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Control and Prevention
An Office of the
Department of Health and Human Services

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MAINE DRINKING WATER PROGRAM (DWP) POLICY FOR ISSUANCE AND REMOVAL OF BOIL WATER ORDERS

PURPOSE: This policy documents the issuance and removal of Boil Water Orders. Pursuant to 22 M.R.S.A., Section 2614, a boil water order may be issued when in the judgment of the Drinking Water Program (“DWP”), a threat to the public may exist from the presence of pathogenic microorganisms in a public water system. The following policy was developed by the DWP to administer this statutory requirement.

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SCOPE: This policy applies to DWP Staff’s decision-making and actions related to issuing and removing boil water orders to Maine public water systems.

ORIGINATOR/OWNER: Nate Saunders was the owner of this Policy. The Roles & Responsibilities Subgroup (Denise Douin, Tera Pare, Amilyn Stillings, and Scott Whitney), as well as Jennifer Grant and Greg DuMonthier developed revisions to this policy in 2008.

DEFINITIONS: **BWO** = Boil Water Order; **DWP** = Drinking Water Program; **FIT** = Field Inspector; **CET** = Compliance Officer; **PWS** = Public Water System; **HIP** = Health Inspection Program; **EPI** = Epidemiology; **MHB** = Manufactured Housing Board

RESPONSIBILITIES: Responsibilities apply to DWP staff who determine that a BWO should be issued and announced (or removed and announced) to the DWP Distribution List and/or to the general public.

POLICY:

I. DEFICIENCIES REQUIRING A BOIL WATER ORDER

1. Acute bacteria violation (fecal and/or E. coli present - issued after recheck samples are taken) or repeated nonacute bacteria violations;
2. Turbidity MCL violation (turbidity above 5.49 NTU);
3. Inadequately treated (lack of filtration or disinfection) surface water entering system;
4. System without water or with negative pressure zones (see Appendix A);
5. Non or malfunctioning disinfection on a PWS required by the DWP to disinfect;

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6. Dead animals (mice, rats, birds, etc.) observed in any groundwater source;
7. System failed to properly report sample results as required, and chronic contamination has occurred; and
8. Equipment failure resulting in inadequate disinfection and/or filtration of a surface water supply not immediately repairable.

II. PROVIDING PUBLIC NOTIFICATION

When a Public Water System is issued a boil water order, the PWS shall appropriately notify affected consumers within 24 hours of its issuance. Notification shall be made with the most recently approved *Boil Water Order* notice. Modifications to the notice must be approved by the DWP prior to distribution. Notification may be made through radio, television, daily newspaper, or public address methods for community systems where hand delivery is impractical. In some instances, the federal Environmental Protection Agency (EPA) may require additional public notification. With schools, the DWP should strongly recommend that parents be notified. The BWO SOP approved on October 28, 2008, addresses those people who should be notified.

III. REMOVING A BOIL WATER ORDER

A Boil Water Order can be removed from a public water system when both of the following conditions are met:

- (1) the correction of a deficiency occurs; and
- (2) satisfactory samples are collected, analyzed and reported.

A. CORRECTION OF DEFICENCY

<u>Deficiency</u>	<u>Corrective Action</u>
1. Acute bacterial violation.	Establish disinfection and maintain residuals or repair a significant system deficiency and disinfect system.
2. Turbidity MCL Violation.	Turbidity drops to acceptable levels throughout system. Disinfect and Flush.
3. Unfiltered or undisinfected surface water entering the system.	Reestablish filtration and/or disinfection.
4. System without water or negative pressure.	Reestablish service and maintain positive pressure. Disinfect, flush, and conduct follow-up sampling.
5. No disinfection on system required to disinfect.	Reestablish disinfection and maintain residuals when chlorinating.
6. Dead animals in groundwater source.	Removal of remains and disinfection of the system.

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| 7. Order used in lieu of sampling. | Reestablish sampling. |
| 8. Equipment failure. | Repair or replacement of equipment. |
| 9. Well head submerged without water-tight well-cap | Raise wellhead, disinfect, flush, and conduct follow-up sampling. |

B. BOIL WATER ORDER REMOVAL SAMPLES

Boil Water Order Removal Samples may be collected only after approved treatment is installed for acute coliform MCL violations or significant deficiencies are corrected for identifiable operational problems.

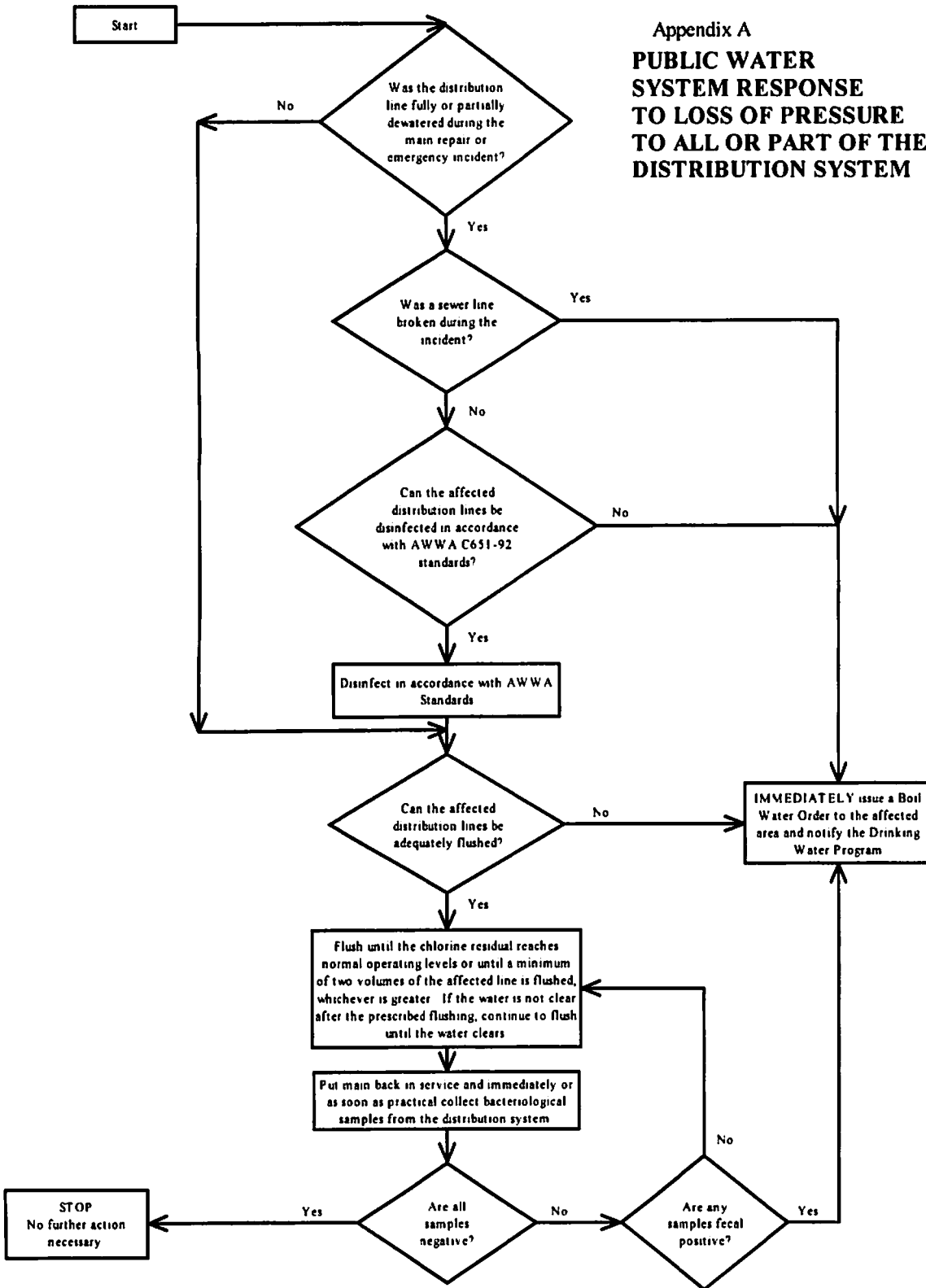
The required number of Boil Water Order Removal Samples must be taken on the same day, at separate locations, when possible. The samples taken must be representative of the distribution system affected by the Boil Water Order and must all be negative for total coliform bacteria in order to remove the Boil Water Order.

The required number of samples taken to lift a Boil Water Order shall correspond to the population requirement of the Total Coliform Rule (TCR), but in no case shall be less than three. Population determination for the Boil Water Order shall be based upon the affected area of the Boil Water Order.

Community systems serving more than 500 people may take their own samples. Community systems serving less than 500 people and all Non-Community systems must have their samples collected by the DWP Field Inspector or other designee agreed upon by the DWP Field Inspector and Compliance Officer. The DWP may require or allow variations to this sampling protocol on a case-by-case basis.

Compliance officers assigned to that particular PWS on a BWO shall track the results of the BWO Removal Samples and remove the BWO when samples are confirmed negative. CET will notify all DWP staff and relevant agencies upon removal of the BWO. In circumstances where that CET person is unavailable, FIT, the CET Manager or the FIT Manager may remove the BWO if Removal Samples are reported and confirmed negative. Any DWP staff member removing a BWO must notify the PWS, DWP, and any relevant agencies (HIP, MHB, EPI). A BWO Distribution List (titled "DEH Drinking Water Orders") is available on Microsoft Outlook.

Appendix A
**PUBLIC WATER
 SYSTEM RESPONSE
 TO LOSS OF PRESSURE
 TO ALL OR PART OF THE
 DISTRIBUTION SYSTEM**



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AWWA Standard for Disinfecting Water Mains

SECTION 10: DISINFECTION PROCEDURES WHEN CUTTING INTO OR REPAIRING EXISTING MAINS

The following procedures apply primarily when existing mains are wholly or partially dewatered. After the appropriate procedures have been completed, the existing main may be returned to service prior to completion of bacteriological testing in order to minimize the time customers are out of water. Leaks or breaks that are repaired with clamping devices while the mains remain full of pressurized water presents little danger of contamination and require no disinfection.

Sec. 10.1 Trench Treatment

When an existing main is opened, either by accident or by design, the excavation will likely be wet and may be badly contaminated from nearby sewers. Liberal quantities of hypochlorite applied to open trench areas will lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation.

Sec. 10.2 Swabbing With Hypochlorite Solution

The interior of all pipe and fittings (particularly couplings and sleeves) used in making the repair shall be swabbed or sprayed with a 1 percent hypochlorite solution before they are installed.

Sec. 10.3 Flushing

Thorough flushing is the most practical means of removing contamination introduced during repairs. If valve and hydrant locations permit, flushing toward the work location from both directions is recommended. Flushing shall be started as soon as the repairs are completed and shall be continued until discolored water is eliminated.

Sec. 10.4 Slug Chlorination

When practical, in addition to the procedures above, the section of main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as described in Sec. 5.3, except that the dose may be increased to as much as 300 mg/l and the contact time reduced to as little as 15 min. After chlorination, flushing shall be resumed and continued until discolored water is eliminated, and the water is free of noticeable chlorine odor.

Sec. 10.5 Sampling

Bacteriological samples shall be taken after repairs are completed to provide a record for determining the procedure's effectiveness. If the direction of flow is unknown, then samples shall be taken on each side of the main break. If positive bacteriological samples are recorded, then the situation shall be evaluated by the purchaser (or purchaser's representative) who can determine corrective action, and daily sampling shall be continued until two consecutive negative samples are recorded.


ASSOCIATED DOCUMENTS: CET SOP's for BWO's; BWO SOP Finalized 10/28/2008 & Revised 1/08/2009; BWO Forms; CET Requirement Letters, including the 3-Option Letter.

SUPERCEDED DOCUMENTS: Original BWO Policy

RETENTION:

1. This document is retained per the DWP Documentation Control Procedure.

REVISION LOG

Section	Page	Rev.	Date	Description Of Change	Approved by:
All	All	Original	4/25/01		Roger Crouse
All	All	A	12/28/05		Roger Crouse
All	All	B	10/28/08	Updated format & terms, based on new 2008 SOP	Roger Crouse
Appendix A & AWWA Standard	4 and 5	C	1/08/09	Added Appendix A Flowchart & AWWA Standard	Tera Pare
All	All	D	4/8/2010	Updated Doc. Format – Modified Footer. Corrected this Revision Log to reflect finding an earlier "Original" – Note that previous document revision labels are incorrect. Earlier revisions can be identified by the policy date as shown here.	Roger Crouse 

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