

# TCEQ Interoffice Memorandum

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**To:** Commissioners

**Thru:** *EL* Earl Lott, Director, Office of Water

**From:** Cari-Michel La Caille, Deputy Director, Water Supply Division

**Date:** May 9, 2022

**Subject: Recommendations to Improve Public Water System Resiliency**

## **Background**

During the week of February 14, 2021, a severe winter storm, unofficially referred to as Winter Storm Uri, brought record low temperatures, ice, and snow across Texas. The storm impacted many of the state's public water systems causing widespread water outages or shortages, burst pipes, and equipment failures disrupting treatment processes. As a result, public water systems issued approximately 2,300 boil water notices in 212 counties over the course of the week impacting almost 18 million Texans. Agency staff were tasked with conducting an "after-action review" to evaluate the factors that impacted so many public water systems during this storm and develop recommendations to enhance and integrate additional critical infrastructure resilience measures.

Agency staff used multiple methods to gather information to develop the recommendations which included: a widely distributed public water system survey; multiple roundtable discussions with internal and external stakeholders; evaluation of case studies and lessons learned; and an extensive literature review to evaluate best management practices and design requirements from other states and organizations. Staff will present the following recommendations for discussion at the May 19, 2022, Commissioner Work Session:

### **Recommendation 1.**

Develop additional resiliency training requirements for operator licensure and continuing education to enhance emergency preparedness, response, and recovery tactics for severe weather events and other emergency conditions.

### **Recommendation 2.**

Develop additional resiliency training modules for operators and water system personnel that includes on-site disaster preparation, best management practices, table-top exercises, and initiate additional coordination with other state and federal agencies for resiliency related training opportunities.

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## **Recommendation 3.**

Build a specialized team to assist operators perform on-site resiliency assessments and to recommend additional measures to harden critical infrastructure used by public water systems.

## **Recommendation 4.**

Develop specialized training for the operation and maintenance of generators.

## **Recommendation 5**

Develop a "one-stop" guidance manual for operators that includes best management practices to prepare for all weather hazards and instructions for associated requirements such as boil water notice issuance and rescission procedures.

## **Recommendation 6.**

Develop additional generator maintenance requirements.

## **Recommendation 7.**

Require revisions to Emergency Preparedness Plans when significant changes to system infrastructure is made or when other updates are needed, specify when revisions are required if an affected utility's Emergency Preparedness Plan fails to provide 20 psi after an extended power outage and provide clarification for wholesale and purchase system relationships.

## **Recommendation 8.**

Add requirements for inclusion of certain protocols in a public water system's plant operations manual to ensure continuity of operations during emergency situations.

## **Recommendation 9.**

Add requirements for protecting critical public water system components from adverse weather conditions.

## **Recommendation 10.**

Revise the current public water system exceptions process to add site-specific conditions for weatherization of distribution piping that is exposed or buried less than 24 inches below the ground surface.

## **Recommendation 11.**

Require public water systems to establish a public education program to provide information to customers on how to prepare for and respond to weather emergencies to reduce panic and strengthen distribution resiliency during certain severe weather events or other emergency conditions.

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## **Recommendation 12.**

Revise procedural requirements for issuing and rescinding boil water notices.

## **Recommendation 13.**

Perform targeted outreach to public water systems to encourage registration and participation for mutual aid.

## **Recommendation 14.**

Enhance coordination efforts with the state's funding agencies to identify processes for supporting funding for weatherization needs and assist in making this information more readily available.

## **Optional Ideas for Additional Recommendations**

- Add requirements to increase the duration of fuel storage needs for public water systems and affected utilities with an on-site generator or plan to utilize a generator during emergency operations.
- Develop standards for the path to water facilities to be accessible in all weather conditions.
- Require certain public water system personnel to take National Incident Management System/Incident Command Structure introductory training.