WATER SECTOR MUTUAL AID AND ASSISTANCE: UTILITIES HELPING UTILITIES

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Abstract

The events of 9/11, Hurricanes Katrina and Rita in 2005, and severe flooding in New England and the Midwest in 2007 show the need for water and wastewater systems to share resources to overcome disasters occurring at a local or regional level. The Water Sector's professional associations, with support from U.S. Environmental Protection Agency (EPA), are working to encourage local utilities in every State to establish intrastate mutual aid and assistance agreements between both drinking water and wastewater utilities. These agreements, formally known as Water/Wastewater Agency Response Networks (WARN), embrace a utility-driven model to facilitate an effective and efficient flow of personnel and resources during an emergency.

The mission of WARN is to provide expedited access to specialized resources needed to respond to and recover from natural and human-caused events that disrupt public and private drinking water and wastewater utilities. By adopting the WARN approach to mutual aid and assistance, drinking water and wastewater utilities in each state are able to sign a single agreement covering issues such as indemnification, workers' compensation, and reimbursement. Unlike existing statewide mutual aid agreements, WARN membership is open to both public and private utilities. WARN helps utilities reduce the typical response "gap" between local agreements and activation of statewide agreements, as it does not require an emergency declaration prior to activation. Due to the outstanding support EPA and the American Water Works Association (AWWA) provided to this grassroots, utility-driven effort, the International Association of Emergency Managers (IAEM) awarded them the 2006 "Partners in Preparedness" award. The agreement implemented by WARN is recognized as a "Model Agreement" by the U.S. Department of Homeland Security/Federal Emergency Management Agency National Integration Center Incident Management Systems Division. The number of statewide agreements has more than tripled in the past year, leading to a better prepared and more resilient Water Sector.

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Introduction – What is a WARN?

With increasing frequency, large scale emergencies and natural disasters are placing critical infrastructures to the test. These events have demonstrated the need for water and wastewater systems to be able to work together to overcome the impacts of the disasters. In response to these challenges, water utilities have begun to develop intrastate, mutual aid and assistance networks formally known as WARN—Water/Wastewater Agency Response Networks. By adopting the WARN approach to mutual aid and assistance, water utilities benefit from the ability for utilities to share equipment, personnel, and other resources required to respond promptly and effectively to any crisis that overwhelms local utility resources. Thus, WARN networks fill a critical early response function before government aid or personnel become available.

The initial focus of WARN has been to create intrastate networks that enhance utility preparedness and resiliency within each state. An emerging objective of the WARN program is to promote the establishment of interstate mutual aid and assistance agreements to share resources across state lines using existing mechanisms, such as the Emergency Management Assistance Compact (EMAC) or other mechanisms. The WARN concept supports a number of emergency preparedness initiatives in the United States including:

- National Incident Management System (NIMS) (U.S. Department of Homeland Security (DHS), 2007),
- National Response Framework (NRF) (DHS, 2008),
- National Infrastructure Protection Plan (NIPP) and (DHS, 2007), and
- Water Sector-Specific Plan (DHS and EPA, 2007).

The History of WARNs in the United States

The first WARN was created in the state of California in 1992 and following four Hurricanes in 2004, utilities in Florida created the second WARN in 2005. Based on the experience of states that have already adopted and deployed the WARN concept, there is a proven process for establishing a WARN in a state or large, multi-jurisdictional area:

Step 1. Identify interest in starting a program.

To start the journey toward establishing a WARN in an individual state, identify and gather water utility professionals known as leaders in the water industry and profession for discussions about the need for, and benefits of, a mutual aid and assistance program such as WARN. Ideally, these discussions will confirm interest and lead to the second step—establishing an Initial Leadership Team (ILT).

Step 2. Form an Initial Leadership Team (ILT).

Water utility representatives collaborate to establish membership criteria for the ILT. The team membership should include utilities as well as government agencies (e.g. emergency response, public health, etc.), including water and wastewater primacy agencies. The utility membership should encompass a mix of public and private utilities, large and small utilities, “wholesale” and “distribution” utilities, and contractors that provide water delivery and treatment services. In the process of establishing the ILT, utility representatives also should consider roles for state and local agencies, such as water primacy agencies.

Step 3. Prepare a kickoff session.

The first task for the Initial Leadership Team is to organize a “kickoff” meeting involving not only the ILT members but also federal and state agencies that have expressed interest in partnering with the ILT. The meeting should be designed to attract utility representatives who could be invited to become members of a WARN.

Step 4. Establish a Steering Committee.

If enough interest and support for a WARN emerge as a result of the kickoff meeting, the ILT should begin identifying members for a Steering Committee. The committee makeup should be similar to that of the ILT; typically, the committee would include utility owners and operators, representatives from industry and professional associations, officials from state water and wastewater primacy agencies, and staff from state emergency preparedness and response agencies. A key initial task for the committee is to confirm the membership criteria for the utilities and agencies that will be invited to become WARN members or partners.

Step 5. Identify a mission for the program and goals for the Steering Committee.

Key first steps for the Committee include specifying a purpose, mission and goals for the WARN. Goals should span both short-term and long-term timeframes. The committee also develops educational materials that will be used to explain the purpose and benefits of a WARN to the upper management of utilities.

Step 6. Determine need to use State regions.

A WARN typically designs its organizational structure to correspond to the major regions within its state. Nonetheless, the Steering Committee should discuss the benefits and logistics of following the regional model. Discussions usually involve state primacy, wastewater permitting authority, and emergency management/response agencies.

Step 7. Identify mutual aid and assistance activation criteria.

This step addresses rules for accessing WARN support, definition of an emergency, support initiation procedures, guidelines for using member utilities' resources, measures for preventing misuse of the WARN, and procedures for coordinating with state emergency preparedness and response agencies on "gubernatorial declared" emergencies.

Step 8. Draft an agreement (including information on steps 4, 6, and 7).

Start by identifying agreement parameters, including necessary legal authorities to establish an agreement and member responsibilities when WARN requests are received. The committee should determine whether a legal review of the draft WARN agreement is needed.

Step 9. Create facilitation tools.

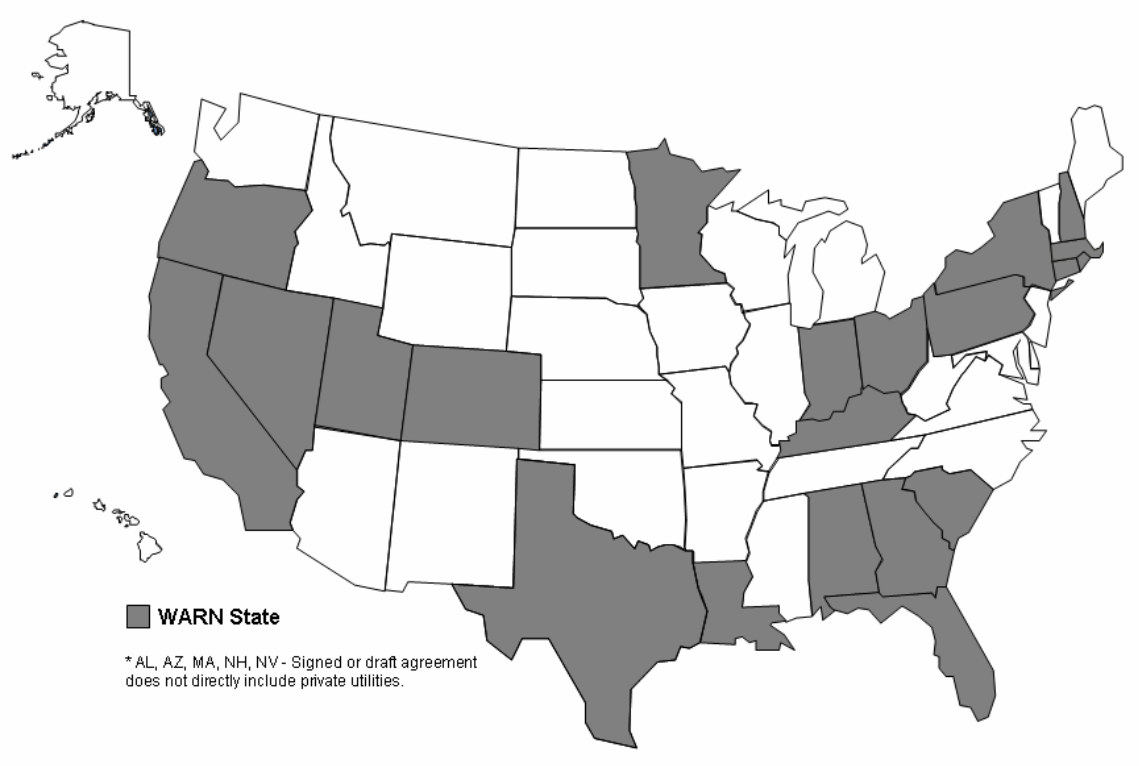
Facilitation tools, training, and workshops provide members with the background and task-specific knowledge needed to understand and implement a WARN. Tools and training can address topics such as crafting protocols for defining damage and resource needs, establishing linkages with local emergency management agencies, and establishing telecommunications and Web systems.

Step 10. Maintain the program.

After launch, sustaining and enhancing WARN programs usually involves organization of periodic regional and state-wide meetings; creation of channels for regular, two-way communication; documenting and sharing of successes and lessons learned; identification of funding to further develop communication systems or Web sites; and the conduct of tabletop exercises to practice and refine the operation of the WARN.

Figure 1 on the following page shows the progress of the 50 states of the United States toward implementing WARN programs. As of February 2008, 21 states have fully established WARN programs while additional WARNs are expected to be in place before the end of 2008.

Figure 1. WARN Status: February 2008



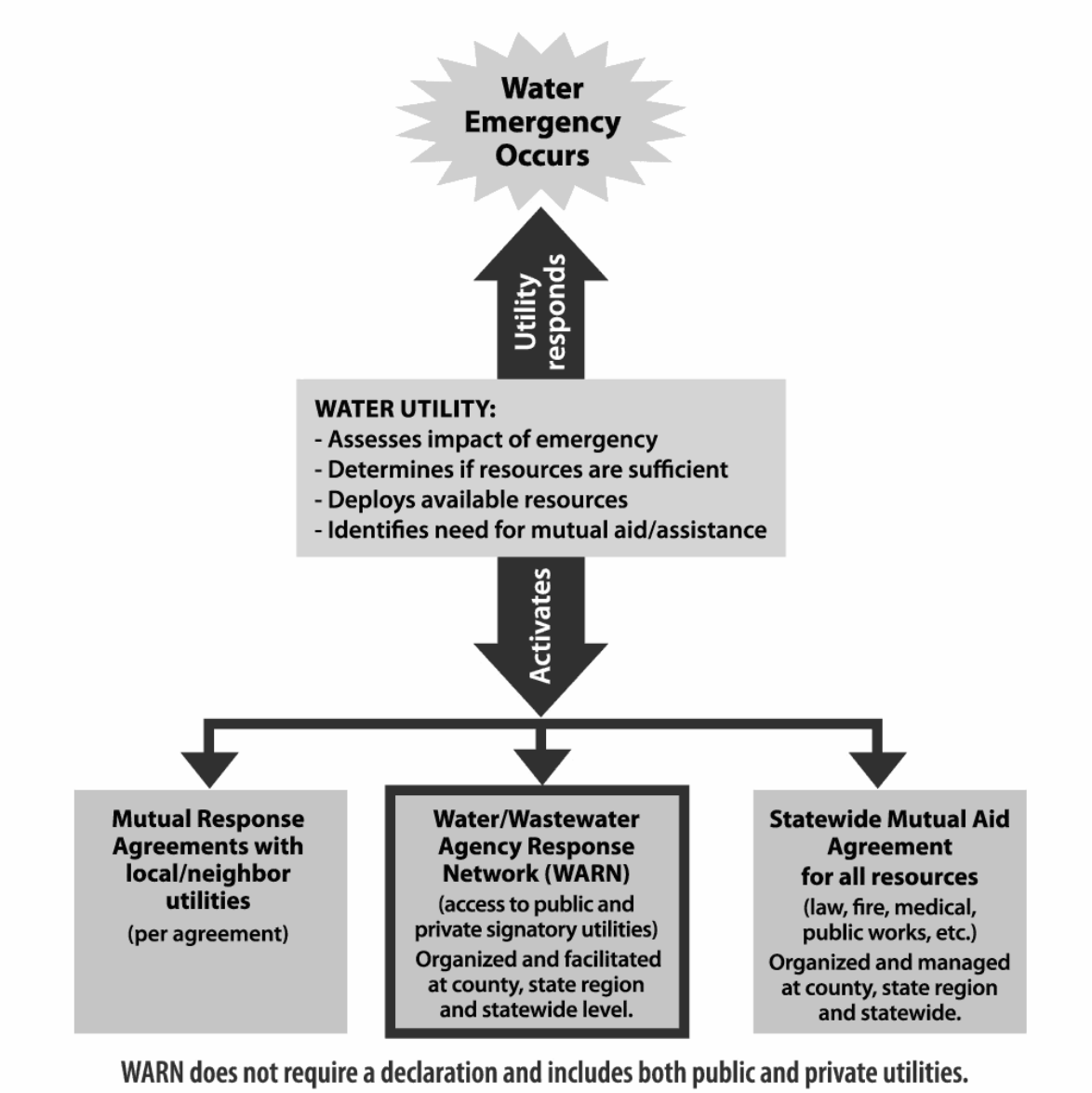
Discussion

Benefits of WARN Programs

A WARN provides numerous benefits for its participating water and wastewater utilities and for the communities that they serve:

- Expedited access to specialized resources
- Improved planning and coordination
- Consistency with the National Incident Management System (NIMS)
- Operation with voluntary participation (and there is no cost to participate)
- Control of resources by member utilities (they can recall/retrieve them at any time)
- Fulfillment of federal reimbursement requirements through pre-disaster agreements
- Inclusion of legal mechanisms in the agreement that address member indemnification, workers' compensation, and reimbursement
- Activation prior to an emergency declaration (unlike traditional statewide mutual aid/assistance agreements, WARN requires no declaration of a local emergency)

Figure 2. Intrastate Water Sector Mutual Aid/Assistance Process



The WARN/Mutual Aid/Assistance Activation Process

Activation of a WARN or a similar local or state-wide mutual aid agreement is a simple process. As the Figure 2 shows, upon identification of an emergency, a water utility gauges the seriousness of the event and determines if it needs to call upon outside resources. If outside support is required, the utility—after first deploying its own resources—identifies which type of mutual aid is needed, and available. The utility activates the appropriate mutual aid agreement (local/neighbor utility agreement, WARN, or a statewide mutual aid agreement).

Governmental and Association Support for WARN

In the United States, the WARN approach has succeeded due to the widespread and continuing support provided by water industry associations and federal government agencies, such as EPA.

On February 15, 2006, eight major water industry associations representing the water sector signed a Joint Policy Statement on Mutual Aid and Assistance Networks, titled *Utilities*

Helping Utilities, which endorsed the associations' commitment to encourage members to establish intrastate mutual aid and assistance networks (AWWA, 2006). The signatory associations were:

- Association of Metropolitan Water Agencies (AMWA)
- American Water Works Association (AWWA)
- Association of State and Interstate Water Pollution Control Administrators (ASIWPCA)
- Association of State Drinking Water Administrators (ASDWA)
- National Association of Clean Water Agencies (NACWA)
- National Association of Water Companies (NAWC)
- National Rural Water Association (NRWA)
- Water Environment Federation (WEF)

EPA has been working closely with water sector partners to encourage the establishment of a WARN in each state across the U.S. In the development phases, EPA has been supporting meetings and workshops for states in the process of developing a WARN, or attending to learn more about the concept. For example, EPA provided a grant to AWWA in which representatives from all 50 states and the District of Columbia were invited to attend workshops focused on what WARN is, how it has been used in the past, and WARN enhancements planned for the future. These workshops were held in locations across the U.S., ranging from Oakland, California to Boston, Massachusetts during 2006 and 2007. EPA also has provided support to individual states: funding from the States and Tribal Grants (STAG) Program furthered the development of a WARN in both Florida and Pennsylvania; EPA contractor support enabled creation of WARN Web sites for Georgia and Louisiana; and EPA facilitation support benefited WARN planning meetings in a number of states, as well as the various workshops sponsored by AWWA.

EPA continues to support WARN outreach and education through participation in and presentation at national meetings and conferences.

WARN Sample Operational Plan

EPA is developing a sample Mutual Aid/Assistance Operational Plan to help utilities to develop procedures for activating and implementing formal, signed WARN agreements. The sample plan outlines critical operating procedures and provides step-by-step instructions for creating new, or improving existing, procedures. The sample operational plan also provides instructions for integrating WARN member utilities into WARN operations before, during, and after a water event or emergency.

Tabletop Exercises

One of EPA's most recent WARN support initiatives is the development of tabletop exercises that enable WARN members to practice implementing the WARN agreement. The purpose of these exercises is to practice using WARN features such as activation protocols, response activities, and coordination with state and local emergency management agencies, state primacy (regulatory) agencies, and other agencies. In addition, the tabletop exercises will enable participating utilities and agencies to define more precisely and realistically their roles and responsibilities. At the most fundamental level, the exercises also provide a forum for participants to identify missions for WARN and goals for WARN steering committees.

EPA is developing the exercise content based on needs identified by the utilities that have developed a WARN. The exercises will be scenario-based, and include participant and facilitator guides. Exercises are under development for states exploring the WARN concept, as well as for those with an established WARN that has been used to respond to an actual event.

Beyond State-Level Response: Interstate Mutual Aid/EMAC

As the WARN concept has taken hold, its design and implementation have continued to evolve. Utilities in states located in close proximity to one another geographically are interested in expanding the water utility mutual aid and assistance concept across state lines to create interstate mutual aid agreements. One option for sharing resources across state lines is EMAC—the Emergency Management Assistance Compact. Managed by the National Emergency Management Agency (NEMA), EMAC is the only mutual aid program ratified by the U.S. Congress in which all 50 states and the District of Columbia are members. Since EMAC requires a formal emergency declaration, many utilities are interested in developing WARN to WARN agreements. An understanding of state laws that govern interstate sharing of resources is currently being evaluated to determine how this concept could be implemented.

Conclusions

In response to threats from natural disasters and human-caused events, the water sector in the United States has partnered to adopt mutual aid concepts that enable effective mutual aid and assistance programs to operate within states and even across state lines. Partnering with industry associations and local, state and federal government agencies, utilities have used the WARN program to establish mutual aid networks within many states. In addition, states have begun using the WARN approach to outline the framework for interstate mutual aid programs. U.S. EPA is fully committed to the WARN concept, and is supporting the development of WARN through extensive outreach, facilitation, and technical support.

For More Information

For additional information on WARN, visit the WARN information Web site (www.NationalWARN.org), or contact John Whitler of U.S. EPA (whitler.john@epa.gov).

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Author Biography

John Whitler is a Threat Specialist with the U.S. Environmental Protection Agency, Office of Water, Office of Ground Water and Drinking Water, Water Security Division. John holds a

B.S. from Indiana University in Public Affairs/Policy Studies/Environmental Management. John has worked on emergency response and recovery at EPA for the past three and one-half years and helped publish the “Emergency Response Tabletop Exercises for Drinking Water and Wastewater Systems CD-ROM.” John works on other tools, training, and outreach with the goal of helping the Water Sector to be better prepared to respond and return to normal operations more quickly. John is the Water Security Division's lead in the promotion of mutual aid and assistance agreements in the Water Sector and also works on other emergency response training. John has been recognized by EPA with a Bronze Model for Commendable Service for his work on water security. Additionally, John received the Administrator's Award for Excellence for his contributions to the Agency's efforts during Hurricanes Katrina and Rita. John also helped EPA to receive recognition by the International Association of Emergency Managers with his work on mutual aid—for which EPA and AWWA shared the Partners in Preparedness Award in 2006. John recently (March 2007) published an article in the AWWA Journal entitled, "Emergency Preparedness for Drinking Water and Wastewater Systems."