

	West Virginia Department of Health and Human Resources				
	MANUAL OF ENVIRONMENTAL HEALTH PROCEDURES				
Section	Drinking Water	Date	September, 2009	Procedure #	DW-37
Subject	Public Notices for Public Water Systems			Page	1 of 6

On July 1, 2002, the West Virginia Bureau for Public Health (BPH) adopted the federal public notice rule, which significantly alters the public notification procedures that have historically been used. Many acute violations require a Public Notice (PN) that tells the water consumer to boil the water prior to use. Other PN's, however, will suggest that the public purchase bottled water, as boiling will intensify the concentration of some chemical contaminants, such as nitrate.

Historically, BPH or the Local Health Department (LHD) has used a Boil Water Order (BWO) or Advisory (BWA) when a state violation of the rules had occurred, or when water quality may have been threatened as a result of water facility interruptions, such as a major water line distribution main break. It is recognized that the general public may not realize the difference between a PN, a BWO, or a BWA. Effective immediately, a PN is considered to be a result of any violation of a state or federal rule; whereas a Boil Water Notice (BWN) is related to a major health concern not necessarily associated with a specific rule violation (i.e. BWO and BWA issuance will no longer occur).

Federal Rules sometimes require that the PN instruct the public to boil the water prior to using. This policy will address only Public Notice Procedures related to violations of any rule or regulation related to public water systems. Other BWN's and Do Not Use (DNU) notices will be covered in a separate but related policy (DW-23).

The following is a list of acronyms that are used throughout this memorandum:

- BPH - Bureau for Public Health
- BWA - Boil Water Advisory
- BWO - Boil Water Order
- BWN - Boil Water Notice
- CO - Central Office
- DNU – Do Not Use
- DO - District Office
- EED – Environmental Engineering Division
- EPDS – Entry Point to the Distribution System
- GWUDI - Ground Water Under the Direct Influence of surface water
- IESWTR - Interim Enhanced Surface Water Treatment Rule
- LHD – Local Health Department
- LT1ESWTR - Long Term 1 Enhanced Surface Water Treatment Rule
- MCL - Maximum Contaminant Level
- MRDL - Maximum Residual Disinfectant Level
- NTU - Nephelometric Turbidity Units
- PN - Public Notice

PSA - Public Service Announcement
PWS - Public Water System
SDWIS – Safe Drinking Water Information System
SWTR - Surface Water Treatment Rule
TCR – Total Coliform Rule
TT - Treatment Technique

PUBLIC NOTICES - GENERAL

Generally, the federal PN rule requires that a PN be distributed to the water users for any violation of the federal rules, and allows the state to adopt the same format for any state rules. Three tiers of a PN exist. A Tier 1 PN is to be issued for acute violations, or those violations of water quality standards that are of an immediate concern. A Tier 2 PN is required for other water quality violations, and Tier 3 PN is required for monitoring and/or reporting violations.

If a PWS has a significant population (more than 10% of any one nationality of the retail customers) that cannot read or understand English, the PWS will be required to distribute the PN in the understood language of that nationality.

If a PWS has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the DO may allow the system to limit distribution of the PN to only persons served by that portion of the PWS that is out of compliance. Permission by the DO for limiting distribution of the PN must be granted in writing, with a copy of the permission letter concurrently forwarded to CO.

Tier 1 Public Notices

The federal PN rule directly identifies some violations that will require a Tier 1 notification schedule (within 12 hours of the PWS becoming aware of the violation). Additionally, our office has identified state rules that will also require a Tier 1 notification. Tier 1 violations are generally considered situations or violations that have the potential of causing an immediate public health threat. These violations are as follows:

1. Acute total coliform rule (TCR) violation. [Applicable to all systems.]
2. An exceedance of the MCL for nitrate, nitrite, or total nitrate and nitrite.
3. An exceedance of the MRDL for chlorine dioxide in the distribution system. [Applicable to any system that uses chlorine dioxide.]
4. Violation of the turbidity treatment technique (TT) standard for the combined filter effluent identified in the surface water treatment rules (SWTR, IESWTR, LT1ESWTR). [Applicable to any surface and GWUDI systems.]
5. Occurrence of a water disease outbreak or other waterborne emergency within the PWS. [Applicable to all systems.]
6. An inadequate chlorine residual in the distribution and/or at the entry point to the distribution system (less than 0.2 mg/L), a State only violation.
7. No certified operator, a State only violation for transient systems.

8. Other situations with significant potential to have serious adverse health effects on human health as determined by OEHS (including, but not limited to, those situations listed in DW-23, Boil Water Notices for Public Water Systems), on a case-by-case basis. [Applicable to all systems.]

Each of the above violations or situations requires PWS consultation with the DO on the best method(s) to use in informing the public of the emergency. Attached is a form for the DO to submit to the CO to document that the consultation occurred within the 12-hour time frame.

Procedures for Notification of Tier 1 Public Notices

1. **Total Coliform Rule** - Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system [as specified in 40CFR141.63(b)], or when the water system fails to test for fecal coliforms or E. Coli when any repeat sample tests positive for total coliform [as specified in 40CFR141.21(e)]. Coliform testing must be performed by a certified laboratory.
 - a. Routine sample found to be total coliform present, fecal and/or E. coli absent:
No action will occur until repeats are performed. If repeat samples and/or district investigation confirms the acute violation, the system will issue PN with 12 hours of confirmation. The DO may issue a health department BWN if the DO becomes aware of the acute violation and the PWS does not consult with the DO.
 - b. The DO or the PWS may issue a BWN for the area that may be affected if the routine sample is found to be total coliform present, with fecal and/or E. Coli present:
 - i. Repeat samples and/or field investigation indicates invalidation of coliform positive—The DO or PWS rescinds BWN and no violations are issued.
 - ii. Repeat samples and/or field investigation confirms acute violation. [repeat sample(s) are coliform present]:
 - (1) If the PWS issued the original BWN - no action required (PWS issued BWN meets all the requirements of the PN).
 - (2) If the DO issued the original BWN, a PN must be issued by the PWS or a PN violation will be issued (a DO issued BWN does not meet all the requirements of the PN rule).
 - iii. Failure of the PWS to conduct repeat monitoring—Tier 2 PN required (30 day notice)—time begins based on the DO determination of the earliest possible repeat collection date. CO will consult with DO when repeat monitoring violations occur to confirm the latest PN date.
2. **Nitrate/Nitrite MCL** - Violation of MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in 40CFR141.62; or when the water system fails to take a confirmation sample within 12 hours of the system's receipt of the first sample showing an exceedance of the nitrate or nitrite MCL, as specified in 40CFR141.23(f)(2). Nitrate

- and nitrite testing must be performed by a certified laboratory.
- a. System contacts DO within 12 hours
 - i. DO documents contact to the CO, and MCL violation issued by the CO.
 - b. System fails to contact DO within 12 hours:
 - i. An MCL and PN violation may be issued by the CO even if results were received by state personnel.
 - ii. The DO may issue a Public Service Announcement (PSA).
3. Chlorine Dioxide MRDL - Violation of the MRDL for chlorine dioxide, as defined in 40CFR141.65(a), when one or more samples taken in the distribution system, the day following an exceedance of the MRDL at the entry point to the distribution system (EPDS) exceeds the MRDL, or when the water system does not take the required samples in the distribution system, as specified in 40CFR141.133(c)(2)(I). Chlorine dioxide testing must be performed by a party approved by the state (i.e. certified operator). *If the state determines that the operator failed to report an acute MRDL, or failed to obtain required samples in the distribution system following an exceedance at the EPDS, this may result in immediate suspension/revocation of the operator's certification.*
- a. System contacts the DO within 12 hours—The DO documents contact to the CO, and an MRDL violation is issued by the CO.
 - b. System fails to contact DO within 12 hours—MRDL and PN violations issued by the CO when results received by state personnel, and the DO may issue a PSA.
4. Surface Water Treatment Turbidity TT - Violation of the SWTR, IESWTR, or LT1ESWTR TT requirement resulting from a single exceedance of the maximum allowable turbidity limit, [1 NTU for conventional or direct filtration plants; 5 NTU for Diatomaceous earth and slow sand filtration plants; and as assigned by EED for alternative filtration plants]. This occurs when the primacy agency determines, after consultation, that a Tier 1 notice is required or when consultation does not take place within 12 hours after the system learns of the violation. Two (2) or more consecutive turbidity values over the limit are considered a Tier 1 violation. Turbidity testing must be performed by a party approved by the state (i.e. certified operator - Class II or higher).
- a. System contacts DO within 12 hours—The DO documents contact to the CO, and a TT violation issued by the CO.
 - b. System fails to contact DO within 12 hours—TT and PN violation issued by the CO when results received by state personnel, and DO may issue a BWN.
5. Occurrence of a waterborne disease outbreak as defined in 40CFR141.2, or other waterborne emergency (such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water

- contamination).
- a. Waterborne disease outbreak
The DO will know of this condition and will be contacting the PWS advising them of the problem and PN requirements.
PN violation issued by the CO if PN not performed by the PWS, then the DO may issue a BWN.
 - b. Other waterborne emergency
 - i. PWS contacts the DO within 12 hours:
DO documents contact to the CO and the PWS has performed the PN, no violation issued.
 - ii. System fails to contact DO within 12 hours:
 - (1) DO discovers that an emergency occurred and was not contacted, document in writing to CO outlining why the DO believes that a PN should have been issued within 12 hour. If CO concurs, a PN violation may be issued.
 - (2) DO may issue a PSA or BWN.
6. An inadequate chlorine residual in the distribution system and/or at the entry point to the distribution system (less than 0.2 mg/L).
- a. A problem at the entry point to the distribution system may be easily correctable. The DO, upon discovery, will immediately contact the operator on duty or the administrative contact, and upon investigation and attempts to correct are unsuccessful, the DO representative and/or PWS contact will investigate to determine the extent of the problem within the distribution system so that a limited portion of the PWS may be placed on the BWN. If after investigation, the limits of the problem are still indeterminate, the BWN should be placed on the entire PWS.
 - b. If inadequate chlorine residual is found at the entry point to the distribution system, if there is no evidence to the contrary, the DO should assume there is also inadequate chlorine residual throughout the distribution system, and immediately require a BWN be placed on the entire PWS and any consecutive systems.
7. No properly certified operator
8. Other situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the OEHS or the LHD on a case-by-case basis (including, but not limited to, those situations listed in DW-23, Boil Water Notices for Public Water Systems).
9. The procedure to notify the CO of BWNs, PSAs, and rescinds are as follows:
- a. An e-mail message is to be sent simultaneously to the following individuals:
 - Director of the Environmental Engineering Division
 - District Office Coordinator

- Office Assistant to the District Office Coordinator
 - Data Management Section Supervisor
- b. One hardcopy is to be mailed to the Data Management Section Supervisor which will be used for data entry into SDWIS.
 - c. DO personnel should notify other parties listed in DW-23, as appropriate (county health department, affected system, etc.).

Procedures for Notification of Tier 2 Public Notices

A Tier 2 PN is generally required when a water quality standard has not been met, but may not be an immediate health threat. The federal rules allow systems to request an extension to perform the Tier 2 PN beyond the standard 30 days from the date the PWS becomes aware of the violation. An extension to perform the Tier 2 PN beyond 30 days can be granted (not to exceed 60 days) for good reason, by the DO if the request is submitted in writing. The DO shall respond, in writing, within 10 days of receipt of the request. One good reason would be due to the timing of the violation and the distribution of the water bills.

Beyond the federal rules, the following state violations have been identified as requiring PN under the Tier 2 time frame:

1. Failure to obtain a construction permit from EED prior to commencing construction.
2. Failure to have a cross-connection control program in place.
3. Failure to respond to a 45 day sanitary survey response requirement.

Procedures for Notification of Tier 3 Public Notices

A Tier 3 PN is required to be performed within 365 days after the PWS becomes aware of the violation. Any state violation not listed above will also require a Tier 3 PN response.

References [WV 64 CSR 3, Public Water Systems](#)
[40 CFR Part 141, Subpart Q, The Public Notification Rule](#)
[DW-18, Guidance for Public Facilities Affected by Boil Water Notices](#)
[DW-23, Boil Water Notices for Public Water Systems](#)

History Replaces original memo of May 26, 2009.

Attachments Sample Health Department Boil Water Notice
Sample Health Department Public Service Announcement
Sample Utility Issued Boil Water Notice
Sample 12-Hour Notification Form

HEALTH DEPARTMENT BOIL WATER NOTICE

DATE: _____

TIME: _____

A Boil Water Notice has been issued to customers of the _____
(Water System Name)

Public Water System (PWSID _____) serving the area of _____
(Area served by Water System)

All customers should boil water used for drinking, cooking, bathing, and brushing teeth until further notice. Water should be brought to a rolling boil for at least one minute before using.

- No Disinfectant Residual in the distribution system.
- Microbiological Contamination
- Operational Failure or Emergency
- No Operator
- Other _____

You will be notified when the Boil Water Notice has been lifted. For further information, please

Contact _____
(State/Local Health Department)

Issued by:

Name

Representing

Telephone: _____
E-mail: _____
Fax: _____
Date: _____

Rescinded by:

Name

Representing

Telephone: _____
E-mail: _____
Fax: _____
Date: _____

**HEALTH DEPARTMENT
PUBLIC SERVICE ANNOUNCEMENT
DRINKING WATER WARNING**

Sampling results received _____ showed levels of _____ above
(Date) (Contaminant) the State standard.

What should I do?

DO NOT BOIL THE WATER. Boiling the water may increase the concentration of contaminants that may be in the water. Bottled water should be used until you receive notification that the Drinking Water Warning has been lifted.

You will be notified when levels have been reduced to below the State standard. For further information, please contact _____.
(State/Local Health Department)

Issued by:

Name

Representing

Telephone: _____
E-mail: _____
Fax: _____
Date: _____

Rescinded by:

Name

Representing

Telephone: _____
E-mail: _____
Fax: _____
Date: _____

UTILITY ISSUED BOIL WATER NOTICE

BOIL YOUR WATER BEFORE USING

On _____, a water problem occurred _____,
(Date) (Location)
causing contamination of your water. The areas that are affected are as follows:

Entire Water System or Other _____
(Area of Water System)

CONDITIONS INDICATE THERE IS A HIGH PROBABILITY THAT YOUR WATER IS CONTAMINATED. TESTING HAS NOT OCCURRED TO CONFIRM OR DENY THE PRESENCE OF CONTAMINATION IN YOUR WATER.

What should I do?

- **DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST.** Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, bathing, and food preparation **until further notice**. Boiling kills bacteria and other organisms in the water.

What happened? What is being done?

(Describe the corrective action)
We will inform you when you no longer need to boil your water. We anticipate resolving the problem within _____.
(Estimated time frame)

For more information, please contact _____ at _____
(Contact Name) (Telephone number)

or _____.
(Mailing Address) General guidelines on ways to lessen the health risk are available from the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by _____
(Water System Name)

State Water System ID#: _____ Date distributed: _____

12-HOUR NOTIFICATION

(Must be sent to Central Office within 7 days of consultation)

Date: _____

1. PWSID No.: WV _____

2. PWS Name: _____

3. PWS Representative Name & Title: _____

4. Violation:
- Total Coliform
 - Nitrate
 - Chlorine Dioxide
 - Excess Turbidity
 - Waterborne
 - No Certified Operator at Surface/GWUDI System
 - No chlorine residual detected
 - Other

5. Approximate date violation occurred: _____

6. Time and Date PWS became aware of violation:

_____ (Time) _____ (Date)

7. Time and Date PWS contacted you:

_____ (Time) _____ (Date)

8. Method agreed upon to notify public (check all that apply):
- Appropriate Broadcast media
 - Hand-delivery
 - Posting
 - Other

9. Comments (include information here on request for limited distribution and your reasoning why it should be approved/denied. Also any other information that you consider important in the consultation):

_____ (District Representative Name)

_____ (Date)

_____ (Print Name)