




California Department of Public Health  
**MEMORANDUM**

---

**DATE:** March 9, 2011

**TO:** Public Water Systems, Local Primacy Agencies and Local Health Officers

**FROM:** Leah Godsey Walker, P.E., Chief   
Division of Drinking Water and Environmental Management  
1616 Capitol Mall, MS 7400  
(916) 449-5577

**SUBJECT:** Unsafe Water Notice Guidance

**This guidance is for public water systems (PWS), Local Primacy Agencies (LPA) and Local Health Officers (LHO) when issuing an Unsafe Water Notice.**

**Background**

The purpose of this document is to provide guidance and assistance to PWS, LPA and LHO when dealing with a situation where there is an existing or potential risk of contamination of a water supply that poses an immediate threat to public health. The document includes guidance, procedures, and formats for imposing unsafe water notices. This document will address situations where a "Boil Water Notice," a "Do Not Drink Your Water" or a "Do Not Use Your Water" notification may be necessary.

Sections 116450 (c) and 116451 of the California Health and Safety Code (CHSC) and Sections 64463, 64463.1, and 64465 of Title 22, California Code of Regulations (CCR), provide authority for requiring an unsafe water notice. The California Department of Public Health (Department) or Local Primacy Agency (LPA) has regulatory jurisdiction over all public water systems in California and must require the public water system to implement emergency notification and issuance of a Tier 1 Public Notice when there is a potential for immediate adverse effects on human health due to a violation. In addition, staff needs to be aware that there may be circumstances or occurrences not addressed specifically in the regulations that present a potential threat to public health and warrant the issuance of an unsafe water notice; for example, the intentional/unintentional contamination of the water supply with an unregulated contaminant or unknown substance.

The Department's Templates for Public Notification provides guidance on the issuance and cancellation of unsafe water notices during emergency situations such as terrorist activities and natural disasters. The Templates for Public Notification provides examples of an unsafe water notice and a cancellation (Problem Corrected Notice) of an unsafe water notice. Drinking Water Program internet site is at:

<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Notices.aspx>.

## **1. Guidance**

Unsafe water notices can be issued by the PWS, LHO, LPA, or the Department. Under most circumstances, the Department or LPA will prescribe an unsafe water notice to the affected PWS who is responsible for providing the notification to its consumers. The LHO may take preventative measures during an emergency and issue a county wide unsafe water notice, as stated in Section 101040, CHSC. The LHO may also issue an unsafe water notice to prevent and control the spread of acute communicable diseases under Section 120175, CHSC. However, there may be critical situations where the local PWS may not be able to contact the Department, LPA or LHO and will issue an unsafe water notice quickly to protect its customers. To ensure that a consistent message is conveyed, it is important that DWP management coordinates with the LHO, especially when they take the lead.

Care should be taken, to the greatest extent possible, to assure all agencies noted above are contacted and have coordinated prior to issuing of any type of unsafe water notice, either a boil water, a do not drink, or do not use notice. If prior notification cannot be done, then notification of all agencies should be done as soon as possible. Without proper communication and coordination there is the significant potential to have two different agencies issuing different notices for the same event causing confusion to the public and undermining the credibility of all agencies. District Engineers are the main points of contact with each LHO in their district. Therefore, the District Engineer must set up the lines of communication and educate each LHO in their district to assure there is coordination when unsafe water notices are issued.

When a public water system does not or is incapable of issuing an unsafe water notice due to various circumstances, the Department or LPA can issue the unsafe water notice to the general public through the press and media. The PWS is still responsible to provide public notification directly to their customers.

The three unsafe water notices that can be issued are: "Boil Water Notice", "Do Not Drink Your Water" and "Do Not Use Your Water". The bases for the use of each of these notices are:

- Boil Water Notice: The water supply has a microbiological contaminant that can be rendered safe by boiling the water or by disinfection. This is the most commonly used notice.
- Do Not Drink Notice: The water supply has an acute contaminant that cannot be rendered safe by boiling the water or by disinfection.
- Do Not Use Notice: The water supply has a contaminant that is unknown or where an exposure to the water can impact the public health of the consumer.

Section 64463.1(a), Title 22, CCR, lists the criteria for when an unsafe water notice is to be issued. (Described below)

Section 64463.1(b), Title 22, CCR, requires that the PWS provide public notice to persons served “as soon as possible but within 24 hours after learning of” a violation that requires a Tier 1 Public Notice or after being notified by the Department that it has determined there is a potential for adverse effects on human health [pursuant to Section 64463.1(a)(1), (4) and (5), Title 22, CCR].

Section 64463.1(c), Title 22, CCR, describes the method(s) that must be used by PWS to deliver the notice to consumers. For all PWS, notification by radio and television, posting in conspicuous locations throughout the water system service area, direct hand delivery or any other method approved by the Department may all be necessary in an effort to notify all PWS users. The PWS should follow its emergency notification plan (ENP) to provide the best methods for immediate notification. Under Section 116450, CHSC, the Department will notify a PWS to implement the ENP when there is an immediate danger to health due to a significant rise in bacterial count.

Section 64465(a) Title 22, CCR, describes what the notice must contain, along with the mandatory language. Among other things, the notice must address alternative sources of water, health risks, what actions consumers should take, what corrective action is being taken, and when the notice is expected to be lifted. The notice should include a brief description of what happened or what was suspected to have happened. If the cause of the problem is unknown, the notice should indicate that the PWS, LPA or Department is investigating and will report to the public when the information is available or set a specific time for an update on the situation.

Section 64465(c) Title 22, CCR, describes the multilingual requirement. Each public notice must contain the following in Spanish and in the appropriate language for each non-English speaking group that exceeds 1,000 residents or 10% of the residents in the community served, whichever is less: (1) information regarding the importance of the notice and (2) a telephone number or address where non-English speaking groups may contact the water system to obtain a translated copy of the notice in the appropriate language. A list of translations of “Importance of Notice” can be found in the Department’s Consumer Confidence

Report website at:

<http://www.cdph.ca.gov/certlic/drinkingwater/Documents/CCR/CCRTranslations20100104.doc>.

The following public notification templates relevant to this memo are available at the following Department website:

<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Notices.aspx>.

Specific Tier 1 Notices

- Fecal Coliform or *E. coli*
- Turbidity Exceedance
- Waterborne Disease Outbreak

Boil Water Notices

- Boil Water - English
- Boil Water – Spanish
- Boil Water Notice Cancellation – English and Spanish

Do Not Drink Notices

- Do Not Drink – English

Do Not Use Notices

- Do Not Use – English

Problem Corrected Notice

- Problem Corrected

The water supplier should post these signs at locations in public facilities where there are drinking fountains and restrooms as applicable. Modifications to the notice must be approved by the DWP or LPA prior to distribution.

Section 64469(d), Title 22, CCR, requires that a copy of the notice, along with a certification that the public notice requirements have been met, be sent to the Department within ten days after issuance of the notice.

When an Unsafe Water Notice is issued, the following agencies should be informed (phone and fax numbers for the specific Local Health Department contacts should be included as an attachment):

<b>Agency</b>	<b>Purpose</b>	<b>Phone Number</b>	<b>Fax Number</b>
Local Health Officer	Public Inquires	Include Local Health numbers as attachment	Include Local Health numbers as attachment
Local Environmental Health Dept.	Restaurant notifications	Include Local numbers as attachment	Include Local numbers as attachment
CDPH DDWEM Drinking Water Program (applicable District office)	Communication and coordination; public inquiries; assistance and guidance	Include phone numbers for DDWEM-DWP District Offices and HQ	Include
CDPH Food and Drug Branch	bottled water, water hauler, water vending machine inquiries	(916) 650-6500	
CDPH Licensing & Certification	hospital / nursing home notifications	Inform local L&C office, or if after hours, inform CDHS duty officer.	

The LPA and LHO should also notify their Department District Engineer when they issue an Unsafe Water Notice. A PWS that issues an Unsafe Water Notice in an emergency situation prior to notifying the Departments should notify their Department District Engineer or LPA and LHO as soon as possible to coordinate and determine what additional requirements will need to be implemented.

## **2. TYPICAL SCENARIOS OF UNSAFE WATER NOTICES**

### **Scenarios addressed in the regulations (Tier 1 Public Notice)**

- Violation of the total coliform MCL when fecal coliform or *E. coli* are present in the distribution system or when any repeat sample result is positive for coliform and the water system fails to test for fecal coliforms or *E. coli* in the repeat sample. (Section 64463.1(a)(1) Tier 1 Public Notice, Title 22, CCR)
- Determination of a significant rise in bacterial count following a Department review of information on the current status of the physical works, operating procedures that may have caused the elevated bacteriological findings or any community illness suspected of being waterborne. (Section 64426, Title 22, CCR, Significant Rise in Bacterial Count and Section 116450 of CHSC)
  - (a) Any of the following criteria shall indicate a possible significant rise in bacterial count:
    - (1) A system collecting at least 40 samples per month has a total coliform-positive routine sample followed by two total coliform-positive repeat

samples in the repeat sample set;

(2) A system has a sample which is positive for fecal coliform or E. coli; or

(3) A system fails the total coliform Maximum Contaminant Level (MCL) as defined in Section 64426.1, Title 22, CCR.

- Single exceedance of a maximum allowable turbidity level (state regulation is currently turbidity above 5.49 NTU) if the Department determines after consultation with the water system and a review of the data that a Tier 1 public notice is required. (Section 64463.1(a)(3) Tier 1 Public Notice, Title 22, CCR)

Factors to consider in this determination include duration of high turbidity event, source water quality, level of disinfection, cause of failure and ability to rectify.

- Occurrence of waterborne microbial disease outbreak, as defined in Section 64651.91 or other waterborne emergency. (Section 64463.1(a)(4) Tier 1 Public Notice, Title 22, CCR)
- Failure or significant interruption in water treatment processes. (Section 64463.1(a)(4) Tier 1 Public Notice, Title 22, CCR)
- A natural disaster that disrupts the water supply or distribution system. (Section 64463.1(a)(4) Tier 1 Public Notice, Title 22, CCR)
- Unexpected loading of possible pathogens into the source water that has potential for adverse effects on human health as a result of short-term exposure. (Section 64463.1(a)(4) Tier 1 Public Notice, Title 22, CCR)
- The exceedance of the Nitrate or Perchlorate MCL.

#### **Other Scenarios that may result in a Boil Water Notice**

- System pressure loss to less than 5 psi as a result of events such as water treatment plant or pump station shut downs due to equipment failure, power outages, main breaks, emptying of storage facilities, and uncontrolled occurrences such as dewatering of the system during major fire events and natural disasters.
- Dead animals (mice, rats, birds, etc.) observed in a distribution reservoir or groundwater source.
- Repeated non-acute coliform violations.
- Inability to implement emergency chlorination when directed to assure bacteriological water quality standards are met.

- Flooding of wells.
- Reliability of treatment processes is questionable due to operator incompetence, absence, or lack of attention.
- A cross-connection incident involving a microbiological contaminant.
- Deliberate contamination involving a microbial contaminant.

**CANCELLATION OF AN UNSAFE WATER NOTICE (Problem Corrected Notice)**

The Department or LPA are responsible for making the determination as to when the Unsafe Water Notice can be cancelled. An Unsafe Water Notice may be cancelled when a PWS has corrected the deficiency and satisfactory sampling results are received. The required corrective measures will be dependent on the particular reason for the unsafe water notice and will be determined on a case-by-case basis. The PWS should coordinate with the Department or LPA to determine the appropriate corrective action and monitoring. It may also be necessary for the Department or LPA to perform onsite verification that the corrections have been made.

**Examples of Corrective Action**

<b>Deficiency</b>	<b>Corrective Action</b>
1. Acute bacterial violation.	Establish or re-establish disinfection and maintain residuals.
2. Turbidity MCL Violation.	Turbidity drops to acceptable levels throughout system.
3. Unfiltered or unchlorinated surface water entering the system.	Re-establish filtration and/or disinfection.
4. System without water or negative pressure.	Re-establish service and maintain positive pressure.
5. No chlorination for a system required to chlorinate and submit monthly chlorine residual reports.	Re-establish chlorination.
6. Dead animals in contact with the drinking water supply.	Removal of remains and disinfection of the source and system, draining reservoir.
7. Equipment failure.	Repair or replacement of equipment.
8. Inorganic MCL exceedance/violation	Use an alternate compliant source, flush and clean distribution system of contaminate water

## **Recommended Sampling**

Generally, a Boil Water Notice should not be cancelled until at least two rounds of coliform samples, collected one day apart, have been analyzed by a state accredited laboratory and the results are negative. One round of samples may be sufficient for systems where a treatment deficiency is the cause for the notification and the problem has been corrected and adequate treatment has been re-established. The samples taken should be where they are representative of the contaminating event (i.e. where the Boil Water Notices were distributed), and at separate locations when possible. The number of samples taken to cancel a Boil Water Notice should parallel the population requirement of the Total Coliform Rule (TCR).

It is very important to not cancel a boil water notice until the problem has been corrected. Experience has shown that the minimum of two rounds of coliform sampling has indicated the problem has been resolved and a boil water notice can be cancelled. However, experience has also shown that if a boil water notice is lifted too soon and the problem returns requiring reissuing the boil water notice, it will negatively impact the credibility of the water system as well as the Department, LPA or local health department.

When a "Do Not Drink" or "Do Not Use" notice is issued the recommended sampling for contaminants will be based on the evaluation of the situation by the District Engineer.

When the Department or LPA has made a determination that appropriate corrective action has been taken and that the sampling results show that the water meets water quality standards, a cancellation or "Problem Corrected" notice should be issued by the water supplier. The same delivery methods and agencies notified that were used for the original notice should be used again.