



Riordan

Mutual Aid and Assistance Among Water Utilities

What is it? Where has it been? Where is it going?

Mutual aid and assistance involves providing essential personnel and resources to a local area in need of help, generally during and after a disaster or other emergency. Personnel and resources are shared among communities and organizations of similar nature and size. An early example is the bucket brigades of the 1700s and 1800s; neighbors fought fires by transferring buckets of water. Although public and private utilities may have practiced mutual

aid and assistance for more than a century, the informal handshake has given way to formalized agreements and protocols. A gentleman's agreement has given way to a formal agreement requiring legal review and adoption by an elected official or an appointed board. The evolution to a formal agreement seems unnecessary and a far cry from what mom taught you when she said, "Be nice to the others in the sandbox." However, the lack of a formal agreement can lead to lawsuits, bad feelings among utility industry brethren, grand jury investigations, and long-term uncovered and unaccounted-for costs.

Modern examples of public safety mutual aid and assistance include the response of fire-fighting personnel with equipment among communities and the response of electrical utility line crews among electrical utilities in different regions of the United States. During the evolution of changes in mutual aid and assistance, utilities in California and North Carolina met the challenge with creative programs.

EVOLUTION OF WATER SYSTEM MUTUAL AID NETWORKS

Rudimentary mutual aid and assistance among water systems has likely existed as long as water systems themselves. However, water system mutual aid and assistance is not yet as systematic and organized as the relationships that exist among fire departments and electrical utilities. Although one of the oldest formal mutual aid and assistance programs was developed in California in the 1950s, until recently most water utility mutual aid and assistance networks were informal and involved primarily intrastate aid. Water utility

There are numerous examples of instances when mutual aid and assistance programs have come into play in the wake of an emergency or natural disaster. The response to the aftermath of Hurricane Katrina by water utilities is an example of such a program at its best.



WARN

mutual aid and assistance networks have generally been created as the result of significant disasters.

The California statewide mutual aid program was created by California Governor Earl Warren (future Supreme Court Justice) when he signed the state's Civil Defense Act. The purpose of the Civil Defense Act of 1950 was to better prepare the state for a potential Soviet invasion and ensure government support to protect the public and restore peace following an attack. Although the initial focus was on police, fire, and medical needs and conditions, evacuation planning was the key to success. The government expected to relocate thousands of residents (today it would be millions) to nonnuclear threat areas and re-establish civilian life.

In 1952, the governor realized that utilities would be critical to alleviating the "gap" in evacuation planning. Without the infrastructure to support the newly established public settlements, public health and safety would be compromised. The governor created the Utility Policy Committee (UPC) whose sole purpose was to develop mutual aid agreements, plans, and training programs for the utilities. The UPC was managed and driven as a Joint Powers Agreement among the

public agencies. Four large public utilities were selected to serve on the Board of Governors for the utilities: East Bay Municipal Utility District (EBMUD; water and wastewater), Metropolitan Water District of Southern California (water wholesaler), Los Angeles Department of Water and Power (water and power), and Sacramento Municipal Utility District (electric). Although driven by these public agencies, private (investor-owned utilities) telecom, water, wastewater, power, gas, and pipeline industry leaders were invited to participate and played a significant part in developing the organization.

BIRTH OF THE WARN NETWORKS

Following the 1989 Loma Prieta earthquake, the 1990 freeze, and the 1991 East Bay Hills firestorm, utilities in California's San Francisco Bay Area learned what three strikes means when responding to emergencies. It means doing things differently. The State Office of Emergency Services helped Bay Area utilities evaluate the need for response and helped craft a mutual aid and assistance agreement that could assist in response when resources are limited.

By June 1992, the Water/Wastewater Agency Response Network

(WARN) was created with leadership from Martin Falarski (EBMUD) and six other Bay Area utility representatives. From the outset, the group created a plan of action:

1. Establish a steering committee.
2. Identify a mission for the program and steering committee goals.
3. Review use of state regions.
4. Identify mutual aid and assistance activation criteria.
5. Draft an agreement based on existing agreements.
6. Create facilitation tools.
7. Maintain the program.

The program and agreement were tested with four disasters. The 1994 Northridge earthquake expanded the mutual aid and assistance program from a regional program to a full-fledged intrastate program when EBMUD sent personnel and equipment to the Los Angeles Department of Water and Power. The 1998 El Niño storms caused significant flooding and landslides that nearly prompted evacuation of a hospital in Monterey until resources and equipment were deployed to repair a large distribution line that served the hospital and other parts of the city. The 2001 Sonora fires required mobilization of resources when a water transmission system line was destroyed by the fire. In 2005, Hurricane Katrina encouraged mobilization of California utilities along with utilities in other states in an unprecedented interstate effort.

What makes the WARN program different from other mutual aid programs? WARN is different because:

- Public and private utilities are involved and serve as signatory members.
- It created a program, not just an agreement, with a focus on training and education.

Responders with expertise in many areas of water and wastewater treatment are needed in order for response teams to be prepared and effective in the wake of a natural disaster or other emergency.



- Activating a WARN request does not require a formal public declaration of an emergency (either a local, state, or federal declaration).

- It remains a collaborative effort managed by utilities, not layers of government.

Another example of the evolution of mutual aid networks is in North Carolina where the AWWA North Carolina section and the Water Environment Association formed a disaster preparedness committee following Hurricane Floyd, which had a significant impact on eastern North Carolina in 1999. That committee, working with the North Carolina League of Municipalities and the North Carolina Division of Emergency Management, undertook a number of intrastate mutual aid initiatives, including

- establishing the mutual aid coordinator position within the state Emergency Operations Center,
- developing the mutual aid disaster intervention response teams resource typing model,
- establishing a statewide mutual aid web site (ncmutualaid.org), and
- developing the disaster mutual aid responders' accommodations checklist.

Many of these mutual aid improvements in North Carolina have been tested in subsequent disasters in that region of the country. Some North Carolina water systems have provided interstate mutual aid to water systems in other states. Unfortunately, obtaining Federal Emergency Management Agency reimbursement for mutual aid efforts, especially interstate, has become increasingly challenging in recent years.

CURRENT MUTUAL AID AND ASSISTANCE INITIATIVES

Current initiatives in mutual aid and assistance networks among water sys-

With forward thinking and a mutual aid and response plan in place, responders from Portland, Ore., and Florida were able to assist their water and wastewater utility colleagues in the wake of hurricanes Katrina and Rita.

tems include advancements in the WARN networks, efforts to improve interstate mutual aid opportunities, and efforts to refine resource typing models.

Following the 2004 hurricane season, utility representatives from Florida contacted the California WARN leadership to find out how to create a statewide mutual aid and assistance program in their state. With joint leadership between the AWWA Florida section and the Florida Rural Water Association, a program evolved quickly. A year later, Florida was organized enough to assist with response to Hurricane Katrina in Mississippi and Hurricane Rita in Texas. Texas and Louisiana quickly assembled similar mutual aid and assistance efforts to develop WARN systems from the lessons learned in response to their hurricanes.

In November 2005, Florida WARN organized training for various water industry associations and other Gulf states to demonstrate the program's usefulness. As a result, eight water industry associations (AWWA, National Rural Water Association, Association of Metropolitan Water Agencies, Association of State Drinking Water Administrators, National Association of Water Companies, National Association of Clean Water

Agencies, Water Environment Federation, and Association of State and Interstate Water Pollution Control Administrators) signed a policy statement in February 2006. The policy statement agreement encouraged AWWA to produce a white paper, "Utilities Helping Utilities, An Action Plan for Mutual Aid and Assistance Networks for Public and Private Utilities," which can be found at http://www.awwa.org/Advocacy/govtaff/issues/Issue07_Water_Response_Networks.cfm.

Since then, with US Environmental Protection Agency (USEPA) funding and AWWA deployment of five regional WARN workshops, the white paper has been used to develop WARN programs in Arkansas, Arizona, Georgia, Illinois, Iowa, Kentucky, Oregon, New Jersey, Nevada, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia, Washington, and West Virginia. With five more regional workshops planned for 2007, a WARN is coming to a state near you. USEPA and AWWA efforts to create an interstate WARN program in each state have been recognized with the Partners in Preparedness Award from the International Association of Emergency Managers. The Infra-



structure Security Partnership has also recognized Kevin Morley of AWWA's Department of Government Affairs and the author of the action plan white paper for his efforts in promoting the WARN program.

Since witnessing the tragic results of Hurricane Katrina, each state has learned that an interstate link is necessary for catastrophe planning. AWWA has been appointed to the advisory group of the Emergency Management Assistance Compact (EMAC), the only Congressionally ratified interstate agreement for sharing interstate mutual aid and assistance resources. Creation of an interstate program will take a coordinated effort with EMAC representatives and the leadership of each burgeoning WARN program. More work needs to be done to create a seamless program of interstate mutual aid and assistance.

AWWA and others have begun resource typing efforts, which will make it easier for potential mutual aid and assistance providers and recipients to communicate on mutual aid opportunities. Communication will be based on established aid typing, rather than attempting to specify detailed aid needs on a case-by-case basis.

Progressive water systems are aware of and are getting involved in the mutual aid and assistance networking opportunities within their states. In the end, these networks will make a difference when the next disaster hits.

RESOURCES

- Roberson, J.A. & Morley, K.M., 2006. Water Security: Shifting to an All-Hazards Resiliency Approach. *Jour. AWWA*, 98:5:46.
- Riordan, R.A., 1995. Mutual Aid and Emergency Response for Water Utilities. *Jour. AWWA*, 87:5:52.

—Raymond Riordan is emergency preparedness manager for the City of San Ramon, CA, 94583, and serves as the current chair for the California Water/Wastewater Agency Response Network (or WARN). As a consultant with Computer Sciences Corp., he provides services to the Water Security Division of the US Environmental Protection Agency in the development of the national WARN project. He can be reached at rayriordan@comcast.net.

Jack Moyer is the emergency management director in the Morrisville, N.C., office of URS Corp. He is a member of the AWWA Security Committee, the Chair of the Emergency Preparedness subcommittee, and a member and former Chair of the North Carolina AWWA/Water Environment Association Disaster Preparedness Committee. He can be reached at jack_moyer@urscorp.com.