



GUIDELINES FOR WATER SAFETY AT RETAIL ESTABLISHMENTS DURING TEMPORARY POWER OUTAGES



The California Department of Public Health, Food and Drug Branch developed this guidance document to provide the retail food industry on what to do before, during and immediately after a power outage. Because a power outage can adversely impact water systems and the delivery mechanisms within your facility, this document focuses on some of the action steps to take regarding your water supply. The State of California's Drinking Water Program and the local environmental health agencies are primarily responsible for the regulation of water systems and may have additional information for your specific situation.

Before a Power Outage

Analyze your company's water system and consider some key questions like:

- Where do I get my water? (e.g. private/public water source name, well owner, etc.)
- What do I use water for in my facility? (e.g. as an ingredient, drinking, cleaning, washing, etc.)
- How much water do I use in a typical day and where can I conserve during an emergency?
- Is it possible for me to continue operating without power?

You should keep current contact information available for your local health department and water source. Additionally, you should store an appropriate volume of water in clean, tightly sealed containers which are resistant to corrosion in a cool, dark area of your facility. Commercially bottled water may be stored for up to two years in this manner without suffering loss of quality or safety. Besides storing water, you may also want to store preparations for manually cleaning and disinfecting water like cloth filters, household bleach or commercially manufactured disinfection tablets.



During a Power Outage

The answers to the questions above will drive your activities during a temporary power outage. If you have not stored enough water for your intended purposes and no longer have access to clean water due to a loss of power, you can manually filter and disinfect small quantities of water.

Step 1. Visually examine the water. If the water is clear and not murky or cloudy, allow it to settle. Large particles will settle to the bottom, leaving the clearer water above.

Step 2. Draw off the clear water and pass it through a clean, cloth material or other suitable filter media.

Step 3. Disinfect the filtered water. The most thorough and effective way to disinfect water is to vigorously boil it for at least one minute (three minutes at altitudes above one mile or 6562 feet). To improve the taste of boiled water, pour the water back and forth between two clean containers prior to consumption. If boiling the water is not practical, you can also chemically disinfect the water with

unscented, household chlorine bleach, chlorine disinfection tablets, iodine tablets or a tincture of iodine. Chart one (1) below provides a summary of the methods for chemical disinfection of water.

Chart 1. Chemical Disinfection of Water	
Disinfectant	Method
Household Bleach (5.25% available chlorine)	<ol style="list-style-type: none"> 1. Add eight (8) drops per gallon of <u>clear</u> or 16 drops per gallon of <u>cloudy</u> water. 2. Mix thoroughly and allow to stand for 30 minutes. 3. If the water has a slight chlorine odor, you can use it. If not, add another dosage of chlorine and let stand another 15 minutes. 4. If the water has a strong chlorine odor, allow it to sit in an open container for several hours. 5. Once the strong chlorine odor has dissipated, allow the water to sit for at least 30 minutes. 6. Store water in a clean sealable container until needed.
Chlorine and Iodine Water Disinfection Tablets	<ol style="list-style-type: none"> 1. Commercially manufactured tablets of chlorine and iodine for water disinfection are available at most drug or sporting goods stores. Because the tablets may vary in concentration they should be used per the manufacturer's instructions on the package.
Tincture of Iodine (2%, U.S. Pharmacopeia)	<ol style="list-style-type: none"> 1. Add five (5) drops to <u>clear</u> or ten (10) drops to <u>cloudy</u> water. 2. Mix thoroughly. 3. Allow to stand for at least 30 minutes prior to consumption*. <p>* Water which has been disinfected with iodine is NOT recommended for pregnant women, people with thyroid problems, those with known hypersensitivity to iodine, or continuous use for more than a few weeks at a time.</p>

After a Power Outage

If it was a large scale power outage resulting in a major interruption of water service, the State or local regulatory agency may have issued other notices (e.g. Do Not Drink, Do Not Use, etc.). Prior to restarting operations, you should contact the appropriate regulatory agency and verify the water is once again safe to use.

Once the water is determined to be safe to use again, you should purge your water system and clean and sanitize any equipment which may have come into contact with un-treated water. Also, you should replenish any emergency water and supplies used. A post-outage evaluation of your emergency handling protocols will help you assess how your firm performed during the outage and prepare you for the next emergency.

Additional Information

1. U.S. Environmental Protection Agency - <http://water.epa.gov/drink/emergency/emergencydisinfection.cfm>
2. U.S. Food and Drug Administration - <http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Emergencies/ucm076881.htm>