water.

If you cannot boil your tap water an alternative method of purification for residents that do not have gas or electricity available is to use liquid household bleach to disinfect water. The bleach product should be recently purchased, free of additives and scents, and should contain a hypochlorite solution of at least 5.25%. Public health officials recommend adding 8 drops of bleach (about ¼ teaspoon) to each gallon of water. The water should be stirred and allowed to stand for at least 30 minutes before use. Water purification tablets may also be used by following the manufacturer's instructions.

Once the Boil Water Advisory has been lifted, residents will be notified through the same methods of communication used to notify of the advisory.

For more information, please contact the {INSERT WATERWORKS CONTACT NAME AND PHONE NUMBER}.

For Frequently Asked Questions about boiling your tap water visit:
Virginia Department of Health – Office of Drinking Water FAQ website.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Boil Water Advisory FAQs

There are several reasons why you may be asked to boil your tap water:

- If tests show that harmful microorganisms could be present in the water
- If the water pressure drops due to equipment failure or power outages
    - Any uncontrolled drop below 20 psi for any amount of time due to a disruption in routine operations
- Due to water main breaks or repairs
- If the water source has been flooded
- Due to any other situations that warrant special action to protect consumers' health.

How will I know when it is safe to drink my tap water?

You will be notified when tests show that tap water is safe to drink. You may be asked to run water to flush the pipes in your home before using your tap water or be given other special instructions. Until you are notified, continue to boil all tap water for one minute before use.

What should I do if I become sick?

See your family physician or healthcare provider. Your doctor may call the Virginia Department of Health - Office of Drinking Water at (804) 864-7500 for information about the boil water notice. Your doctor should notify the local health department if he or she suspects your illness was caused by microorganisms in the water.

Some people may be more vulnerable to contaminants. People with weakened immune systems, such as people with cancer undergoing chemotherapy, organ transplant patients, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be at greater risk from infections. These people should seek advice about drinking water from their health care providers. Guidelines on ways to reduce the risk of infection from microbiological contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

General Information

Boiling the water kills microorganisms such as bacteria, viruses, or protozoans that can cause disease. Boiling makes the tap water microbiologically safe.

How long should I boil the water?

- Bring tap water to a full rolling boil, let it boil for one minute, and let it cool before using.

How do I boil water on the stovetop?

- When boiling water on the stovetop, use manageable-sized pots and do not overfill them. Place the pot on a rear burner if there are small children in the house. Let the water cool before transferring to another container.

Can I boil water in the microwave?

- Yes, tap water can be boiled in the microwave in a microwave-safe container, provided that the water reaches a full rolling boil for one minute. Place a microwave-safe utensil in the container to keep the water from superheating (heating above the boiling point without forming steam or bubbles).

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Boiling Water for Consumption

Do I have to boil the tap water used to make beverages?
- Yes. Boil all the tap water you use for making coffee, tea, mixed drinks, Kool-Aid or any beverage made with water. In addition, all tap water used for making ice for consumption must be boiled.

Should I boil the tap water used to make baby formula?
- Yes. Only use boiled tap water or bottled water for mixing formulas for your baby.

Should I boil the tap water used in cooking?
- All tap water used in cooking must first be boiled for one minute unless the cooking process involves boiling for one minute or more.

Do I need to boil water before using it to wash vegetables that will be eaten raw?
- Yes. Boil all the tap water you use for washing raw vegetables.

Should I boil the tap water I give to my animals or pets?
- You can boil the tap water you give to the animals in your care. Your veterinarian can tell you if this precaution is necessary.

Boiling Water for Hygiene and Cleaning

Is it necessary to boil water to be used for hand washing? Is any special soap necessary?
- No. It is not necessary to boil the tap water used for washing hands, and no special soaps are necessary. Be sure to scrub your hands with soap and water for at least 20 seconds and rinse them well under running water.
- If soap and water are not available, you may use an alcohol-based hand sanitizer that contains at least 60% alcohol.

What about my bath water or shower?
- There is no need to boil water for bathing or showering. Adults, teens, and older children can shower or bathe, though they should avoid getting water in their mouth or swallowing the water. Infants and toddlers should be sponge bathed. No special soaps are necessary.
- However, care should be taken to prevent water from getting into deep open or post-surgical wounds. Consult your physician or health care provider for wound care instructions.

What about shaving?
- Yes, you can shave as usual.

Should I boil tap water for brushing my teeth?
- Yes. Any tap water that might be swallowed should be boiled before use. Alternatively, you may use bottled water.

Do I have to boil water to wash my dishes?
- No. Wash and rinse the dishes as you normally would using hot water. Add a tablespoon of household bleach such as Clorox to a sink full of warm tap water and soak the rinsed dishes in the water for at least one minute. Allow dishes and utensils to air dry completely before reuse.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

- You may wash dishes in an electric dishwasher but be sure to use it with its heating elements turned on. If your dishwasher reaches a final rinse temperature of at least 150 degrees Fahrenheit (66 degrees Celsius) or if it has a sanitizing cycle option, it is generally safe to use. If you are unsure if your dishwasher has these features, after a washing cycle, you may rinse your dishes in a sink full of warm tap water with a tablespoon of bleach added and air dry completely for extra precaution.
- You may also opt to use disposable plates, cups, and utensils instead.

Do I need to use boiled water for washing clothes?
- No. It is safe to wash clothes as usual.

Do I need to use boiled water for flushing the toilet?
- No.

Safety of Alternatives to Boiled Tap Water

Can I use bottled water instead of boiling tap water?
- Yes. Bottled water can be used for all the situations where boiled tap water is recommended above. Be sure that the bottled water is from a reliable source.

Do I still have to boil tap water if I have a water treatment device such as a filter?
- Yes. Devices designed to improve the taste, odor, or chemical quality of the water, such as activated carbon filters, will not remove harmful microorganisms from the tap water. Boil the tap water to make sure it is safe.

Is it safe to use water or ice dispensed from my refrigerator?
- No. Do not use water from any appliance connected to your water line, such as ice and water from a refrigerator. Only boiled or bottled water should be used for consumption.

Can I haul water from my neighbor's well or spring for drinking purposes?
- No. You should only use water from an approved, tested source. Without routinely testing the water there is no way to know if the water is safe to drink.

What should I do if there is a power outage, and I can't boil my tap water?
- In an emergency, boiling is the preferred method for making sure tap water is safe to drink. The following are acceptable alternatives if you cannot boil your tap water because of a power outage or loss of gas service:
- Use bottled water.
- Use liquid household bleach to disinfect tap water. The bleach product should be recently purchased, free of additives and scents, and should contain a hypochlorite solution of at least 5.25%. If the water is clear, add 8 drops of bleach (about ¼ teaspoon) to each gallon of water. Add twice the amount of bleach (16 drops, or ½ teaspoon) to each gallon if the water is cloudy. After adding bleach, the water should be stirred and allowed to stand for at least 30 minutes before use.
- Water purification tablets may also be used to disinfect tap water by following the manufacturer's instructions.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Where can I get more information?

Personal Preparation and Storage of Safe Water: CDC provides guidance on the amount of water needed for good health, as well as how to prepare and store safe water before and during an emergency.
Hygiene and Handwashing: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
A Guide to Water Filters: CDC maintains a guide for filters that remove *Cryptosporidium* or *Giardia*.
EPA Safe Drinking Water Hotline: 1-800-426-4791
Consumer Information: EPA provides information and guidance about drinking water quality, emergencies, contaminants, public health issues, and treatment and storage.
Water system: [name, title, phone, e-mail, website]
State or local public health department: [name, title, phone, e-mail, website]
Primacy Agency: Virginia Department of Health – Office of Drinking Water, (804) 864-7522, https://www.vdh.virginia.gov/drinking-water/

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Guidelines for Food Establishments Under a Boil Water Advisory

All VDH food facilities are affected if there is a boil water advisory (BWA) in your area. Contact your local health department to learn how the BWA impacts your operations and **if** you can stay open.

DURING A BWA, a manager or person in charge shall:

1. Check the safety of the food, water, and ice;
2. Follow the guidance in this table or close until the BWA ends and the recovery steps are complete; **AND**
3. Follow all requirements for flushing lines and clean and sanitize all food contact surfaces prior to resuming normal operations when the BWA is lifted.

SAFE water is only:

1. Commercially bottled water,
2. Hauled water from a waterworks regulated by the Office of Drinking Water (ODW) that is not under a BWA or from a private home. The water shall be transported in a covered, food-grade, sanitized container, **OR**
3. Boiled water
   - ➔ Boil water by bringing tap water to a rolling boil for **at least one minute** on a stovetop, in an electric kettle, or in a microwave using a microwave-safe container. For large amounts of water, make sure all parts of the water are at a full boil for one minute; this could take as long as 20-30 minutes depending on how much water and how big the pot is.

Use SAFE water to cook/ prepare food, ice, and beverages, clean food contact surfaces, and wash fruits and vegetables.	**Making food with water** Throw away any ready-to-eat food made with or touched by unsafe water. *Alternative*: Make ready-to-eat food with SAFE water.
Handwashing and Hygiene (Employees and Patrons) Only use SAFE water for handwashing. Set up a handwashing station with a container of warm water (85-100ºF) that has a lever spigot, bucket to catch water, hand soap, and paper towels. Place these stations in all areas where food is handled and in all restrooms. Put up a sign telling customers not to use tap water for drinking or brushing teeth. *Alternative*: If you are only serving **pre-packaged foods**, you may use chemically treated towelettes. NOTE: An operational handwashing station must be provided for use in the immediate area of a toilet facility.	**Utensil Washing and Cleaning** Use only SAFE water to clean and sanitize equipment, utensils, and tableware in a three-compartment sink. "Wash" shall be at 110ºF. Use proper sanitizer concentration: ○ Chlorine- 50 to 100 parts per million (ppm) ○ Quaternary ammonia (QUAT)- 200-ppm (or per manufacturer label) ○ Iodine- 12.5-ppm *Alternative (strongly recommended):* use disposable, single-service utensils and tableware. NOTE: Do not use dishwashing machines connected to tap water.
Washing/soaking produce Do not use tap water; only use SAFE water. *Alternative:* Use pre-washed packaged produce or frozen/canned fruits and vegetables.	**Thawing frozen foods** Do not use tap water to thaw frozen foods; use only SAFE water. *Alternative:* Thaw frozen food in the refrigerator or microwave.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Making drinks with water	**Making Ice**
Do not use equipment connected to tap water, such as post-mix drink machines, auto-fill coffee makers, or instant hot water heaters. *Alternative:* Make drinks with SAFE water.	Do not make ice. Turn off ice machines and throw away existing ice. *Alternative*: Use store-bought ice.

Guidelines for Lodging and Camping Establishments Under a Boil Water Advisory

All VDH-permitted establishments offering overnight accommodations are affected if a boil water advisory (BWA) is issued in your area. This includes hotels, motels, bed-and-breakfasts, hostels, summer camps, campgrounds, or RV parks. Contact your local health department to learn how the BWA impacts your operations and **if** you can stay open.

Lodging and camping facilities can stay open if they provide a SAFE drinking water source for guests. **Facilities that offer food or ice should follow the Emergency Guidelines for Food Establishments Under a Boil Water Advisory.**

SAFE water is only:

1. Commercially bottled water,
2. Hauled water from a waterworks regulated by the Office of Drinking Water (ODW) that is not under a BWA or from a private home. The water shall be transported in a covered, food-grade, sanitized container, **OR**
3. Boiled water
   - ➔ Boil water by bringing tap water to a rolling boil for **at least one minute** on a stovetop, in an electric kettle, or in a microwave using a microwave-safe container. For large amounts of water, make sure all parts of the water are at a full boil for one minute.

The facility owner or operator must put up signs in the facility entrances, hotel/motel rooms, cabins, kitchens, front desk areas, and public restrooms with these instructions:

1. Do not drink tap water or use it to make coffee or baby formula, brush teeth, or bathe infants
2. How to get SAFE drinking water

Handwashing	**Personal Hygiene**
It is recommended use SAFE water (in a temporary or portable setup) for handwashing. *Alternative:* Wash hands with soap and tap water and rinse well under running water. If available, use hand sanitizer or hand wipes with at least 60% alcohol. If handwashing is unavailable, patrons can also use hand sanitizer or alcohol wipes alone.	Only use SAFE water to brush teeth. Adults, teens, and older children can shower or bathe, though they should avoid getting water in their mouth or swallowing the water. Infants and toddlers should be sponge bathed. Patrons should consult with their physician or health care provider for wound care instructions.
Pools and Hot Tubs/ Spas	**Tap Water**
Close aquatic facilities until the BWA has been lifted and the recirculation system has been allowed to turnover the full volume of the venue after the BWA has been lifted.	Tap water can be used for toilet flushing, floor cleaning with disinfection, and laundry. Patrons should follow the BWA on how to wash dishes in lodging facilities that have kitchens or kitchenettes.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Recovery Operations (Food, Lodging, & Camping) After a Boil Water Advisory

Only your permitted Virginia Public Waterworks or the Virginia Department of Health can say when a BWA has ended.

Flush pipes/faucets BEFORE DOING ANYTHING ELSE

Follow directions from your water authority, or use this general guidance (complete all 4 steps):

1. Run outside taps for about 10 minutes to bring fresh water from the main water line to your property.
2. Start with the cold-water faucet closest to where the water enters your building. Run all cold-water faucets for at least 5 minutes to bring fresh water into your plumbing. Begin on the lower floors and work your way to the upper floors.
3. Remove and clean faucet aerators.
4. Flush hot water tanks.

These flushing steps are necessary even if the water was turned off during the BWA. Note: the water authority may direct that flushing is unnecessary due to the nature of the BWA.

Dishwashing	**Equipment**
Clean and sanitize dishwashing machines, three compartment sinks, buckets, food contact surfaces, utensils, and other equipment before use.	**Flush, clean, and sanitize** all equipment connected to tap water according to the manufacturer's instructions. Replace all the filters. Examples- post-mix beverage machines, spray misters, coffee or tea urns, ice machines, glass washers, dishwashers
Water filter systems	**Fountain dispensers and soda guns**
Replace filters in equipment such as water chillers, ice machine, etc. Run water softeners through a regeneration cycle. Flush drinking fountains by running continuously for at least five minutes.	Run each beverage valve on every dispenser for at least four minutes. Take off the dispensing nozzles and removable parts, then clean and sanitize them. Clean and sanitize ice bins.
Food	**Ice machines**
Make sure all food is still within its use-by date. Throw away any food and drinks made with contaminated water.	Follow the manufacturer's instructions to flush and clean ice machines or have a service provider clean the equipment. Example cleaning/sanitizing procedure: ▪ Throw out any remaining ice and replace any filters ▪ Flush the water line to the machine.

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Emergency Services Planner
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	▪ Close the valve on the water line behind the machine and disconnect the water line from the machine. ▪ Open the valve, run water through the valve for 10-15 minutes, and dispose of the water. ▪ Close the valve, reconnect the water line to the machine inlet, and reopen the valve. ▪ Flush the water lines in the machine. ▪ Replace all filters not designed to be cleaned in place. ▪ Clean and sanitize all parts and surfaces that contact water/ice, following the manufacturer's instructions. ▪ Turn on the machine; throw away the first three batches of ice.

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Lifting a Boil Water Advisory IF Recommended by Waterworks

Boil Water Advisory to Consumers of {INSERT WATERWORKS NAME} LIFTED

As of {Insert Date}, the Boil Water Advisory has been lifted for homes in {INSERT WATERWORKS NAME, COMMUNITY NAME, COUNTY}.

The Boil Water Advisory was issued on {INSERT DATE} after service interruption and loss of water pressure to customers of {INSERT WATERWORKS NAME, COMMUNITY NAME, COUNTY}.

A series of bacteriological samples were collected and sent to a state certified lab. All samples collected on {INSERT DATE 1 AND DATE 2} were absent of both total coliform and E. coli bacteria in the area where the Boil Water Advisory is currently being lifted.

Residents can safely resume using their household water as normal.

For more information, please contact {INSERT WATERWORKS CONTACT FROM INITIAL BWA}.

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Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
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ONLY USE THESE INSTRUCTIONS IF DIRECTED TO BY YOUR WATER UTILITY

Flushing Instructions AFTER an Advisory is Lifted

Follow these instructions to flush the water throughout your home, restaurant, place of business or other location once an advisory has been lifted.

1. Run outside taps for approximately 10 minutes to bring fresh water from the water main to the property.
2. If you have any cartridge filtration systems treating the water coming into the house, replace the filter(s) before consuming.
3. If you have a water softener treating the water coming into the house, perform a regeneration/backwash cycle to bring fresh water from the property to the treatment system.
4. Run all cold-water faucets in your home for one minute to bring fresh water from the property or treatment systems into the cold-water plumbing inside the house.
    a. Start at the faucet closest to the connection of the water line into the house and proceed to faucets on lower levels of the house and then upper levels of the house.
5. Clean any aerators on faucets.
6. Run the hot water in a tub for 10 minutes to replace the water in the hot water heater.

Contact: Benjamin Chayette
Emergency Services Planner
Benjamin.chayette@vdh.virginia.gov
(686) 209-4577

Putting it all Together – BWA One Pager



Boil Water Advisory Informational

What is a Boil Water Advisory?

A Boil Water Advisory (BWA) is issued to protect public health from waterborne infectious agents, such as bacteria, that could be or are known to be present in drinking water. Communications are issued when an event has occurred within the water system that has, or could have, introduced microorganisms that have the potential to make customers sick.

Customers should adhere to the following actions when a Boil Water Advisory is Issued:

- Bring all water to a rolling boil for at least one minute and let it cool before use.
- Use boiled or bottled water for drinking, making ice, brushing teeth, and all food preparation activities, including infant formula mixes.
- Continue to boil water until you are notified that the boil water communication has been lifted.

For additional information on boiling water, visit: https://www.vdh.virginia.gov/drinking-water/boil-water-faqs/.

Who issues a Boil Water Advisory?

A Virginia Waterworks system recognizes there is an issue with the drinking water and issues a boil water advisory to customers within 2 hours.

- **For a listing of all active Virginia Public Waterworks, city/county, system service connections, system population, name of owner, and address of owner, visit:** https://www.vdh.virginia.gov/drinking-water/information-for-consumers/listing-of-waterworks-and-owners/.

Boil Water Advisory Communications List:

Recommendations for VDH Local Health Districts	Recommendations for Locality and/or other Partner Agencies	Lifting a Boil Water Advisory
Look at the initial email report to check if any restaurants are affected. • If restaurants are affected, reach out per local health district protocol.	Be available to provide information to schools, other local government offices and/or share information provided by state agencies to the community.	The BWA is lifted, when directed by your utility you MAY be asked to flush your water lines.
Email back on the initial email report restaurant updates as needed.	Consult with regional VDEM staff if resources are needed for the community.	Below are flushing instructions for your home if recommended: 1. Run outside taps for approximately 10 minutes to bring fresh water from the water main to the property. 2. If you have any cartridge filtration systems treating the water coming into the house, replace the filter(s) before consuming. 3. If you have a water softener treating the water coming into the house, perform a regeneration/backwash cycle to bring fresh water from the property to the treatment system. 4. Run all cold-water faucets in your home for one minute to bring fresh water from the property or treatment systems into the cold-water plumbing inside the house. Start at the faucet closest to the connection of the water line into the house and proceed to faucets on lower levels of the house and then upper levels of the house. 5. Clean any aerators on faucets. 6. Run the hot water in a tub for 10 minutes to replace the water in the hot water heater.
Provide context to community affected (access or function needs, language barrier, etc., if known).	If available, a reverse 911 notification may be requested.	
Check in with the local health department to inquire if they know of any needs for the community.	Share available information with County Manager/Administration/Elected Officials.	
Be prepared to issue advisory in conjunction with VDH ODW IF the waterworks is noncompliant.	Provide context to community affected (access or function needs, language barrier, etc. if known).	
Standby for MRC support to disseminate advisories if requested.	Be prepared for a Coordination Call if requested or request a coordination call as you see fit.	
Be prepared for a Coordination Call if requested or request a coordination call as you see fit.	Reach out to state agencies proactively with questions/concerns for your community.	

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Emergency Services Planner
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(686) 209-4577

Glossary of Terms

Bacti	Bacteriological sampling for Total Coliform and E. coli
BWA	Boil Water Advisory
CA	Commonwealth's Attorney
CDC	Centers for Disease Control and Prevention
CIR	Critical Information Report – VDEM internal report
Customer	A person who consumes or uses drinking water from a waterworks
DCLS	Division of Consolidated Laboratory Services (State Lab)
DND	Do Not Drink advisory
DNU	Do Not Use advisory
EM	Emergency Manager
EPA	Environmental Protection Agency
Field Office (FO)	ODW has six regional Field Offices throughout the Commonwealth
FOUO	For Official Use Only
LHD	Local Health District
MRC	Medical Reserve Corps
NOAV	Notice of Alleged Violation
OAG	Office of the Attorney General
PIO	Public Information Officer
SAU	Situational Awareness Unit
Toolkit	Water Emergency Toolkit (this document)
VDACS	The Virginia Department of Agriculture and Consumer Services
VDEM	The Virginia Department of Emergency Management
VDH ODW	Virginia Department of Health Office of Drinking water
Waterworks	A public or private water utility that serves at least 15 connections or 25 persons.

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