National Rural Water Association

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TO: **Jan Mares, U.S. Department of Homeland Security**
FROM: **John Montgomery and Mike Keegan**
DATE: **August 3, 2007**
SUBJECT: **Securing Local Water Supplies**

As you know, local water supplies are critical to public health protection, sanitation, fire fighting, and emergencies facilities like hospitals, etc. They have been identified by DHS as one of the country's 17 critical infrastructure sectors and in need of federal protection. The National Rural Water Association (NRWA), over 25,000 small and rural community members, is actively advancing security in the country's small and rural drinking water and wastewater supplies. Small and rural communities have been encouraged by recent DHS security initiatives to work collaboratively with industry sectors in "partnerships" to enhance security - and utilize the established rural water outreach network to implement federal priorities. We are interested in further partnering with the Department of Homeland Security to enhance security within our constituency. The following summaries characterize our efforts and thoughts on:

- Implementing the Bio-Terrorism Act of 2002 (EPA Vulnerability Assessments)
- Securing Gaseous Chlorine in Small Water and Wastewater Supplies
- Implementing the National Incident Management System in Small Water and
- Wastewater Supplies
- Measuring Security Progress in Small Water and Wastewater Supplies
- Implementing Vulnerability Assessments and Emergency Response Plans in
- Small Water and Wastewater Supplies not covered in the Bio-terrorism Act
- Implementing a Security Communications Network and Effectively Targeting
- Federal Resources in Small Water and Wastewater Supplies

Implementing the Bio-Terrorism Act of 2002 (EPA Vulnerability Assessments)
NRWA developed a specially designed vulnerability assessment model and implemented an outreach program to ensure compliance and assist water supplies in completing their vulnerability assessments (as required under the Bio-Terrorism Act of 2002). This EPA approved - rural water model (programmed into the simple SEMS software application that was distributed to small water supplies, www.semstechnologies.com) allowed for immediate and simple compliance including electronic compliance filing. This software application has been modified/expanded to incorporate additional security modules including: wastewater SEMS, emergency response plans, DHS NIMS compliance, etc. EPA claims that upwards of 90% of the small systems used the rural water model to complete their vulnerability assessment. The success of this security and compliance effort was largely a result of the federal-local partnership that relied on the existing rural water network of local assistance, local government support, and useable/economical software application to complete the federal mandate. State rural water associations assisted communities in the

completion of the vulnerability assessments through regional training workshops and direct on-site assistance (i.e. www.ruralwater.org/reporttocongress/chapter3.pdf - p. 11). This resulted in massive compliance and support for the assessments. NRWA received a one-time $2.0 million congressionally directed appropriation to carryout this initiative. We have been urging EPA and DHS to build on the success of the vulnerability assessment effort and use it as the model for all federal security efforts in securing small drinking water and sewer supplies.

Securing Gaseous Chlorine in Small Water and Wastewater Supplies

Thousands of small communities rely on gaseous chlorine for public health and environmental protection - in treating drinking water and wastewater. Gaseous chlorine is often the key ingredient in ensuring the safety (disinfection) of local drinking water supplies - preventing waterborne disease outbreak. Additionally, this chemical is often the most effective disinfectant in eliminating microbiological pathogens from municipal wastewater effluent flowing into U.S. waters. NRWA is aware of the security risks associated with gaseous chlorine storage and transportation and we are assisting communities limit these risks through our expert field technicians in each state. However, there is no comprehensive national approach to address risks of gaseous chlorine at the local level. NRWA would be eager to implement such an initiative in partnership with the Department of Homeland Security. Such an initiative would be relativity simple to implement in the country's small water supplies through an expansion of the already adopted vulnerability assessments. We believe a simple planning and educational model could be adopted (in consultation with federal agencies, state agencies, and local governments). This program would be implemented similar to the vulnerability assessments in a matter of months using the rural water network and existing software that already contains the data for EPA's initial vulnerability assessments. Such a model would likely consist of: a local evaluation of the risk tradeoffs of gaseous chlorine storage versus the reliability of disinfection of alternatives, assistance and review of local security measures for storage and use of gaseous chlorine, assistance in changing to alternative treatments where appropriate, a mechanism for cataloguing the users of gaseous chlorine, and a metric to measure national progress in implementing the gaseous chlorine security plans in those communities.

Implementing the NIMS in Small Water and Wastewater Supplies

DHS and one of our state associations (Texas Rural Water Association - TRWA) have agreed to a partnership and initial contract to implement the DHS' new emergency response systems (the National Incident Management System - NIMS) in small community drinking water supplies. This project has allowed implementation of NIMS to be practical and economical by expanding the SEMS vulnerability assessment application to include a new NIMS planning component, which upon completion, allows small communities to become NIMS compliant in Texas. The NIMS plan allows local water supplies to respond to natural disasters and any threats to security including terrorism (water contamination and disruption). It also establishes the local, state, and national coordination of first responders and other relief services. According to DHS, implementing the NIMS security plans in the country's critical infrastructure is a priority for national security. This is the first plan and partnership to move forward on a method for protecting one of the country's 18 specific critical infrastructure identified in the Homeland Security Presidential Directive (HSPD)-7 and the National Infrastructure Protection Plan (NIPP). The initial agreement between DHS/TRWA (February 16, 2007) was piloted in Texas. It was met with wide support in Texas drinking water supplies because the partnership agreed a tailored guidance for water supplies to adopt the NIMS plan by expanding the water supplies current Vulnerability Assessments to be NIMS compliant. We are eager to expand this effort to all communities and provide the necessary on-site assistance to ensure local adoption of NIMS.

Measuring Security Progress in Small Water and Wastewater Supplies
The 2007 Water Sector Specific Plan of the National Infrastructure Protection Plan (NIPP), coordinated by the Department of Homeland Security (DHS) provides the framework for integrating Water Sector critical infrastructure and key resource protection efforts into a unified program. This effort includes the objective of measuring advancements in protecting the national water suppliers.

> "The vulnerabilities, event consequences, and capabilities of typical small utilities are substantially different than larger utilities. Provided a small utility is not serving a critical facility, the tools and metrics it uses will of necessity be simpler, less resource intensive, and consistent with the lower likelihood that it will be a target of terrorist attack. However, small facilities that have higher exposures to natural disasters (e.g. coastal utilities or those in hurricane zones) may need somewhat more elaborate response and recovery plans. The most effective measures for small systems will be evaluated through the CIPAC process and will rely heavily on the vulnerability assessment and ERP tool used by the majority of small systems." [Water Sector Specific Plan]

Currently, NRWA is developing a set of straight-forward and understandable metrics that will give federal agencies and policymakers usable data/results on measuring such progress. Similar efforts have already been conducted, ad hoc, through our state rural water associations' peer-reviews and follow-up vulnerability assessment implementation reviews. In the coming weeks, our analysts will develop uniform metrics to measure security progress in small water suppliers and conduct a sampling of actual water suppliers to measure progress and test the metrics. We would encourage federal input on the content of the metrics and partnerships with NRWA in completing such a measure in small water suppliers in the country. Again, such an initiative would be relativity simple to implement in all the country's small water suppliers through an expansion of the already adopted vulnerability assessments and additional in-the-field resources.

Implementing Vulnerability Assessments and Emergency Response Plans in Small Water and Wastewater Supplies not covered in the Bio-terrorism Act
The Department of Agriculture is prioritizing security advances and the adoption of vulnerability assessments in water suppliers, within their funding programs, in communities less than 3,300 populations (a total of 8,986 water supplies). This USDA initiative that is operating in partnership with state rural water associations - and relying on the SEMS vulnerability assessment application for water, wastewater, and emergency response plans - has resulted in the completion of vulnerability assessment in 58% of the applicable water supplies. This is one of the most successful approaches in implementing security plans in small communities and reflects that a non-regulatory approach can be more successful than a regulatory approach. Also, non-regulatory approaches ensure local support of participating communities in adopting security plans, which is the most critical element in security plans.

Implementing a Security Communications Network and Effectively Targeting Federal Resources in Small Water and Wastewater Supplies
Rural water association networks have been the main source of assistance in emergency response in small and rural communities. In the most recent and severe case this summer, rural water technicians are the lead assistance in Greensburg, Kansas in restoring the drinking water and sanitary sewer service to that tornado stricken small community (providing water to the temporary hospital, housing units, and the community in time). This was also the case in the response to the hurricanes in the Gulf Coast where the hundreds of small and rural communities replied on

assistance from the local and surrounding state rural water associations for immediate assistance in restoring drinking water and sanitation service. However, there is not an effective federal government communications effort with small communities regarding water and wastewater security and disaster relief. This was the finding of an EPA internal report 5 years ago. Our field survey found virtually no small water system has any knowledge of any federal security initiatives [www.ruralwater.org/securitysurvey.pdf]. To enhance the federal government interest in better communicating with local small water supplies on security issues, we are interested in discussing a communications partnership between the federal government and rural water associations. Much of this effort has been initiated through independent mutual aide networks (www.ruralwater.org/emergencynetworkrelease.pdf). By relying on state associations to execute the communications in an emergency, the system stays "on" continually because their state association is continually in contact with the local water supplies even when there is no crisis. This ensures that the same people supplying the federal government's information (in a crisis or in an ongoing manner) are the same people that the local water systems naturally turn to for help and advice.