## Hurricane Preparedness Tips for Water Systems

The information below was compiled from US EPA guidance. More information can be found on the US EPA website at https://www.epa.gov/waterutilityresponse.

**Suggestions for water and wastewater systems:**

1. Fill or top-off all water storage. This serves multiple purposes as:
    a. It will assist in maintaining fully pressurized lines during the storm.
    b. For gravity fed system, it could make available as much water as possible in the event of power outages to generators.
    c. It will weigh down many elevated tanks and hydropneumatic tanks that may be affected by heavy winds and flooding damage.
    d. If pressure can be maintained, hydropneumatic tanks that are normally 1/3rd to 1/2 full of air could consider water logging the tanks to maximize weight and stability. (Keep in mind most will need to utilize compressors to re-establish tanks.)
2. Sand-bag well houses and treatment sheds. Sandbagging may help prevent flooding of the building provided the surge does not exceed the level of the bagging.
3. Cover and protect circuitry and control panels:
    a. Many panels, even though they are considered weatherproof, are not designed to handle torrential downpours or flooding.
    b. At a minimum, wrapping plastic around a panel may help to minimize water damage: duct taping the plastic may help seal out excess rain. (Be sure to remove wrapping after the storm so moisture does not settle inside the panels due to condensation.)
4. Valve off areas more prone to high surge flooding just before the storm arrives. Many buildings and homes were destroyed which allowed for water loss until the valves could be cleared of debris to operate.
5. Stage vehicles and heavy equipment far away from the area affected by the storm. Some utilities lost all their equipment and vehicles. Moving them to higher ground or distant locations may protect them and make them available for immediate use after the storm.
6. Secure existing chlorine/disinfectant supplies and have access or plan for immediate re-supply.
    a. SAFETY NOTE: Buildings housing gas cylinders should be entered with caution. Emergency personnel properly equipped with SCBA and/or proper training should be first to enter.
    b. Mark gas cylinders for later tracking should they get washed or blown away in the storm. This will help emergency response teams during the clean-up in identifying whether cylinders are still missing.
    c. Chlorine containers or other chemical mix-tanks may become flooded by surge water or even rain after roof-wind damage. Re-supply will help to get the system operating sooner.
    d. For flooding from sewage or other unknown waters and debris materials, chlorine is normally the disinfectant of choice.
7. Bacteriological and disinfectant residual monitoring:
    a. Have proper chlorine monitoring equipment available to check point of entry and distribution.

b. Have enough bacteriological sample collection containers for an adequate number of samples for BW lifting determinations. (i.e., a week's worth of sampling)

**Suggestions For States**

1. Make sure all water system operators know how and where you will be located in the area after the storm.
    a. Expect any/all communications to be down for at least 3 days after the storm.
    b. This is a good opportunity to collect immediate needs from your systems to forward to appropriate state and federal officials.
2. Ensure state DW staff knows the plan of action after the storm.
    a. How often they should communicate - (once or twice daily, as needed, etc)
    b. Satellite phones to the lower county located state personnel (engineers, environmental inspectors, etc) may be the only means of communication.
3. Obtain mapping of the water systems and streets and ensure that they are up to date. GPS with accurate latitude and longitude can be priceless. This holds true if persons unfamiliar with the area and PWS locations will be assisting during a disaster.
4. Stock supplies for deploying personnel:
    a. Supplies may take days to get to the hardest hit areas. Make sure anyone that goes to the harder hit areas has adequate supplies and protection.
    b. Bottled water, toilet paper, food, sleeping bags, laptops, battery, powered radios, to name a few.
    c. Pack anti-diarrhea and pain relieving medication in your first aid supplies.
5. Ensure that all outside resources are aware of your needs:
    a. Keep rural water, RCAP, utility organizations abreast of how they can be best utilized in this situation.
    b. Coordinate with the National Emergency Resource Registry and other resources for immediate use as needed.

**Additional Resources**

1. Incident Action Checklist – Hurricane: https://www.epa.gov/system/files/documents/2021-10/incident-action-checklist-hurricanes_508c-final.pdf
2. Natural Disasters – Hurricanes: https://www.epa.gov/natural-disasters/hurricanes
3. Drinking Water and Wastewater Resilience: https://www.epa.gov/waterresilience
4. Water Safety: https://www.epa.gov/sites/default/files/2017-09/documents/water_safety.pdf
5. Hurricane Response: https://www.epa.gov/hurricane-response