



## **TDEC Division of Water Resources Recommendations for Drinking Water and Wastewater Systems Relative to Coronavirus (COVID-19)**

As occurrences of the COVID-19 illness increases nationwide, it is important for our water and wastewater treatment professionals to remain safe and continue operation of facilities to provide these critical services, which are paramount to ensure basic public health protections. It is extremely important for our water sector professionals and utilities to take necessary precautions and measures to protect both workers and public health. TDEC is providing the following recommendations, guidance and resources to assist public utilities in these efforts. TDEC recognizes that circumstances could arise which prevent adequate staffing and or limited resources to accomplish some routine regulatory compliance tasks, especially with regard to operation and management of water distribution and wastewater collection systems. Utilities can be assured that considerations for deviations from standard practice that do not present an immediate public health impact will be provided when appropriate. It is imperative that all resource needs and operational issues be communicated to TDEC as soon as possible for evaluation and assistance. A dedicated communications email address has been developed for that purpose: [TDEC\\_DWR.Emergency\\_Services@tn.gov](mailto:TDEC_DWR.Emergency_Services@tn.gov)

### **Staff Management and Continuity of Operations**

The greatest threat to our drinking water and wastewater operations is likely absenteeism among staff that limits the ability to adequately oversee the treatment processes and provide distribution system maintenance. The second would likely be supply chain disruption of critical chemicals and supplies needed for proper treatment. Utilities are encouraged to develop contingency plans to insure continued supplies of critical chemicals and adequate staffing of work crews. Mutual aid agreements with surrounding utilities should be reviewed for emergency coverage of operators and supplies. Flexible leave policies should be employed to discourage ill workers from continuing to work, risking exposure to the remaining operators. The Cybersecurity and Infrastructure Security Agency (CISA) has developed very good guidance documents to assist utilities in preparing for impacts from COVID-19:

[https://www.cisa.gov/sites/default/files/publications/20\\_0306\\_cisa\\_insights\\_risk\\_management\\_for\\_novel\\_coronavirus\\_0.pdf](https://www.cisa.gov/sites/default/files/publications/20_0306_cisa_insights_risk_management_for_novel_coronavirus_0.pdf)

# General Virus information from the Center for Disease Control and World Health Organization

The global outbreak of respiratory illness caused by a new coronavirus that emerged from China has reached pandemic proportions, according to the World Health Organization. The United States is in the early phase of the outbreak and as the outbreak continues, at some point, widespread transmission of the virus that causes COVID-19 in the United States is expected to occur. Many people will get sick, but based on what is known about this virus, most people will not develop serious illness. The virus appears to be chiefly contracted through person-to-person interactions of close proximity (within 6 feet) and contact surfaces. The virus is thought to be spread by respiratory droplets produced during sneezing or coughing. The ribonucleic acid (RNA) of the COVID-19 coronavirus has been detected in the stools of patients contracting the disease late last year and a fecal – oral pathway could be a means of waterborne transmission between humans. While detection of coronavirus genetic material in wastewater does not confirm its viability as an infection route, precautions should be in place to protect water and wastewater personnel and the general public. **It should be noted that no indication of waterborne transmission of the COVID-19 coronavirus has been found, particularly in the United States.**

## Wastewater Treatment Systems

Studies have indicated coronavirus, such as SARS, can be present in hospital wastewater or domestic sewage for 2 – 3 days. Combined sewer overflows and bypasses could release such viruses into the environment. However, experts in waterborne infection and disease outbreak control at the Water Environment Federation have indicated that this particular coronavirus can be inactivated relatively easily. Pathogenic indicators that we currently treat for such as E. coli and coliform, have a higher resistance to disinfection than coronavirus. Typical municipal wastewater disinfection processes are viewed as highly effective to inactivating coronavirus before it enters the environment.

Guidance issued by the Occupational Safety and Health Administration (OSHA) indicates no additional protections are needed for wastewater treatment operators beyond routine hygienic practices. Those practices include:

- Using engineering and administration controls
  - o Barriers to prevent worker exposure to splashes and sprays
  - o Enclosing certain processes that may produce aerosols
  - o Adequate ventilation to remove potentially contaminated air from the workspace
- Safe work practices
  - o Thoroughly washing hands with soap and water
  - o Avoiding touching the face, eyes, mouth, nose or open cuts or sores
  - o Before eating, removing work clothes and eat in designated areas
  - o Cover open sores and cuts with clean, dry bandages
  - o Remove work clothes before leaving the worksite
- Personal protective equipment normally required for tasks involving handling untreated wastewater
  - o Goggles, face masks and face shields
  - o Rubber boots
  - o Liquid repellent coveralls and gloves

Disinfection of hard surfaces at the worksites, including personal protective equipment should be a standard practice, with a solution containing at least 0.05% chlorine, such as diluted bleach. Similar precautions should be taken for workers handling municipal biosolids at the wastewater treatment plant.

## Drinking Water Treatment Systems

Drinking water treatment plants downstream (surface water) or down gradient (ground water) of wastewater systems have some susceptibility to their raw water supply being contaminated. Potential threats are incomplete wastewater disinfection, bypasses or discharges from combined sewer overflows or if there is a high density of fecal sources from infected individuals lying outside the service area of the upstream wastewater treatment system. However, the viability of the coronavirus in the open environment renders the threat of raw water contamination low. Additionally, disinfection at the water treatment plants and distribution maintenance of free chlorine residuals provides more than adequate multi-barriers to viruses into the drinking water supply. Coronavirus represents a low health risk to the public through treated water supplies.

Exposure risks to the staff operating water treatment plants are similarly low because of the coronavirus susceptibility to wastewater treatment and required use of chlorine for pathogen inactivation. Virus threats should be considered and handled no differently than other pathogens present in raw, ambient waters entering the plants. Once again, employing routine engineering controls, safe work practices and protective equipment should provide the safeguards necessary to protect the operating staff at the water treatment plant.

## General guidance for all U.S. workers and employers

OSHA has developed this interim guidance to help prevent worker exposure to COVID-19. For all workers, regardless of specific exposure risks, it is always a good practice to:

- Frequently wash your hands with soap and water for at least 20 seconds. When soap and running water are not unavailable, use an alcohol-based hand rub with at least 60% alcohol. Always wash hands that are visibly soiled.
- Avoid touching your eyes, nose, or mouth with unwashed hands.
- Avoid close contact with people who are sick.

## Additional References and Resources

<https://www.wef.org/news-hub/current-priorities/coronavirus/>

<https://www.waterisac.org/resources>

<https://www.osha.gov/SLTC/covid-19/>

<https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater>

<https://www.tn.gov/governor/covid-19.html>

<https://www.asdwa.org/covid19/>

<https://www.wef.org/events/webcasts/upcoming-webcasts/2020-webcasts/PandemicCOOPMar2020/>