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BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

July 28, 2010

Introduction

Good morning Chairman Boxer, Ranking Member Inhofe, and Members of the Committee. I am Cynthia Dougherty, Director of the Office of Ground Water and Drinking Water at the United States Environmental Protection Agency (EPA). I welcome this opportunity to discuss EPA's efforts to promote security and resiliency in the Water Sector with an emphasis on our role in addressing chemical security.

It is important to note that the Administration has developed a set of guiding principles for the reauthorization of the Chemical Facility Anti-Terrorism Standards (CFATS) program and for addressing the chemical security of our nation's wastewater and drinking water treatment facilities. These principles are:

1. The Administration supports permanent chemical facility security authorities.
2. CFATS reauthorization presents an opportunity to promote the consideration and adoption of inherently safer technologies (IST) among high risk chemical facilities. We look forward to working with this Committee and others on this important matter.

3. CFATS reauthorization also presents an opportunity to close the existing security gap for wastewater and drinking water treatment facilities by addressing the statutory exemption of these facilities from CFATS. The Administration supports closing this gap.

S. 3598, *the Secure Water Facilities Act*, would close this gap. EPA supports the general structure and approach of this bill. In my remarks, I will offer some comments on this bill, as well as how EPA would coordinate with the Department of Homeland Security (DHS) in addressing chemical security at water and wastewater facilities.

EPA has worked over the last several years to support the Water Sector in improving security and resiliency, and I am pleased to report that the sector has taken its charge seriously. EPA has been entrusted with important responsibilities for coordinating the protection of the Water Sector through Congressional authorization under the *Public Health Security and Bioterrorism Preparedness and Response Act of 2002* (the Bioterrorism Act), and through Presidential mandates under Homeland Security Presidential Directives (HSPD) 7, 9 and 10. HSPD 22 (the domestic chemical defense) also applies to water protection.

Promoting the security and preparedness of the Nation's water infrastructure remains a priority of the Agency in a post-9/11 and post-hurricane Katrina world. A loss of water service can seriously jeopardize the public health, economic vitality, and general viability of a community. In working with the Water Sector, we have emphasized a multi-layered approach to security consisting of prevention, detection, response, and recovery so that we can assist water facilities in avoiding incidents and, should an incident occur, in quickly identifying and recovering from such events.

Risks to the Water Sector

Water Sector infrastructure is vulnerable to a range of threats and hazards, including improvised explosive devices, hazardous material releases, chemical, biological, or radiological contamination in drinking water distribution systems, cyber attacks, and natural disasters. The Water Sector is also vulnerable to disruptions to other infrastructure sectors, such as electric power, which can have cascading effects on the water supply as well as wastewater collection and treatment.

Drinking water contamination or the denial of drinking water and wastewater services can have far-reaching negative public health, economic, and psychological impacts. Serious health impacts could result from the introduction of contaminants into a drinking water system, which could pose a public health hazard from ingestion, inhalation, or absorption through the skin. Further, any denial of drinking water or wastewater service could pose significant health effects from the lack of potable water or the inability to treat wastewater. The loss of drinking water also would result in the loss of water for fire fighting purposes. The economic impacts of a terrorist attack or natural disaster on drinking water or wastewater utilities could be significant for businesses and infrastructure in a community or region. Simply put, the loss of water services would undermine the viability of just about any community.

Even if an attempt to contaminate a drinking water utility did not result in fatalities or large numbers of casualties, terrorists still could inflict harm by promoting fear and panic in the impacted community and in concerned communities across the Nation. Restoring public confidence after a contamination event, even with appropriate decontamination, could require significant effort. A prolonged water incident could affect the Federal, State, and local governments' ability to maintain order, deliver minimum essential public services, ensure public heath and safety, and carry out national security missions.

Implementation of Section 1433 of the Safe Drinking Water Act

Existing statutory requirements address chemical security at drinking water systems to a degree. Section 1433 of the Safe Drinking Water Act (added by the Bioterrorism Act of 2002) required each community water system providing drinking water to more than 3,300 persons to conduct a vulnerability assessment, certify its completion, and submit a copy of the assessment to EPA. These vulnerability assessments addressed security at water systems comprehensively, from water collection to treatment and distribution, and they specifically included the use, storage, or handling of chemicals. In addition, Section 1433 required each water system to prepare or revise an emergency response plan that incorporates the findings of the vulnerability assessment and to certify to EPA that the system has completed such a plan.

Since 2003, EPA has received 100% of the vulnerability assessments and emergency response plan certifications from large and medium community water systems serving more than 50,000 people. Over 99% of small community water systems serving between 3,300 and 50,000 people have submitted their vulnerability assessments and emergency response plan certifications. EPA reviewed the vulnerability assessments to ensure compliance with Bioterrorism Act, and where necessary provided technical assistance to individual drinking water systems to bring these systems into compliance. EPA also initiated some enforcement actions against non-compliant systems.

EPA's Role in Chemical Security for Drinking Water and Wastewater Utilities

EPA's current approach for addressing chemical security in the Water Sector involves a long-standing effort to promote the voluntary adoption of countermeasures by water facilities. Before I discuss some of these activities, however, I would like to take a step back to consider the broader implications of chemical security for the Water Sector. It is important for us to acknowledge in this discussion that the primary purpose of drinking water systems is the provision of safe drinking water, while that of wastewater systems is the protection of water bodies. In fact, the effective treatment of drinking water to control

infectious diseases like typhoid and cholera has been hailed by the U.S. Centers for Disease Control and Prevention as one of the greatest public health achievements of the twentieth century.

Therefore, authorizing language should allow for a consideration of this essential public health and environmental mission, particularly with respect to any provision which may require a facility to consider alternative water treatment processes. In other words, chemical security regulations when applied to the Water Sector should enable a reasoned balance of multiple, important factors so that we can achieve the joint policy goals of protecting public health and the environment while enhancing security. Such factors include: efficacy of treatment in meeting public health and environmental requirements, security concerns, reliability of treatment, source water characteristics, feasibility, and operator safety.

Tools and Technical Assistance

EPA has worked closely with the Water Sector to assess and reduce the risks associated with hazardous chemicals. To this end, EPA and industry associations, often in partnership, have developed tools, training and technical assistance to help water utilities identify and mitigate those risks. A few examples of our efforts are as follows:

1. We developed tools that assist water systems with assessing vulnerabilities, including chemical storage and handling. Examples of the tools include:
    - The *Vulnerability Self Assessment Tool (VSAT™)* – a recently updated software package that supports water and wastewater utility vulnerability assessments using a qualitative risk assessment methodology;
    - The *Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems* – a manual specifically designed to help small water systems conduct vulnerability assessments; and

- The *Security Vulnerability Self-Assessment Guide for Very Small (<3,300) Systems*, which assists these systems in assessing their critical components and identifying security measures that should be implemented.

2. As required by the Bioterrorism Act of 2002, EPA created a document to "provide baseline information to community water systems…regarding which kinds of terrorist attacks or other intentional acts are the probable threats to: (A) substantially disrupt the ability of the system to provide a safe and reliable supply of drinking water; or (B) otherwise present significant public health concerns." The baseline threat document addressed vulnerabilities related to the use, transfer and storage of chemicals, including the evaluation of different disinfection options. EPA provided this document to drinking water facilities to assist them in conducting their vulnerability assessments.
3. The National Association of Clean Water Agencies (NACWA) has worked with the Department of Homeland Security (DHS) and EPA to create a Chlorine Gas Decision Tool for Water and Wastewater Utilities. The Tool is designed to provide utilities with a user-friendly, but thorough, means of evaluating alternatives to chlorine gas disinfection.
4. EPA created a series of Security Product Guides that assist water facilities with making enhancements to reduce risks and protect against man-made and naturally occurring events. These guides provide recommendations for improving physical security, such as the use of barriers, placement and security of aboveground equipment, selection of fencing materials, and the use of visual surveillance monitoring systems, all of which can help to secure hazardous chemicals used by water facilities.
5. EPA funded a cooperative agreement with the American Society of Civil Engineers, the American Water Works Association, and the Water Environmental Federation to develop Voluntary Physical

Security Standards for drinking water and wastewater systems. Completed in December 2006, these voluntary standards address storage of hazardous or toxic chemicals, including chlorine and ammonia gas.

6. Together with the National Oceanic and Atmospheric Administration, EPA developed ALOHA (Aerial Locations of Hazardous Atmospheres) and RMP*Comp – software tools that many water utilities and other facilities use to model the dispersion of hazardous substances. DHS uses RMP*Comp in its Chemical Facilities Anti-Terrorism Standards (CFATS) program.

Risk Management Plans

In addition to the above activities, EPA's Chemical Accident Prevention Provisions (40 CFR 68.1 - .220), developed under the authority of the Clean Air Act, Section 112(r), require utility processes containing certain levels of specific hazardous substances to implement an accident prevention program, conduct a hazard assessment, prepare and implement an emergency response plan, and submit to EPA a summary report known as a risk management plan (RMP). The RMP must describe the facility's accidental release prevention and emergency response policies, the regulated substances handled at the facility, the worst-case release scenario(s) and alternative release scenario(s), the 5-year accident history of the facility, the Emergency Response Plan, and planned changes to improve safety at the facility (see 40 CFR Part 68). Hazardous chemicals of most relevance to the Water Sector, including gaseous chlorine, ammonia, sulfur dioxide, and chlorine dioxide, trigger RMP regulatory requirements if they exceed certain threshold quantities.

Secure Water Facilities Act

While the focus of my discussion will be on the chemical security provisions of the bill, it is important to underscore that the bill also addresses water security risks in general. The bill, for example, requires all drinking water facilities serving over 3,300 people and all wastewater facilities with a design capacity of more than 2.5 million gallons per day to update their vulnerability assessments and emergency response plans at least once every five years. Under the bill, these assessments and plans are not limited to chemical security, but cover the full array of potential water system vulnerabilities, from pipes and constructed conveyances to storage facilities and electronic systems. As such, the bill provides statutory authority for EPA to continue to promote the risk reduction goals of the 2002 Bioterrorism Act.

Considerations on the Bill

As we have stated to Congress before, we believe that there is a critical gap in the U.S. chemical security regulatory framework—namely, the exemption of drinking water and wastewater treatment facilities. We need to work with Congress to close this gap in order to secure substances of concern at these facilities and to protect the communities they serve. Drinking water and wastewater treatment facilities that meet CFATS thresholds for chemicals of interest should be regulated. We do, however, recognize the unique public health and environmental requirements and responsibilities of such facilities. For example, we understand that a "cease operations" order that might be appropriate for another facility under CFATS would have significant public health and environmental consequences when applied to a water facility.

The Administration has established the following policy principles in regards to regulating security at water sector facilities:

- EPA should be the lead agency for chemical security for both drinking water and wastewater systems, with DHS supporting EPA's efforts.
- To address chemical security in the water sector, EPA would utilize, with modifications as appropriate given statutory requirements and the uniqueness of the sector, DHS' existing risk assessment tools and performance standards for chemical facilities.
- DHS should be responsible for ensuring consistency of high-risk chemical facility security across all 18 critical infrastructure sectors.

The Administration supports, where possible, using safer technology, such as less toxic chemicals, to enhance the security of the nation's high-risk chemical facilities. However, we must recognize that risk management requires balancing threat, vulnerabilities, and consequences with the cost to mitigate risk. Similarly, the potential public health and environmental consequences of alternative chemicals must be considered with respect to the use of safer technology. In this context, the Administration has established the following policy principles in regards to IST at high-risk chemical facilities:

- The Administration supports consistency of IST approaches for facilities regardless of sector.
- The Administration believes that all high-risk chemical facilities, Tiers 1-4, should assess IST methods and report the assessment in the facilities' site security plans. Further, the appropriate regulatory entity should have the authority to require facilities posing the highest degree of risk (Tiers 1 and 2) to implement IST method(s) if such methods enhance overall security, are feasible, and, in the case of water sector facilities, consider public health and environmental requirements.
- For Tier 3 and 4 facilities, the appropriate regulatory entity should review the IST assessment contained in the site security plan. The entity should be authorized to provide recommendations on implementing IST, but it would not require facilities to implement the IST methods.

- The Administration believes that flexibility and staggered implementation would be required in implementing this new IST policy. DHS, in coordination with EPA, would develop an IST implementation plan for timing and phase-in at water facilities designated as high-risk chemical facilities. DHS would develop an IST implementation plan for high-risk chemical facilities in all other applicable sectors.

In addition to articulating these principles, I also would like to comment on several aspects of the bill that have significant relevance to its successful implementation. The first issue pertains to resources. Passage of the bill would impose new resource demands on both EPA and most of the states.

The second comment concerns the division of regulatory labor between EPA and the states. Consistent with S. 3598, EPA supports authority for the states to implement certain provisions, including a prominent role in IST determinations and auditing/inspections. This approach would leverage long established EPA-state relationships under the drinking water and wastewater programs, as well as the states' expertise and familiarity with individual water facilities.

Finally, the Administration supports maintaining the Department of Homeland Security's current Chemical-terrorism Vulnerability Information (CVI) regime for protecting sensitive information relating to chemical facility security. This regime is similar to, but distinct from, other sensitive but unclassified information protection programs.

CONCLUSION

Over the past several years, we have made progress in strengthening the security of our nation's drinking water and wastewater systems. We have produced a broad array of tools and assistance that the Water Sector is using to assess its vulnerabilities, reduce risk, and prepare for emergencies, including chemical theft and release. In developing these tools, we have worked effectively with our partners within the sector, and also reached out to build new relationships beyond the sector, to ensure that water utilities can be prepared to prevent, detect, respond and recover from intentional incidents and natural disasters.

We look forward to continuing to work with members of the Committee on legislation that strengthens the security of drinking water and wastewater facilities while supporting the critical mission of these facilities for public health protection.

Thank you again for the opportunity to testify about our role in water security. I would be happy to answer any questions you may have.