The California Association of Health Facilities
Disaster Preparedness Program
July 2017

Guidance on Emergency Water for Long Term Care Facilities

Emergency Water Guidance for Long Term Care Facilities

Current state and federal emergency preparedness regulations for skilled nursing facilities and intermediate care facilities for individuals with intellectual disabilities require providers to have policies and procedures that address the provision of subsistence needs for staff and residents/clients during evacuation and shelter-in-place incidents. This resource has been developed by the California Association of Health Facilities (CAHF) to assist providers in developing policy and procedures to address the water needs of their facilities during an emergency event. Two companion documents are available to assist providers in preparing for water supply disruptions: a sample policy and procedure template and a planning checklist for emergency water.

CAHF offers this guidance document for educational purposes only. This material does not contain or constitute legal advice in any form and does not make any assurance or representation that the information and guidance contained herein will be determined to be accurate or appropriate to your institution or constitute compliance with state or federal law, or regulations. The decision to adopt and utilize (or modify) the material contained herein is a decision that must be made by each facility.

The new regulations require that health facilities' external disaster plans should include provisions to independently manage the essential health, safety, and personal needs of the individuals in their care during an emergency. These provisions should include:

- Enough food and water for residents of the facility, and for the staff who will be required to stay and care for them. Facilities must stock food and water for individuals the facility has agreed to shelter, such as staff's family members or other facility or community members.
- Systems and supplies for the use of alternative water sources including the purification of water, if potable water is lost, and a method to transport water from its source to the resident care areas.

These requirements and many positive practices are addressed in this guidance document, sample policy, and procedure, and the emergency water checklist.

1. SUGGESTED POLICY LANGUAGE:

To provide safe water for residents/clients, staff and visitors during an emergency, our facility maintains:

- An emergency water supply that is safe, adequate and accessible
- An emergency water supply that is stored in accordance with applicable standards
- Methods and supplies for water treatment procedures to be used when necessary due to disruption and/or contamination
- Arrangements for re-supply

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2. CONSIDERATIONS FOR DETERMINING EMERGENCY WATER NEEDS:

The Center for Medicare/Medicaid (CMS) expects all providers to have the flexibility to determine what is an adequate amount of potable and non-potable water for their facility's needs.

The Center for Disease Control (CDC) recommends that facilities conduct a water use audit to determine water usage under normal operating conditions and identify essential functions and minimum water needs. Considerations should include water for residents/clients, staff, and visitors for:

- Drinking water
- Hand washing and hygiene
- Food preparation
- Flushing toilets
- Bathing patients
- Laundry and other services
- Fire suppression sprinkler systems
- Patient care such as water-cooled medical gas and suction compressors (a safety issue for patients on ventilation)
- Heating, ventilation, and air conditioning (HVAC)
- Any other water needs specific to your facility and resident/client needs

The facility's water needs should be based on the location, all-hazards analysis, individual characteristics of the facility, and the population they serve. For additional details, please refer to the Emergency Water Supply Planning Guide for Hospitals and Health Care Facilities by the American Water Works Association (AWWA) and the CDC.

3. AGENCY RECOMMENDATIONS AND AMOUNTS:

Each facility should determine the amount of water to store for emergencies to include the total bed capacity and additional amounts for staff, visitors and predicted surge or emergency influx of admissions. How much water should be available for each individual is not described in the regulations but community standards have been established as follows:

- Recommendations from the American Red Cross, the Federal Emergency Management Agency (FEMA), and the CDC state that individuals should plan to be self-sufficient for a minimum of 72 hours in the event of a wide spread disaster, and suggest at least one gallon per person per day for 3 days. This allows two quarts for drinking water and beverages and two quarts for food preparation and hygiene per person per day.

- The nursing department may want to designate a specific amount of water for nursing procedures, such as enteral feeding flushes, sterile dressing uses, or any other nursing procedure needing bottled or distilled water.

In addition to a plan for potable water, the facility should evaluate their essential water needs for environmental cleaning, flushing of toilets, and other critical activities that may require water but could utilize non-potable sources or be met by some alternate plan that does not require water (i.e. environmental wipes, paper supplies for meals, portable toilets).

When calculating the minimum amount of water needed on hand for emergencies, facilities should also consider a strategy to monitor water use during an incident to avoid waste and ensure the supply lasts for the projected duration. Consider assigning a specific person to track and monitor the amounts of stored water used during an emergency event.

4. SOURCES OF POTABLE WATER:

When planning for emergency water needs, it may be useful to talk to the local response authorities (i.e. public health, emergency services authority, local healthcare coalitions) and the municipal water organization about community-specific resources and processes for accessing emergency water supplies. The local authorities can also advise on how they will alert the community when they identify an anticipated disruption, as well as send recommendations on purification methods and testing.
A combination of bottled water and large storage containers may be included in the emergency supply inventory. Other internal sources of water to consider to meet facilities' needs are ice machines, hot water storage tanks, boilers, or toilet storage tanks (not bowls).

5. STORAGE AND ROTATION:

Facilities should designate emergency water storage location and procedures. Healthcare facilities need to follow directions provided by manufacturer of the storage container, as well as guidance from local and state health departments on how to store the water. Facilities should determine the rotation schedule for commercially bottled water based on the guidance below.

Bottled Water

Bottled or distilled water for emergency purposes should be stored and labeled "FOR EMERGENCY USE ONLY". Commercially prepared bottled water is recommended. If used, keep the water in its original sealed container and stored in a cool, dry area away from heat sources. Replace the water per manufacturer directions. Once opened, use it and do not store it further.

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To make sure that all water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the U.S. Food and Drug Administration (FDA) set drinking water standards. EPA sets standards for tap water provided by public water suppliers; FDA sets standards for bottled water based on EPA standards. Bottled water and tap water are both safe to drink if they meet these standards, although people with severely weakened immune systems or other specific health conditions may wish to further treat their water at home or purchase high quality bottled water. FDA regulates bottled water as a packaged food under the Federal Food, Drug and Cosmetic Act, and has established standards of identity and quality for bottled water.
According to the FDA, commercially bottled water is considered to have an indefinite safety shelf life if it is produced in accordance with CGMP and quality standard regulations, and it is stored in an unopened, properly sealed container. Therefore, the FDA does not require an expiration date for bottled water. However, long-term storage of bottled water may result in aesthetic defects, such as off-odor and taste, and most bottlers voluntarily put expiration dates on their labels.

The American Red Cross and FEMA recommend changing bottled water every 6 months. In the United States, manufacturers often mark a "sell by" date on the bottle which is for supermarket product rotation. According to the Emergency Water Supply Planning Guide for Hospitals and Health Facilities by the AWWA and the CDC, it does not imply that the product becomes compromised or that the water quality deteriorates after that date.

An agreement from a local bottled water company or supplier to provide bottled water in emergencies may be part of the facility disaster plan.

Temporary Water Storage Containers

A variety of temporary storage drums or barrels are available commercially. If possible a new tank should be used because tanks that have contained chemicals can have harmful residue. Tanks should be cleaned and disinfected before and after use, and meet NSF/ANSI Standard 61 for potable water use. For planning purposes, the location and weight of the container should be considered. A siphon or pump can be used to dispense water from the container and food grade tubing must be used for siphoning. Manufacturer guidelines must be followed in terms of tank location, protection from the elements, testing, purification, and rotation of the water.

Stored water should be checked regularly to ensure inventory and integrity of the supplies. Staff should be instructed not to use the emergency water supply for any purpose other than an emergency situation.

- Should an emergency occur, dispense water from storage containers following manufacturer guidelines.
- A food-grade (FDA approved) drinking water hose should be used to fill water containers from the water storage tank and to distribute water in an emergency.
- Transport water in food-grade (FDA approved) emergency water containers.

- Ensure the emergency water supplies and the hose and containers are accessible 24 hours a day and every day of the week, and that staff know the location of these supplies.

6. **TESTING AND PURIFICATION:**

Immediate action must be taken after an emergency is declared to preserve the water already present in a facility, (pipes, water heaters, etc.). Assuming it is not contaminated, this water can augment stored water supplies. Check with local authorities to confirm water in the pipes is safe. If you are unable to contact the authorities, assume the water in the pipes is contaminated and use for non-potable purposes , (I.e. toilet flushing) or purify for potable use. Filtration and purification go hand-in-hand; a combination of methods usually yields the best results.

- Water sources already in the facility need to be protected from contamination if there are reports of broken water or sewage lines, or if local officials advise the facility of a specific threat.
    - To shut off incoming water, locate the main valve and turn it to the closed position.
    - Be sure all staff members know beforehand how to perform this important procedure and include this information in employee training.

- To use the water in the facility's pipes, let air into the plumbing by turning on the faucet in the facility at the highest level. A small amount of water will trickle out. Then obtain water from the building's lowest faucet – at a single-story facility, this is typically a garden hose spout outside.

- To use the water in the hot-water tank:
    - Be sure the electricity or gas is turned off.
    - Open the drain at the bottom of the tank.
    - Start the water flowing by turning off the water intake valve at the tank and turning on a hot-water faucet.
    - Refill the tank before turning the power back on, or call a professional to turn the gas back on.
- If water in the pipes is suspected to be unsafe, faucets and drinking fountains should be turned off and signs placed explaining that the water should not be used.

Methods for Purification

In the event of an emergency, purifying water of uncertain quality at the scale a facility needs may not be practical or possible. The instructions below are for treating water of uncertain quality, in the absence of instructions from local authorities during an emergency. If enough water is stored in advance, or water resupply plans are in place, the treatment methods below will not be needed. If chemical contamination is suspected, the water should not be used unless directed otherwise by local authorities.

In addition to having a bad odor and taste, contaminated water can contain microorganisms (germs, bacteria, and viruses) that cause diseases such as dysentery, typhoid, and hepatitis. Treat all water of uncertain quality before using it for drinking, food preparation, or hygiene.

There are many ways to treat water, though none are perfect. Often the best solution is a combination of methods. Boiling or chlorination will kill most microorganisms but will not remove other contaminants such as heavy metals, salts, and most other chemicals. Before treating, let any suspended particles settle to the bottom, or strain them through layers of paper towel, clean cloth, or coffee filter.

Boiling: Boiling is the surest method to kill disease-causing organisms, including viruses, bacteria, and parasites.

- If the water is cloudy, filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle. Then follow boiling guidelines.
- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).

Bleach: Small quantities of filtered and settled water can be made safer to drink by using a chemical disinfectant such as unscented household chlorine bleach. Disinfectants can kill most harmful or disease-causing viruses and bacteria, but are not as effective in controlling more resistant organisms, such as the parasites *Cryptosporidium* and *Giardia*.

- Use only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite. Do not use scented bleaches, color-safe bleaches, or bleaches with added cleaners.
- Because the potency of bleach diminishes with time, use bleach from a newly opened or unopened bottle.
- Add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir and let stand for 30 minutes. The water should have a slight bleach odor.
- If it does not have a bleach odor, then repeat the dosage and let stand another 15 minutes. If it still does not smell of bleach, discard it and find another source of water.

Iodine: Iodine or other water treatment products (sold in camping or surplus stores) are not recommended. Iodine and iodine-containing tablets (tetraglycine hydroperiodide) are **not** effective against *Cryptosporidium*.

Chlorine dioxide tablets: Chlorine dioxide tablets can be effective against *Cryptosporidium* if the manufacturer's instructions are followed correctly.

- **RESUPPLY PLAN/AGREEMENTS:**

The facility should make arrangements/agreements with local water companies (public and/or private) to acquire water in case of an emergency to meet the facility's needs. Additionally, in connection with local emergency response personnel, the facility should identify what provisions exist or would need to be installed (e.g., appropriate connections, valves, backflow prevention devices) to enable receipt and use of emergency water supplies (e.g. tanker trucks, water bladders, etc.).

- **PORTABLE SUPPLY FOR EVACUATION:**

A portion of the stored water supplies should be easily portable so that supplies can be available to residents and staff along the way in the event of an evacuation. The amount and container type for transport should be determined by the facility based on their assessment of the location, all hazards analysis & individual characteristics of the facility and the population they serve.

- **REGULATORY REFERENCES**:

Federal Regulations

S&C 17-29

Advanced Copy – Appendix Z, Emergency Preparedness Final Rule Interpretive Guidelines and Survey Procedures

E-0004

- Interpretive Guidance:
  - Providers must develop and maintain an emergency preparedness plan that must be updated at least annually. Providers must maintain documentation to include the date of the review and any updates to the plan based on the review. The format of the plan is left to the providers' discretion.
  - The plan provides a framework, which includes a facility-based and community-based risk assessment. The risk assessment will identify:
    - Risk at the facility and community-based level.
    - How the business operations will continue during the emergency.
    - How the provider will collaborate with the local emergency preparedness officials.
    - The approach will be specific to the location of the provider and will consider the particular hazards that are most likely to occur in a surrounding area, which will include, but not be limited to:
      - Natural disasters
      - Man-made disasters
      - Facility-based disasters
      - Care-related emergencies

- Equipment and utility failures
- Interruptions in communication
- Loss of all or part of the facility
- **Interruptions to the normal supply of essential resources**
- **The likely duration of the interruptions**
- The timeframe within which a contractor providing assistance will initiate services
- How services will be procured and delivered
- How contractors will supply services or supplies during the course of the emergency

E-0015

- Interpretive Guidance
  - Facilities must be able to provide subsistence for patients and staff throughout an emergency (or until evacuation). There are no set requirements for the type or amount of provisions needed; including food, pharmaceuticals, and medical supplies. Provisions must be stored to minimize exposure to disaster (e.g., stored above ground level to minimize destruction by flood). In determining the amount of provisions, facilities should consider whether or not volunteers, visiotrs, or others seeking shelter are likely to come to the facility.

CFR § 483.90(i)(1)

- Interpretive Guidance
  - The facility should have a written protocol which defines the source of water provisions for storing water, both potable and non-potable, a method for distributing water, and a method for estimating the volume of water required.

California Regulations - From CDPH Licensing and Certification AFL 07-31 Page 3 October 24, 2007

The plan must provide for sources of emergency utilities and supplies, including gas, water, food and essential medical supportive material. **[CCR T22 §72551 (b)(1), §76563(b)(1), §76928 (b)(1), §73549(b)(1)]**.

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- **REFERENCES and ADDITIONAL RESOURCES:**

a. **FEMA Water Guidance:** https://www.ready.gov/water
b. **Emergency Water Supply Planning Guide for Hospitals and Health Facilities:** https://www.cdc.gov/healthywater/pdf/emergency/emergency-water-supply-planning-guide.pdf
c. **Food-grade hoses - Grainger:** https://www.grainger.com/category/ecatalog/N-1z0du0q
d. **Food-grade containers:** http://www.lexingtoncontainercompany.com/Food-Grade-ContainerJugs.html; http://www.epackagesupply.com/buckets/ http://www.preparewise.com/water-storage-andfiltration-systems/
e. **Purification:** http://www.redcross.org/images/MEDIA_CustomProductCatalog/m4440181_Food_and_WaterEnglish.revised_7-09.pdf**;** http://www.cdc.gov/healthywater/emergency/drinking/making-water-safe.html
f. **International Bottled Water Association:** http://www.bottledwater.org/education/bottled-water-storage; http://www.bottledwater.org/types/bottled-water
g. **FDA site:** http://www.fda.gov/Food/FoodborneIllnessContaminants/BuyStoreServeSafeFood/ucm077079.htm
h. Minnesota Department of Health: http://www.health.state.mn.us/divs/eh/water/factsheet/com/bottledwater.html

(Insert Facility Name Here)
Emergency Water Policy

SAMPLE POLICY/PROCEDURE FOR SKILLED NURSING FACILITIES

(ADAPTED FROM THE CALIFORNIA ASSOCIATION OF HEALTH FACILITIES' SNF EOP TEMPLATE APPENDIX R - DISASTER WATER SUPPLIES)

To ensure safe water for residents, staff and visitors during a crisis, our facility maintains:

- An emergency water supply that is suitable and accessible;
- An emergency water supply consistent with applicable regulatory requirements; and
- Methods for water treatment and/or resupply when supplies are low.

Resource	Quantity	Location
Emergency water supply (minimum three-day supply)		
Emergency water supply which exceeds minimum three-day supply (five to seven-day supply preferred)		
Logistics, equipment and containers available to transport water supplies during evacuation		
Equipment to boil large volumes of water (adequate supply of large pots, commercial cooking kettles, etc.)		
Empty containers to store and transport boiled water (buckets, jugs, etc.)		
Water purification products (type used)		
On-site water storage (boilers, hot water tanks, ice makers)		

Water Treatment Methods

(adapted from the Federal Emergency Management Agency [FEMA] Fact Sheet)

We treat all water of uncertain quality before using it for drinking, food washing or preparation, washing dishes, brushing teeth, or making ice. In addition to having a bad odor and taste, contaminated water can contain microorganisms (germs) that cause diseases such as dysentery, cholera, typhoid or hepatitis. If there is a suspected compromise of the water system (i.e. broken pipes) our facility will shut off the water supply as soon as possible to protect the integrity of supply in internal tanks and pipes.

(Insert Facility Name Here)
Emergency Water Policy

Before treating, we will let any suspended particles settle to the bottom or strain them through coffee filters or layers of clean cloth.

We have the necessary materials in our disaster supplies kit for the chosen water treatment method as described below:

There are <u>two water treatment</u> methods. They are as follows:

These instructions are for treating water of uncertain quality in an emergency situation, when no other reliable clean water source is available, or we have used all of the stored water.

Boiling

Boiling is the safest method of treating water. In a large pot or kettle, bring water to a rolling boil for 1 full minute, keeping in mind that some water will evaporate. Let the water cool before drinking.

Boiled water will taste better if oxygen is put back into it by pouring the water back and forth between two clean containers. This also will improve the taste of stored water.

Chlorination

We use household liquid bleach to kill microorganisms. Only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite is used. We do not use scented bleaches, color safe bleaches, or bleaches with added cleaners. Because the potency of bleach diminishes with time, we use bleach from a newly opened or unopened bottle.

We will add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir, and let stand for 30 minutes. The water should have a slight bleach odor. If it doesn't, then repeat the dosage and let stand another 15 minutes. If it still does not smell of chlorine, we will discard it and find another source of water.

<u>SAFE SOURCES OF POTABLE WATER</u>

1. Melted ice cubes
2. Water drained from the water heater (if the intake pipes and/or water heater have not been damaged)
3. Liquids from canned goods such as fruit or vegetable juices
4. Water drained from pipes if deemed to be uncontaminated
5. Other: (i.e.) well water, water storage tanks, bottled water, canned water, etc.

SUPPLIERS

Municipal Water Company:

_____ _____

Name Emergency Contact Number

(Insert Facility Name Here)
Emergency Water Policy

Water Vendor:

_____ _____

Name Emergency Contact Number

SPECIAL NOTE: RESIDENT HYDRATION DURING EVACUATION

During evacuation, bottled water and/or necessary liquid thickeners for those individuals with swallowing restrictions will accompany residents and staff to maintain safe hydration levels.

STORAGE

Manufacturer's guidelines for water storage method will be followed for water storage tanks, drums, or containers.

- Name of Manufacturer:
  _____
- Guidelines for use:
  _____
- Location (ie: outside, storage room, etc.):
  _____
- Surface Preparation (concrete, pallet, etc.):
  _____
- Protection (covered, UV light safe, etc.):
  _____
- Additional equipment (pump, spigot, hose):
  _____

Facility will follow manufacturer's guidelines for filling water storage units and preserving water, including:

- Cleaning prior to filling:
  _____
- Source of water to fill:
  _____

(Insert Facility Name Here)
Emergency Water Policy

- How to fill:
  _____
- Adding water preserver:
  _____
- Type and amount of preserver:
  _____
- Length of time water may be used after adding preserver per manufacturer guidelines:
  _____
- How to seal water storage device:
  _____
- Other equipment/procedures required for this water storage device:
  _____
- Facility will maintain a routine inspection of the water storage based on manufacturer's recommended frequency _____ and will check for cracks in container, leaks, broken seals, etc. and maintain documentation of quality checks.
- Facility will discard any water stored that has become compromised or outdated.

DISTRIBUTION TO POINT OF CARE

When necessary, this facility will use food grade hose and containers to move water supplies to the point of care for residents.

- A food-grade (FDA approved) drinking water hose will be used to fill water containers from the water storage tank and to distribute water in an emergency.
- Water will be transported in food-grade (FDA approved) emergency water containers.
- The hose and containers are stored together in this location: _____

PROTECTION OF EMERGENCY WATER SUPPLIES

When instructed or advised by local authorities that there is risk of contamination to our water supply due to broken pipes, we will shut off the incoming water to the facility to preserve the existing internal supply.

- Key staff on every shift are trained on how and when to shut off the water to the facility.

(Insert Facility Name Here)
Emergency Water Policy

- The location of the main water valve is: _____
- Key staff on every shift are trained to access water from the hot water heater, toilet tanks, ice maker, and uncontaminated water in the pipes if necessary.
- During a water emergency, one or more staff will be assigned to monitor the emergency water usage and supply to minimize waste and ensure the supply lasts as projected.
- In the event that the water in the pipes is considered unsafe, sinks and water fountains will be shut off and signs placed to warn that the water is not usable.

Emergency Water Checklist for Long Term Care Facilities

Develop Policy Language		
Date Completed	Date Reviewed	
		Develop policy & procedure to use in the facility that reflects the Hazards Vulnerability Assessment (HVA).

Amounts Needed		
Date Completed	Date Reviewed	
		Determine the amount of water to store for emergencies to include the total bed capacity and additional amounts for staff, visitors and predicted surge or emergency influx of admissions.
		The quantity of water needed for each individual is not described in the regulations but community standards have been established as follows: • American Red Cross, CDC and FEMA all suggest at least one gallon per person per day for 3 days. This allows two quarts for drinking water and beverages and two quarts for food preparation per person per day. • The nursing department may want to designate a specific amount of water for nursing procedures, such as enteral feeding flushes, sterile dressing uses, or any other nursing procedure needing bottled or distilled water.
		Evaluate essential water needs for environmental cleaning, flushing of toilets, and other critical activities that may require water but could utilize non-potable sources or be met by some alternate plan that does not require water (i.e. environmental wipes, paper supplies for meals, portable toilets).
		Consider a strategy to monitor water use during an incident to avoid waste and ensure the supply lasts for projected duration, when calculating the minimum amount of water needed on hand for emergencies.

Emergency Water Checklist for Long Term Care Facilities

Sources		
Date Completed	Date Reviewed	
		Bottled water and large storage containers may be included in the emergency supply inventory.
		Consider include ice machines, hot water storage tanks, boilers, toilet storage tanks (not bowls) may be an additional source of safe water to meet total needs of facility.
		Have a plan to communicate with local emergency management and the water company about the situation and to request assistance for your facility.
		Find out how the local authorities advise on how they will alert the community when they identify an anticipated disruption, as well as send recommendations on purification methods and testing.

Storage and Rotation		
Date Completed	Date Reviewed	
		Follow water storage direction provided by manufacturer of the storage container, as well as guidance from local and state health departments.
		Store bottled or distilled water for emergency purposes, and label “FOR EMERGENCY USE ONLY”. Commercially prepared bottled water is recommended.
		If used, keep the water in its original sealed container and stored in a cool, dry area away from heat sources.
		Replace the water per manufacturer directions. Once opened, use it and do not store it further.
		An agreement from a local bottled water company or supplier to provide bottled water in emergencies may be part of the facility disaster plan.

Emergency Water Checklist for Long Term Care Facilities

Storage and Rotation - Continued		
Date Completed	Date Reviewed	
		If possible a new tank should be used because used tanks that have contained chemicals can have harmful residue.
		Clean and disinfect all tanks before and after use. Ensure the tanks meet the NSF/ANSI Standard 61 for potable water use.
		Carefully consider the location and weight of the filled storage tank/container, for overall planning purposes.
		A siphon or pump can be used to dispense water from the container. Food grade tubing must be used for siphoning.
		Follow manufacturer guidelines in terms of location, protection for elements, testing, purifying or preserving and rotation of water.
		Check stored water regularly to ensure inventory and integrity of the supplies.
		Instruct staff not to use the emergency water supply for any purpose other than an emergency situation.

Distribution to Point of Care		
Date Completed	Date Reviewed	
		Should an emergency occur, dispense water from storage containers following manufacturer guidelines.
		A food-grade (FDA approved) drinking water hose should be used to fill water containers from the water storage tank and to distribute water in an emergency.
		Transport water in food-grade (FDA approved) emergency water containers.
		Ensure the emergency water supplies, and the hose and containers are accessible 24 hours a day and every day of the week, and that staff know the location of these supplies.

Emergency Water Checklist for Long Term Care Facilities

Testing and Purification		
Date Completed	Date Reviewed	
		Protect the water sources already in the facility from contamination if there are reports of broken water or sewage lines or if local officials advise conservation of clean water. • To shut off incoming water, locate the main valve and turn it to the closed position. • Be sure key staff members know beforehand how to perform this important procedure.
		To use the water in the pipes, let air into the plumbing by turning on the faucet in the facility at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the facility.
		To use the water in the hot-water tank, be sure the electricity or gas is off. • Open the drain at the bottom of the tank. • Start the water flowing by turning off the water intake valve at the tank and turning on a hot-water faucet. • Refill the tank before turning the power back on, or call a professional to turn the gas back on.
		Treat all water of uncertain quality before using it for drinking, food preparation, or hygiene.
		Before treating, let any suspended particles settle to the bottom, or strain them through layers of paper towel, clean cloth, or coffee filter.
		Boiling is the surest method to kill disease-causing organisms, including viruses, bacteria, and parasites. • If the water is cloudy, filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle. Then follow boiling guidelines. • Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).

Emergency Water Checklist for Long Term Care Facilities

Testing and Purification - Continued		
Date Completed	Date Reviewed	
		Small quantities of filtered and settled water can be made safer to drink by using a chemical disinfectant such as unscented household chlorine bleach. • Use only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite. Do not use scented bleaches, colorsafe bleaches, or bleaches with added cleaners. • Because the potency of bleach diminishes with time, use bleach from a newly opened or unopened bottle. Add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir and let stand for 30 minutes. The water should have a slight bleach odor. • If it doesn't, then repeat the dosage and let stand another 15 minutes. If it still does not smell of bleach, discard it and find another source of water.
		Iodine or water treatment products (sold in camping or surplus stores) are **not** recommended. Follow the manufacturer's instructions on the label or in the package. • Iodine and iodine-containing tablets (tetraglycine hydroperiodide) or chlorine tablets are **not** effective against *Cryptosporidium*. • Important: Water that 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.
		Chlorine dioxide tablets can be effective against *Cryptosporidium* if the manufacturer's instructions are followed correctly. Follow the manufacturer's instructions on the label or in the package.
		If water in pipes is suspected to be unsafe, have a plan to restrict access to that water source.

Emergency Water Checklist for Long Term Care Facilities

Resupply Plan/Agreement		
Date Completed	Date Reviewed	
		Have a plan for the facility and systems to connect to alternate water sources to support sprinkler system, waste water, and cooling systems.
		Be ready to communicate with local emergency management and the water company about the situation, and to request assistance for the facility.
		The facility should make arrangements/agreements with local water companies (public and/or private) to acquire water in case of an emergency to meet the facility's needs.

Portable Supply for Evacuation		
Date Completed	Date Reviewed	
		The facility's stored water supplies should be easily portable so that supplies can be available to residents and staff along the way in the event of an evacuation.
		The amount and container type for transport should be determined by the facility based on an assessment of the location, all-hazards analysis & individual characteristics of the facility and the population it serves.

Emergency Water Checklist for Long Term Care Facilities

Develop Policy Language		
Date Completed	Date Reviewed	
		Develop policy & procedure to use in the facility that reflects the Hazards Vulnerability Assessment (HVA).

Amounts Needed		
Date Completed	Date Reviewed	
		Determine the amount of water to store for emergencies to include the total bed capacity and additional amounts for staff, visitors and predicted surge or emergency influx of admissions.
		The quantity of water needed for each individual is not described in the regulations but community standards have been established as follows: • American Red Cross, CDC and FEMA all suggest at least one gallon per person per day for 3 days. This allows two quarts for drinking water and beverages and two quarts for food preparation per person per day. • The nursing department may want to designate a specific amount of water for nursing procedures, such as enteral feeding flushes, sterile dressing uses, or any other nursing procedure needing bottled or distilled water.
		Evaluate essential water needs for environmental cleaning, flushing of toilets, and other critical activities that may require water but could utilize non-potable sources or be met by some alternate plan that does not require water (i.e. environmental wipes, paper supplies for meals, portable toilets).
		Consider a strategy to monitor water use during an incident to avoid waste and ensure the supply lasts for projected duration, when calculating the minimum amount of water needed on hand for emergencies.

Emergency Water Checklist for Long Term Care Facilities

Sources		
Date Completed	Date Reviewed	
		Bottled water and large storage containers may be included in the emergency supply inventory.
		Consider include ice machines, hot water storage tanks, boilers, toilet storage tanks (not bowls) may be an additional source of safe water to meet total needs of facility.
		Have a plan to communicate with local emergency management and the water company about the situation and to request assistance for your facility.
		Find out how the local authorities advise on how they will alert the community when they identify an anticipated disruption, as well as send recommendations on purification methods and testing.

Storage and Rotation		
Date Completed	Date Reviewed	
		Follow water storage direction provided by manufacturer of the storage container, as well as guidance from local and state health departments.
		Store bottled or distilled water for emergency purposes, and label “FOR EMERGENCY USE ONLY”. Commercially prepared bottled water is recommended.
		If used, keep the water in its original sealed container and stored in a cool, dry area away from heat sources.
		Replace the water per manufacturer directions. Once opened, use it and do not store it further.
		An agreement from a local bottled water company or supplier to provide bottled water in emergencies may be part of the facility disaster plan.

Emergency Water Checklist for Long Term Care Facilities

Storage and Rotation - Continued		
Date Completed	Date Reviewed	
		If possible a new tank should be used because used tanks that have contained chemicals can have harmful residue.
		Clean and disinfect all tanks before and after use. Ensure the tanks meet the NSF/ANSI Standard 61 for potable water use.
		Carefully consider the location and weight of the filled storage tank/container, for overall planning purposes.
		A siphon or pump can be used to dispense water from the container. Food grade tubing must be used for siphoning.
		Follow manufacturer guidelines in terms of location, protection for elements, testing, purifying or preserving and rotation of water.
		Check stored water regularly to ensure inventory and integrity of the supplies.
		Instruct staff not to use the emergency water supply for any purpose other than an emergency situation.

Distribution to Point of Care		
Date Completed	Date Reviewed	
		Should an emergency occur, dispense water from storage containers following manufacturer guidelines.
		A food-grade (FDA approved) drinking water hose should be used to fill water containers from the water storage tank and to distribute water in an emergency.
		Transport water in food-grade (FDA approved) emergency water containers.
		Ensure the emergency water supplies, and the hose and containers are accessible 24 hours a day and every day of the week, and that staff know the location of these supplies.

Emergency Water Checklist for Long Term Care Facilities

Testing and Purification		
Date Completed	Date Reviewed	
		Protect the water sources already in the facility from contamination if there are reports of broken water or sewage lines or if local officials advise conservation of clean water. • To shut off incoming water, locate the main valve and turn it to the closed position. • Be sure key staff members know beforehand how to perform this important procedure.
		To use the water in the pipes, let air into the plumbing by turning on the faucet in the facility at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the facility.
		To use the water in the hot-water tank, be sure the electricity or gas is off. • Open the drain at the bottom of the tank. • Start the water flowing by turning off the water intake valve at the tank and turning on a hot-water faucet. • Refill the tank before turning the power back on, or call a professional to turn the gas back on.
		Treat all water of uncertain quality before using it for drinking, food preparation, or hygiene.
		Before treating, let any suspended particles settle to the bottom, or strain them through layers of paper towel, clean cloth, or coffee filter.
		Boiling is the surest method to kill disease-causing organisms, including viruses, bacteria, and parasites. • If the water is cloudy, filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle. Then follow boiling guidelines. • Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).

Emergency Water Checklist for Long Term Care Facilities

Testing and Purification - Continued		
Date Completed	Date Reviewed	
		Small quantities of filtered and settled water can be made safer to drink by using a chemical disinfectant such as unscented household chlorine bleach. • Use only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite. Do not use scented bleaches, colorsafe bleaches, or bleaches with added cleaners. • Because the potency of bleach diminishes with time, use bleach from a newly opened or unopened bottle. Add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir and let stand for 30 minutes. The water should have a slight bleach odor. • If it doesn't, then repeat the dosage and let stand another 15 minutes. If it still does not smell of bleach, discard it and find another source of water.
		Iodine or water treatment products (sold in camping or surplus stores) are **not** recommended. Follow the manufacturer's instructions on the label or in the package. • Iodine and iodine-containing tablets (tetraglycine hydroperiodide) or chlorine tablets are **not** effective against *Cryptosporidium*. • Important: Water that 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.
		Chlorine dioxide tablets can be effective against *Cryptosporidium* if the manufacturer's instructions are followed correctly. Follow the manufacturer's instructions on the label or in the package.
		If water in pipes is suspected to be unsafe, have a plan to restrict access to that water source.

Emergency Water Checklist for Long Term Care Facilities

Resupply Plan/Agreement		
Date Completed	Date Reviewed	
		Have a plan for the facility and systems to connect to alternate water sources to support sprinkler system, waste water, and cooling systems.
		Be ready to communicate with local emergency management and the water company about the situation, and to request assistance for the facility.
		The facility should make arrangements/agreements with local water companies (public and/or private) to acquire water in case of an emergency to meet the facility's needs.

Portable Supply for Evacuation		
Date Completed	Date Reviewed	
		The facility's stored water supplies should be easily portable so that supplies can be available to residents and staff along the way in the event of an evacuation.
		The amount and container type for transport should be determined by the facility based on an assessment of the location, all-hazards analysis & individual characteristics of the facility and the population it serves.