

Collaborative State-Level Water Sector Emergency Response Exercises 2009-2011: **LESSONS LEARNED**

The U.S. Environmental Protection Agency (EPA), along with several state drinking water and wastewater programs, co-sponsored water sector-focused emergency response tabletop exercises (TTXs) in 2009, 2010, and 2011. These exercises occurred in Arkansas, California, Connecticut, Kentucky, Missouri, South Carolina, Tennessee, and Utah. The goal of these exercises was to raise awareness of the importance of water/wastewater services and the need for coordinated planning within a state for water sector-related emergencies. The main objective was to examine the roles and responsibilities of utilities, local, state, federal, and other water sector stakeholders and response partners. This factsheet highlights some of the lessons learned from these exercises.



KEY LESSONS LEARNED

Many of the tabletop exercises identified similar lessons learned that can benefit the water sector within any state. Key lessons learned from the exercises are summarized below:

- **Plan and coordinate with response partners before an incident** – Coordination before an incident occurs and during the incident response ensures that all water sector response partners in a state will have the situational awareness essential for appropriate response and resource management. Water and wastewater utilities should meet with their likely response partners on a regular basis to discuss

“Since all incidents/emergencies start and end at the local level, utilities should reach out to their Local Emergency Planning Committee and Emergency Management Agency within their service area to discuss preparedness and response to incidents that may affect the water sector.” – Connecticut TTX

their emergency plans and operations. Partners include local first responders; critical customers; interdependent sectors such as the power and healthcare sectors; mutual aid groups; supporting laboratories; suppliers; local emergency planning committees; local and state EMAs (including the state Emergency Management Assistance Compact coordinator); state primacy agencies and departments of health and the environment; and federal partners such as EPA, the Federal Emergency

Management Agency (FEMA), the Centers for Disease Control and Prevention (CDC), the U.S. Army Corps of Engineers (USACE), and the National Guard. Utilities can engage local EMAs using the checklist in EPA’s “Coordination of the Water and Emergency Services Sectors: An Important Step to Better Response” (<http://water.epa.gov/infrastructure/watersecurity/emerplan/upload/epa817k12001.pdf>). Utilities can also conduct exercises with potential response partners and establish relationships in advance of an incident using EPA’s “Tabletop Exercise Tool for Water Systems: Emergency Preparedness,



Response, and Climate Resiliency (TTX Tool)” (see <http://water.epa.gov/infrastructure/watersecurity/techtools/ttx.cfm>). State agencies should encourage utilities to join their state’s Water/Wastewater Agency Response Network (WARN) (see www.epa.gov/mutualaid) and practice using their WARN’s operational plan. Some states have found it beneficial to set up a water desk or invite a WARN liaison to the state Emergency Operations Center in order to better coordinate the levels of water sector response within a state. Communication with the public is also imperative. Accurate and up-to-date public notices are important

following a disaster, but pre-disaster public awareness campaigns highlighting personal preparedness and self-sufficiency are also critical in order to better manage expectations.

- **Be prepared to conduct damage assessments**

– Local, state and federal officials depend on regular, accurate, and comparable needs assessments for up-to-date situational awareness and to help prioritize the use of resources. Sharing damage assessments among all water sector response partners can help maintain a common operating picture, which facilitates collaborative planning and response. Local and state agencies should encourage utilities to complete pre-incident infrastructure assessments to expedite recovery and reimbursement for repair or replacement of damaged infrastructure. For more information on pre-incident assessments and reimbursement, consider EPA’s “Reimbursement Tips for Water Sector Emergency Response and Recovery” (see http://water.epa.gov/infrastructure/watersecurity/emergency/upload/fs_watersecurity_reimbursementtips_watersector.pdf). Exercise participants suggested that state

“The exercise highlighted the role of both utilities and response partners at all levels (local/county, state, and federal) in properly assessing, documenting, and seeking reimbursement for incident-related expenses and damages.” – Missouri TTX

agencies coordinate to develop standardized forms that all utilities can use. The forms should include information on systems/equipment operability, facility safety/accessibility, interconnections, source, location, and population served. Utilities should consider pre-populating their forms in order to expedite the paperwork process. Utilities may need to coordinate with other utilities and local, county, state, and federal agencies, and mutual aid/assistance networks to obtain assistance to perform assessments of their facilities and equipment.



- **Be prepared to request resources** – The exercises revealed that utilities, as well as local and state agencies, may not be familiar with the resource request process and procedures at the local, state or federal levels. Water and wastewater utilities should become familiar with local and state procedures to properly

“[It is important to] maintain an accurate, up-to-date tally of [utility] resources, categorized according to the NIMS and AWWA Resource Typing guidelines, to facilitate the resource request/deployment process during emergencies.”
– **California TTX**

request the necessary resources for returning to operation after a disaster-related service interruption. Utilities should pre-identify the resources that they may need, such as equipment, treatment chemicals, and additional personnel to help with repairs, conduct sampling, and perform laboratory analyses to support a surge in demand for these services. A helpful resource is the American Water Works Association (AWWA) “Resource Typing Manual” (see the WARN Resources link on www.NationalWARN.org). State EMAs should use this information to pre-identify likely resource requests and pre-script FEMA Action Request Forms in order to expedite requests for aid from federal officials and other states.

- **Pre-identify backup power requirements**

Utilities should also be ready to request emergency power resources, as this is often the biggest challenge utilities face. To be well prepared, utilities should identify their start-up and operational power requirements, be familiar with generator installation and operation, test their backup generators regularly, and maintain an adequate fuel supply. Utilities can use the emergency generator information form in EPA’s “Is Your Water or Wastewater System Prepared? What You Need to Know About Generators” brochure (see http://www.epa.gov/reg3wapd/pdf/pdf_drinking/110331-generator-brochure.pdf).



- **Plan for provision of alternative water supplies**

Both utilities and state agencies noted the importance of developing a plan to provide an alternate drinking water supply to customers in the event of prolonged service interruptions. Suggested activities include analyzing options for an alternative water supply such as bottled water, bulk water, wells, and temporary treatment and distribution systems. Communities often assume the availability of bottled water, but suppliers may not be able to reach consumers if roads are impassible. In addition, bottled water is not a viable option for essential needs such as medical and/or commercial HVAC requirements. State EMAs may consider providing bulk water if there are a sufficient number of certified tankers and a viable system of distribution. Before temporary systems are used, state primacy agencies must assure that water quality testing is performed and state drinking water requirements are met. A helpful resource is the EPA/AWWA-developed “Planning for an Emergency Water Supply” (see Water Security Re-

“Facilities and communities should develop plans to set up temporary systems for distribution and collection.” – Arkansas TTX

search [Infrastructure Protection link] on <http://www.epa.gov/nhsrc/index.html>). This document is complemented by the CDC/AWWA collaboration on “Emergency Water Supply Planning Guide for Hospitals and Health Care Facilities” (see http://www.cdc.gov/healthywater/emergency/drinking_water_advisory/index.html).

- **Incorporate lessons learned into response plans** – Utilities and their response partners should regularly review and update their emergency response plans (ERPs) and other related plans to include lessons learned from trainings, exercises and actual responses.

Planning should cover communication plans and up-to-date contact information to facilitate coordination within organizations and between response partners. Prioritization of inter-dependent sectors, emergency staffing, debris removal, and procurement of supplies should be addressed. Plans should address resources required for damage assessments and detail procedures for operating when critical communications and system controls are disrupted or inoperable. Plans should also consider financial issues, insurance, possible loss of customer revenue, and mitigation and disaster recovery funding opportunities. Utilities and their response partners can incorporate consequence-specific actions found in “All-Hazard Consequence Management Planning for the Water Sector” (see http://www.wef.org/uploadedFiles/Access_Water_Knowledge/Water_Security/Water_Security_PDFs/All-HazardCMPNovember2009FINAL.pdf).



“Utility ERPs should address continuity and contingency planning; identification of key personnel, roles, and responsibilities; training for all personnel; and mitigation measures.” – Tennessee TTX

For Additional Information

To learn more, please visit <http://www.epa.gov/watersecurity> or contact WSD-outreach@epa.gov.