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Introduction

Good morning Mr. Chairman, Ranking Member Upton, and Members of the Subcommittee. I am Peter Silva, Assistant Administrator for Water at the United States Environmental Protection Agency. 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 at drinking water facilities.

I will also reiterate with my colleague from the Department of Homeland Security (DHS) our shared conclusion that a critical gap exists with respect to the Water Sector in the framework for regulating the security of chemical facilities in the United States. The Subcommittee has demonstrated both leadership and thoughtfulness in drafting a bill, the Drinking Water System Security Act of 2009, with the intention of closing this gap for drinking water systems. 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 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.

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.

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. 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's Role in Chemical Security for Drinking Water 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 of paramount importance for us to acknowledge in this discussion that the primary purpose of drinking water systems is the delivery of safe drinking water to consumers. 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 as one of the great public health achievements of the twentieth century.

Therefore, authorizing language should allow for a consideration of this essential public health 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 goal of protecting public health 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 drinking water utilities identify and mitigate those risks. A few examples of our efforts are as follows:

1. We developed tools that assist drinking water systems with assessing vulnerabilities, including chemical storage and handling. Examples of the tools include:

    - The *Vulnerability Self Assessment Tool (VSAT™)* – a 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. Under 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. We 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. EPA developed ALOHA (Aerial Locations of Hazardous Atmospheres) – software that models the dispersion and health effects of hazardous substances. DHS uses this tool 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), requires 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.

Drinking Water System Security Act of 2009

To turn to the proposed bill, I first and foremost want to commend the Committee and your staff for developing a bill for the purpose of addressing the regulatory gap on security at water sector facilities. In commenting on the bill, it would be remiss of me not to acknowledge all of the effort and thoughtfulness which you have invested in it.

While the focus of the discussion is 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 to update their vulnerability assessments and emergency response plans 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

It is important to note that the Administration has developed a set of guiding principles for the reauthorization of CFATS and for addressing the security of our Nation's wastewater and drinking water treatment facilities. These principles are:

1) The Administration supports permanent chemical facility security authorities and a detailed and deliberate process for doing so, hence our preference for that process to be completed in FY10.

2) Nonetheless, CFATS single year reauthorization in this session 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.

As DHS and EPA have stated 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:

- The Administration believes EPA should be the lead agency for chemical security for both drinking water and wastewater systems, with DHS supporting EPA's efforts. Many of these systems are owned or operated by a single entity and face related issues regarding chemicals of concern. Establishing a single lead agency for both will promote consistent and efficient implementation of chemical facility security requirements across the water sector.

- To address chemical security in the water sector, EPA would utilize, with modifications as necessary to address the uniqueness of the sector, DHS' existing risk assessment tools and performance standards for chemical facilities. To ensure consistency of tiering determinations across high-risk chemical facilities, EPA would apply DHS' tiering methodology, with modifications as necessary to reflect any differences in statutory requirements. DHS would in turn run its Chemical Security Assessment Tool and provide both preliminary and proposed final tiering determinations for water sector facilities to EPA. EPA and DHS would strive for consensus in this tiering process with EPA, in its final determination, attaching significant weight to DHS' expertise.

- EPA would be responsible for reviewing and approving vulnerability assessments and site security plans as well as enforcing high-risk chemical facility security requirements. Further, EPA would be responsible for inspecting water sector facilities and would be able to authorize states to conduct inspections and work with water systems to implement site security plans. It is important to note that any decisions on IST methods for the water sector would need to engage the states given their primary enforcement responsibility for drinking water and wastewater regulations.

- DHS would be responsible for ensuring consistency of high-risk chemical facility security across all 18 critical infrastructure sectors.

CFATS currently allows, but does not require, high-risk facilities to evaluate transferring to safer and more secure chemicals and processes. Many facilities have already made voluntary changes to, among other things, their chemical holdings and distribution practices (for example, completely eliminating use of certain chemicals of interest). 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 two aspects of the bill which 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. Appropriations commensurate with the new authorities under this Title would be necessary to ensure successful implementation of the regulations.

The second comment concerns the division of regulatory labor between EPA and the states. Consistent with the Committee's bill, 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.

CONCLUSION

Over the past several years, we have made progress in ensuring 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.

With respect to security at water sector facilities, we look forward to continuing to work with members of the Committee on legislation that ensures 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.