

# WINTER STORM WORKING GROUP SUMMARY



On April 7, 2021, Austin's Water and Wastewater Commission formed a Winter Storm Working Group to serve as an advisory body to support AW staff in developing a thorough and objective review process. Working Group members provided a unique blend of engineering expertise, knowledge of AW's operations, and customer perspective. The Commission's Vice-Chair Christianne Castleberry served as the Working Group Chair, and Commissioner William Moriarty served as Vice-Chair with Commissioners Grant Fisher, Christy Williams and Jesse Penn as additional members of the working group.

From April through October 2021, the Working Group met monthly for structured discussions with AW staff about the operational challenges faced during Winter Storm Uri, with a focus on drinking water system issues. A list of questions was created to help guide each agenda, and AW staff provided briefing materials in advance. The Working Group held in-depth and challenging discussions with AW executives and managers on the following topics:

- Emergency Communication Strategies
- Impacts to Drinking Water System Storage and Pressure Management
- Impacts to the Drinking Water Distribution System
- Impacts to Drinking Water and Wastewater Treatment Plants
- Enterprise Resiliency and Emergency Planning

In addition, AW staff provided resource materials to the Working Group on Winter Storm communications, City Council briefings, the Citywide After Action Review, and the City Auditor's Disaster Response Audit. Throughout the process, notes and minutes from each Listening Session, as well as the Final Report of the City Council-appointed Winter Storm Review Task Force were provided as additional reference. The Working Group Chair reported the progress of the Working Group to the Water and Wastewater Commission each month.

During the final meeting on October 20, 2021, the Working Group reviewed and provided feedback on a series of recommendations for implementation by AW. First, AW staff presented recommendations already completed or underway related to infrastructure, communications, and incident management. The Working Group concurred with the Improvement Plans for communications and incident management. Next, the Working Group reviewed 22 recommendations related to infrastructure and engaged in a facilitated, prioritization exercise. This exercise produced a consensus priority level assigned to each recommendation.

The Working Group assigned the highest priority to tackling frozen equipment and components, power resiliency, storage capacity, and real-time information and analytics. The Working Group's consensus priorities are presented in the Improvement Plan section of this report. AW staff affirmed that the Working Group's priorities will be considered as staff carry out these recommendations through operations and maintenance activities and the Capital Improvements Plan. One member noted that AW remains vulnerable to freezing conditions that could significantly impact the system until recommendations of the After Action Review are completed.

In addition, the Working Group members agreed that the Working Group will not be dissolved in October 2021. The Working Group will continue to serve as an advisory body to Austin Water staff and will be convened as needed to guide priorities as Austin Water implements recommendations from the After Action Review.

This summary was reviewed and accepted by all members of the Working Group, and the Working Group Chair transmitted this summary to the Water and Wastewater Commission Chair on October 27, 2021.

# IMPROVEMENT PLAN

The table below shows the improvement plan for the recommendations that were prioritized by the Winter Storm Working Group. AW intends to implement the recommendations below, and the priorities expressed by the Commissioners will help to guide AW in its allocation of resources. Recommendations within the Capital Planning focus area will be incorporated into the ongoing Capital Planning process which incorporates cost, operational benefit, feasibility and resource requirements to sequence the implementation of proposed Capital Projects.

Recommendations within the Operations and Maintenance focus area are likely to be completed within the next three years. Because projects within the Capital Planning focus area require multiple stages of implementation (planning, design, and construction), full execution of the recommendations will require more than three years. However, initial implementation (i.e. planning and/or design) may initiate in the near term pending the outcome of the Capital Planning process.

Recommendations noted as “1” are designated as the highest priority, “2” as the second highest priority, and “3” as the third highest priority.

ID#	Recommendation	Focus Area	Commission Consensus Priority
CP-1	Continue to focus the Renewing Austin program, AW's water main replacement program, on small diameter cast iron pipes and utilize asset management principles to prioritize poor-performing pipes.	Capital Planning	2
OM-1	Winterize components of the water treatment plants.	Operations and Maintenance	1
OM-2	Winterize components of the wastewater treatment plants.	Operations and Maintenance	1
OM-3	Evaluate Austin Water pipeline design criteria for opportunities to enhance freeze protection requirements.	Operations and Maintenance	3
OM-4	Replace force main sections with shallow bury depth to prevent freezing.	Operations and Maintenance	2
CP-2	Implement weatherization enhancements and replacements for instrumentation to prevent issues and failures caused by freezing or power loss.	Capital Planning	1
CP-3	Add electric generation capacity at select lift/pump stations and treatment plants based on a criticality assessment.	Capital Planning	1
OM-5	Conduct improvements to existing electrical resiliency assets.	Operations and Maintenance	1
CP-4	Collaborate with AE on power resiliency opportunities, such as the cogeneration system at Hornsby Bend Biosolids Management Plant.	Capital Planning	2
OM-6	Implement maintenance and monitoring protocols for data transmission devices that rely on battery backup systems.	Operations and Maintenance	2
OM-7	Update long-range infrastructure plans utilizing updated demand planning criteria.	Operations and Maintenance	3
CP-5	Maintain available water production capacity at WTPs to meet demand planning criteria.	Capital Planning	2
CP-6	Implement improvements at the WTPs to provide additional flexibility in maintenance scheduling.	Capital Planning	3
CP-7	Increase chemical storage capacity at treatment plants.	Capital Planning	2
CP-8	Increase sludge storage and disposal capabilities at treatment plants.	Capital Planning	2
CP-9	Transition to disinfection processes at wastewater treatment plants that do not require chemicals, eliminating the need for chemical procurement and storage for disinfection.	Capital Planning	3
CP-10	Maintain adequate pumping capacity in the distribution system to meet demand planning criteria.	Capital Planning	2
CP-11	Maintain adequate transmission capacity to meet demand planning criteria.	Capital Planning	2
CP-12	Increase redundant pumping and transmission capacity from the WTPs to the distribution system.	Capital Planning	3
CP-13	Maintain adequate distribution system storage capacity to meet demand planning criteria.	Capital Planning	1
OM-8	Conduct improvements to the remote data communication (SCADA) system.	Operations and Maintenance	1
OM-9	Develop analytic capabilities to provide real-time water distribution insights from operational data and AMI meters.	Operations and Maintenance	1



# IMPROVEMENT PLAN CONT.

The following table shows additional recommendations with expected completion dates.

ID#	Recommendation	Focus Area	Expected Completion Date
OM-10	Evaluate Standard Operating Procedures for severe winter weather for distribution facilities.	Operations and Maintenance	12/31/2021
OM-11	Develop winter storm SOP for all wastewater treatment facilities.	Operations and Maintenance	12/31/2021
OM-12	Develop winter storm SOP for wastewater collection system, specifically identifying overflow points and critical lift stations.	Operations and Maintenance	12/31/2021
OM-13	Coordinate with power providers to identify "critical water facilities" in accordance with SB3.	Operations and Maintenance	3/1/2022
OM-14	Collaborate with AE to add third electric feed to Ullrich WTP and enable automatic switching capability.	Operations and Maintenance	10/1/2022
OM-15	Store strap-on boot spikes at treatment plants to walk on icy/slippery areas.	Operations and Maintenance	12/31/2021
OM-16	Add low level lockouts and remote override at pump stations.	Operations and Maintenance	12/31/2021
OM-17	Purchase and utilize tire chains for select AW vehicles and conduct training for installing tire chains and driving in icy/snowy conditions.	Operations and Maintenance	12/31/2021
OM-18	Authorize TxTags for high priority fleet vehicles and develop plan for utility-wide implementation.	Operations and Maintenance	12/31/2021
OM-19	Continue installing Advanced Metering Infrastructure (AMI) meters for entire AW System.	Operations and Maintenance	12/31/2025
IM-1	Conduct in-house training annually to meet department training requirements, and track conducted training.	Incident Management Team	11/30/2021
IM-2	Develop IMT depth to a minimum of three members at each identified position. Review IMT depth annually and expand as needed.	Incident Management Team	11/30/2021
IM-3	Implement reporting and accountability process annually to ensure full compliance with AW training and response requirements.	Incident Management Team	3/31/2022
IM-4	Evaluate options for developing fleet assets that enhance response capabilities during emergency conditions.	Incident Management Team	12/31/2021
IM-5	Clarify the Public Information Officer role within the Incident Management Team, which includes strategic decisions on communications messaging.	Incident Management Team	12/31/2021
IM-6	Conduct emergency response plan-related exercises that incorporate the ICS structure and use scenarios to test the communications area of the response in ways that are not easily anticipated.	Incident Management Team	12/31/2021
IM-7	Provide AW Communications staff at the City of Austin's Joint Information Center during emergency operations to help close information gaps and coordinate communications.	Incident Management Team	3/31/2023
IM-8	Identify Communications staff to serve multiple shifts during emergency activations and additional Austin Water staff who can support communication activities during emergency activations.	Incident Management Team	12/31/2021
IM-9	Include the Public Information Officer in IMT command meetings to develop updates which reflect potential uncertainty in future developments to accelerate communication releases.	Incident Management Team	12/31/2021
PI-1	Set the schedule for updates during an emergency based on a "planned transparency" approach to releasing information to media and the public that is synchronized with the news cycle.	Public Information Office	12/31/2021
PI-2	Create a real time outage map on the AW website which displays water outages during normal operations and emergency conditions.	Public Information Office	12/31/2021
PI-3	Conduct media training for staff who will represent AW in media interviews, press conferences, public meetings or similar roles during an emergency.	Public Information Office	3/31/2022
PI-4	Develop standard operating procedures for using the Warn Central Texas notification system, notifications through the My ATX Water customer portal, and the Department of Homeland Security's Integrated Public Alert & Warning System (IPAWS).	Public Information Office	6/30/2022
PI-5	Complete training of AW Communications staff to be familiar with the use of the IPAWS emergency alert system.	Public Information Office	6/30/2022
PI-6	Enhance outreach prior to Winter 2021-2022 to demonstrate lessons learned during Winter Storm Uri.	Public Information Office	2/28/2022
PI-7	Elevate visibility of winter weather prep information on the AW website.	Public Information Office	11/1/2021
PI-8	Develop an outreach plan and materials for multifamily property management companies, tenant associations, and property managers.	Public Information Office	12/31/2021
PI-9	Share more information with employees during emergency operations and include internal communications as part of overall emergency incident activities.	Public Information Office	12/31/2021
PI-10	Designate staff to develop internal communications materials during each IMT shift.	Public Information Office	12/31/2021
WH-1	Implement a streamlined communications plan during emergencies that emphasizes single points of contact and advanced coordinated efforts when practical and possible.	Wholesale	12/31/2021