

Water Emergencies

Public water supplies are active systems that are susceptible to contamination, either during an emergency or due to structural damage or issues within the water system. At times, the water system operator or the Public Water Supply Section of Division of Environmental Quality (DEQ) may notify or advise water customers that the water should not be used for drinking unless it is first boiled or disinfected with chlorine. Users may also be notified not to use water which may be unfit for drinking due to chemical contamination. DEQ provides varying levels of notification, based on risk, and will notify the local health department for transient systems, and both the local health department and state EH officials for community or non-transient systems. If there are questions regarding the level of notice or advisory, contact the Environmental Health Emergency Preparedness and Outbreak Coordinator (919) 218-6943 to ensure proper communication with the public and establishment operators.

TYPES OF WATER SUPPLY EMERGENCIES

Contamination

Occasionally water supplies are contaminated or are suspected of being contaminated with microorganisms or chemicals due to a break in a water main or other damage to the distribution system. When contamination of a public water supply is suspected, the water utility operator or the Public Water Supply Section may issue an advisory or notice concerning use of the water supply. A low system pressure of less than 20 psi, system power loss, flooding of system, identification of sanitary defects or persistent total coliform presence can result in a "Boil Water Advisory" issued by the N. C. Public Water Supply Section and/or the owner of the water source. A confirmed Fecal Coliform (*E. coli*) sample will result in a "Boil Water Notice" being issued using the "*E. coli* Bacteria MCL" template (a copy of this template from EPA is listed in the Appendix page 39).

If a **NOTICE** is issued due to the water testing positive for *E. coli* or other contamination, the establishment shall not operate until the water supply is safe. If the affected establishment is a foodservice establishment and it does not voluntarily close, the permit will be suspended. Licensing agencies will be notified for establishments where the local health department does not hold a permit. Facility staff should empty, clean, and sanitize any equipment that may have contacted contaminated water (ice machines, soda fountains, coffeemakers, etc.). All beverages, ice and any other food products that were made with contaminated water must be discarded. Sample cleaning procedures for ice machines can be found in the Appendix, page 31. When the water supply is deemed safe by the water authority, normal operations can resume.

If an **ADVISORY** is issued due to pending test results or other unconfirmed issues from a water main break or system maintenance, the establishment may remain open for operations, but may want to take certain precautions, as found on page 35. The establishment may use bagged ice from an approved ice manufacturing facility, bottled water and drinks, and serve food that has been cooked or made with bottled or boiled water. Permit action is generally not

taken, but a Notice of Intent to Suspend or Revoke Permit may be issued depending on cause and/or severity of the source of the contamination.

If a water supply is contaminated with chemicals, the Occupational and Environmental Epidemiology Branch of the N.C. Department of Health and Human Services, Division of Public Health will be consulted to assess the potential health risk. If the water system is regulated by the Public Water Supply Section, section staff may issue a "Do Not Drink the Water" notice if the health risk is deemed unacceptable.

Loss of Water

Water supply can be lost due to problems with the water source, such as drought emergencies, or problems with the treatment and distribution systems, such as floods, power outages, and damaged pipes. If a regulated facility loses its primary water source, it is important to determine the cause and possible duration of the outage. Repair and maintenance of the distribution system which can be completed in a few hours may only require an alternative source of drinking water. Long-term water losses will require closure of food establishments, unless a pre-approved water emergency plan has been approved. Institutions and other care facilities are required per 15A NCAC 18A .1313 to notify the local health department and switch to an alternative water supply for flushing toilets, bathing, handwashing, cooking, dishwashing, cleaning and other purposes when the water supply is interrupted for longer than four hours. The following are some of the elements necessary in a back-up water supply plan for an institution facility.

DRINKING WATER

Water for drinking must be immediately available during a water supply failure. Facilities and establishments are not required to store drinking water on site but should have a plan to obtain it quickly. The amount of water needed for drinking should be estimated based on two liters of water per person per day for all people.

Amount of water for 10 people = 20L, or 5.3 gal, or 21 qt, or 34 (20oz) bottles, or 42 pints per day

The emergency plan should identify several nearby sources able to supply sufficient quantities of bottled water and how the water will be transported. Possible sources may include bottled water companies, food establishments and wholesalers, and beer or soft drink distributors. Bottled water companies are a good source for drinking water because they also have trucks used to transport their product. The N.C. Department of Crime Control and Public Safety, Division of Emergency Management maintains several warehouses with stocks of bottled water to be distributed by the National Guard during such emergencies. Requests for bottled water must be made through the county or local emergency management coordinator.

FLUSHING TOILETS

Water used for flushing toilets does not need to be suitable for drinking and can be obtained from any available water source. Some possible sources are boilers, water heaters, public pools, fountains or ponds. Buckets or carts will need to be available to transport water. Toilets can be flushed by dumping one to two gallons of water from a bucket into the toilet bowl. Do not place water in toilet tanks because they are connected to the potable water

System Pressure Advisory

A System Pressure Advisory can be issued during periods of low pressure or outages in the distribution system. Periods of low or no pressure in the distribution system increases the potential for introduction of bacteria into the water system. At this time, we have not detected any harmful bacteria in the system.

As a precaution, until additional testing can confirm the absence of harmful bacteria, **you are advised to boil all water used for human consumption.** Bring all water to a boil, let it boil for one minute, and let it cool before using. As an alternative, you may use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation until further notice. Boiling kills bacteria and other organisms in the water. If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water. Additional precautions you should take are detailed below.

- Thoroughly wash hands with soap and rinse with boiled or bottled water.
- It is recommended that you use pre-washed packaged produce, frozen or canned fruits or vegetables that do not require washing. Foods that do not get cooked, such as raw vegetables, salads, or fruits, should be washed with boiled water before consuming.
- Frozen foods should be thawed in the refrigerator or as part of the cooking process.
- Dishwashers that use hot water for sanitizers can be used to clean and sanitize any affected utensils. Single service articles should be used during extended periods of system pressure advisory.
- Use ice from an alternate source such as ice purchased from a vendor that is not in the affected area of the System Pressure Advisory
- Boiled or bottled water should be used for all beverages made by mixing with water such as instant tea, instant coffee, auto drip coffee makers, powdered drink mixes, etc.
- You may use the water for bathing and showering.
- You may use the water for pets.
- Water filters are not a substitute for using boiled or bottled water.
- If you have already consumed the water, monitor your health and if you experience symptoms of diarrhea, vomiting, etc., contact your physician.

Restaurants, meat markets, and other permitted facilities may remain open provided there is adequate water to safely sustain the operation. If inadequate pressure or no water is available, permitted establishments must close.

Recovery:

- Once the advisory has been lifted, we recommend that you flush the lines in your establishment for a few minutes.
- Dispose of any ice or beverages made during the advisory.

APPENDIX E: CFP RESOURCE - EMERGENCY ACTION PLANS

DEVELOPING A WRITTEN FOOD SAFETY EMERGENCY PLAN

The written food safety plan includes the steps you will take during an emergency. Remember that there may be regulations/ordinances that apply and consultation with local regulators may be appropriate. When managing Time/Temperature Control for Safety (TCS) food during an emergency, the facility must have a written plan prepared in advance. This plan should be maintained at the facility and available to the Regulatory Authority upon request. Consider incorporating the following information in your plan:

PEOPLE:

1. Identify the person(s) who have responsibility for implementing the plan.
2. Identify people/positions that are “critical” and what tasks must be performed.
3. Maintain a current list of emergency contacts. In addition to updating contact information for people within your company, include information for those who can help with the emergency such as utility companies (water, power, sewer, gas, etc.), garbage hauling service, dry and frozen ice suppliers, refrigerated trucking companies, food warehouses, septic tank pumping services, local and state health departments, fire, police, state emergency management agencies, emergency broadcast station frequency numbers and other pertinent regulatory authorities, etc.
4. Remember that computers and phones may not be operable and alternative communication methods may be necessary.

EQUIPMENT:

1. Identify the equipment and supplies needed. This may include large items such as generators and refrigerated trucks.
2. List items needed to perform tasks such as thermometers, insulated covers, caution tape, certain types of cleaning supplies, hand hygiene chemicals, etc.
3. List any necessary personal protective equipment (PPE) such as protective clothing, goggles or gloves needed to protect employees from potential hazards.
4. Consider having Emergency Kits available for different types of emergencies such as a kit for fire response, power outages, etc.

MENU:

1. Prepare an “emergency menu” in advance including a reduced number of recipes for food items that require limited preparation.

INSTRUCTIONS FOR PERFORMING TASKS:

1. Provide detailed step-by-step procedures for performing each task. For example, explain how to calibrate equipment, how to take temperatures, how to clean spills, etc. These can be written in the form of a standard operating procedure (SOP).
2. Explain how, when and where the task will be performed.