SECTION 8

# Other Information Sources

Many resources are available to assist wastewater utilities in improving the security at their facilities, such as the associated guidance documents and the many government agencies and utility organizations listed in this section.

## 8.1 Corresponding Reports

This document was produced by WEF to support wastewater utilities as they implement security improvements to protect their assets and the public from potential threats. EPA provided funding for the development of security guidance to WEF, ASCE, and AWWA. The three organizations divided the development of the guidance into the areas of wastewater and stormwater systems (led by WEF); water supply (led by AWWA contaminant online monitoring systems (ASCE). These guidance documents are being developed under the leadership of the ASCE's Environmental & Water Resources Institute's Water Infrastructure Security Enhancements (WISE) Standards Committee.

The three documents resulting from this joint effort are:

- *Interim Voluntary Security Guidance for Wastewater/Stormwater Utilities*
- *Interim Voluntary Security Guidance for Water Utilities*
- *Interim Voluntary Guidelines for Designing an Online Contaminant Monitoring System*

## 8.2 Federal Agencies

Numerous federal agencies have information available on water and infrastructure security. Several of these agencies are presented here alphabetically.

### 8.2.1 Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention (CDC) has compiled significant amounts of information related to emergency preparedness and response. Information can be found on the CDC Web site related to the preparation for and response to specific bioterrorism agents, chemical agents, radiation emergencies, and natural disasters. The CDC also provides information about laboratory preparedness.

The CDC Web address is www.cdc.gov.

### 8.2.2 Critical Infrastructure Assurance Office

The Critical Infrastructure Assurance Office (CIAO) operates within the U.S. Department of Commerce. CIAO was created by Presidential Decision Directive-63 (PDD-63), published in 1998 to promote the protection and assurance of the nation's critical infrastructures. CIAO's basic mission, as

articulated in PDD-63, is to coordinate national planning activities related to critical infrastructure protection.

CIAO also supports the Partnership for Critical Infrastructure Security (PCIS). The Partnership is a collaborative effort of over 60 member companies and associations and 13 federal government agencies in the 8 critical infrastructure sectors identified in PDD-63, including water and wastewater.

More information on PCIS is available at www.pcis-forum.org.

## 8.2.3 Department of Homeland Security

The mission of the federal Department of Homeland Security (DHS) is to "lead the unified national effort to secure America…prevent and deter terrorist attacks and protect against and respond to threats and hazards to the nation."[24] The Information Analysis and Infrastructure Protection Directorate of DHS oversees protection of critical infrastructure, including wastewater facilities. This Directorate operates the National Infrastructure Protection Center, in conjunction with the Federal Bureau of Investigation (FBI).

Several Homeland Security Presidential Directives (HSPDs) have been issued. *HSPD-7: Critical Infrastructure Identification, Prioritization, and Protection* establishes a national policy for federal departments and agencies to identify and prioritize critical infrastructure and key resources and to protect them from terrorist attacks. *HSPD-9: Defense of Agriculture and Food* deals with on-line monitoring and development of a national network of laboratories with standardized diagnostic protocols and procedures. *HSPD-10: Bio-defense for the 21st Century* deals with the President's multi-agency strategy to coordinate federal response to biological terrorist attacks and remains a classified document. A fact sheet describing the directive says that it "builds on past accomplishments, specifies roles and responsibilities, and integrates the programs and efforts of various communities—national security, medical, public health, intelligence, diplomatic, agricultural and law enforcement—into a sustained and focused national effort against biological weapons threats."[25] DHS has also published the *Protection of Critical Infrastructure Information* (PCII) *Interim Rule*. The PCII program is designed to encourage private industry and others with knowledge about critical infrastructure to share sensitive and proprietary business information about this critical infrastructure with the government.

The Office for Domestic Preparedness (ODP) is the principal component of DHS responsible for preparing the United States for acts of terrorism. ODP achieves its mission by providing grants to states and local jurisdictions, providing hands-on training through residential training facilities and in-service training at the local level, funding and working with state and local jurisdictions to plan and execute exercises, and providing technical assistance onsite to state and local jurisdictions.

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[24] *Securing Our Homeland*, U.S. Department of Homeland Security Strategic Plan, 2004

[25] Department of Homeland Security. 2002. http://www.dhs.gov/dhspublic/display?content=3522

Information and documents can be found on the DHS Web site at www.dhs.gov. The Information Analysis Infrastructure Protection's Web site, within the DHS Web site, is www.nipc.gov. ODP's Web site is www.ojp.usdoj.gov/odp.

The Federal Emergency Management Agency (FEMA) is now part of the DHS Emergency Preparedness and Response Directorate and is tasked with responding to, planning for, recovering from, and mitigating against disasters. FEMA has extensive information relating to emergency prevention and response. A number of these resources are listed in the bibliography of this document.

Additional information and documents can be found on the FEMA Web site at www.fema.gov.

Within FEMA, the U.S. Fire Administration (USFA) coordinates awareness and information sharing activities related to Critical Infrastructure Protection (CIP) for the emergency management and response sector of the nation. This role stems from Presidential Decision Directive-63, superseded by HSPD-7 in December 2003. Generally, CIP consists of the proactive activities to protect indispensable people, physical assets, and communication systems from all hazards. More formally, according to USFA, it is "an analytical process to guide the systematic protection of critical infrastructures by the application of a reliable decision sequence that assists leaders in ultimately determining exactly what really needs protection as well as when."[26]

Information on the CIP program is available at www.usfa.fema.gov/fire-service/cipc/cipc.shtm.

## 8.2.4 U.S. Environmental Protection Agency

As mentioned above, the U.S. Environmental Protection Agency (EPA) provided funding to WEF, ASCE, and AWWA to develop guidance for utilities on securing water, wastewater, and stormwater infrastructure. EPA also has numerous documents available on topics such as vulnerability assessments, security-related products for water and wastewater, and emergency response protocols.

Information and documents can be found on the EPA Web site at www.epa.gov/safewater/security.

## 8.2.5 Federal Bureau of Investigation

The FBI is the principal investigative arm of the United States Department of Justice. It has the authority and responsibility to investigate the crimes assigned to it. The FBI is also authorized to provide cooperative services to other law enforcement agencies, such as fingerprint identification, laboratory examinations, and police training. The mission of the FBI is "to protect and defend the United States against terrorism and foreign intelligence threats, to uphold and enforce the criminal laws of the United States and provide leadership and criminal justice services to federal, state, local, and international agencies and partners."[27]

When a security breach is suspected or confirmed at a wastewater utility, the FBI will often be called in. FBI representatives can also help utility personnel determine if a threat to the utility is credible.

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[26] U.S. Fire Administration. 2004. http://www.usfa.fema.gov/fire-service/cipc/cipc.shtm

More information on the FBI and links to local FBI contacts can be found at www.fbi.gov.

### 8.2.6 Sandia National Laboratories

Sandia National Laboratories has a long history of developing technologies for infrastructure protection, from security devices to the RAM-W™ VA methodology. Through its Critical Infrastructure Surety Group, Sandia National Laboratories provides fact sheets on modeling of interdependencies and other topics.

Information and documents can be found on the Sandia National Laboratories Web site at www.sandia.gov.

### 8.2.7 United States Army Soldier and Biological Chemical Command

The mission of the United States Army Soldier and Biological Chemical Command's (SBCCOM's) Homeland Defense Business Unit is "to enhance the response capabilities of military, federal, state and local emergency responders to terrorist incidents involving weapons of mass destruction."[28] The SBCCOM has made available biological and chemical agent quick-reference tables, fact sheets, and reports regarding protective equipment and response measures.

More information and documents can be found on the SBCCOM Web site at http://hld.sbccom.army.mil/ip/index.htm.

## 8.3 State and Local Agencies

State agencies can also provide a wealth of information related to wastewater infrastructure protection. Local public health agencies, environmental regulatory agencies, emergency planning agencies, Governors' offices, and other agencies may have additional resources, as well as information on grant funding.

The Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) is an association of the State, Interstate and Territorial officials who are responsible for the implementation of surface water protection programs throughout the nation, including state regulatory agencies. ASIWPCA provides information on national programs and funding and can direct utilities to state resources. More information is available at www.asiwpca.org.

FEMA is also a good resource information on state emergency management agencies. For a directory of state offices and agencies of emergency management, see www.fema.gov/fema/statedr.shtm.

Local Emergency Planning Committees (LEPCs) are another excellent resource for information on security and emergency response planning. EPA's directory of LEPCs can be found at www.epa.gov/ceppo/lepclist.htm.

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[27] Federal Bureau of Investigation Strategic Plan 2004-2009

[28] United States Army Soldier and Biological Chemical Command. 2003. http://hld.sbccom.army.mil/about_us.htm

# 8.4 Information Centers

Numerous resources exist to provide security-related information to wastewater and stormwater utilities. Eleven primary information centers are listed below.

## 8.4.1 WaterISAC

The Water Information Sharing and Analysis Center (WaterISAC) is an information service developed to provide water and wastewater utilities with a secure Web-based system for early warning of potential threats and information about water and wastewater security. Utilities can purchase a secure subscription to WaterISAC that allows them access to the Web site, which contains alerts on potential terrorist activity, information on water security from federal homeland security, intelligence, law enforcement, public health, and environment agencies. The site also provides information on physical vulnerabilities and solutions, as well as emergency response resources. WaterISAC was developed under a grant from the EPA and is governed by utility managers appointed by national drinking water and wastewater organizations, including WEF.

WaterISAC's Web address is www.waterisac.org. Subscribers can enter the secure site from there.

## 8.4.2 Water Security Channel

The Water Security Channel is a no-cost service of the WaterISAC that provides electronic bulletins and advisories issued by the EPA and DHS, and also makes available a password protected library of federal advisories. Water and wastewater utilities, water associations and governmental water protection agencies can sign-up for access to the Water Security Channel.

The Water Security Web address is www.watersc.org.

# 8.5 Industry Associations

Numerous industry associations and professional societies have published additional information on infrastructure protection. Some examples and information on documents these organizations are developing are presented here alphabetically.

## 8.5.1 American Chemistry Council

As discussed in other sections of this document, many wastewater utilities use potentially hazardous chemicals such as gaseous chlorine and sulfur dioxide. The American Chemistry Council (ACC) provides information on chemical safety and security. The members of the ACC produce nearly 90 percent of the chemicals manufactured in the United States.

Information is available on the ACC Web site at www.americanchemistry.com.

## 8.5.2 Association of Metropolitan Sewerage Agencies

The Association of Metropolitan Sewerage Agencies (AMSA) has taken an active role in the development of tools related to wastewater security. With funding from EPA, AMSA developed VSAT™. As described in Section 1.4.3.1, VSAT™ is a software tool that can be used to assist in conducting a vulnerability assessment. VSAT™ also has a module that can help utilities develop an emergency response plan. Information on VSAT™ is available at www.vsatusers.net.

AMSA is also developing a Decontamination Wastewater Planning Tool. Funded by EPA, this planning tool assists utility managers in establishing a protocol for managing wastewater and runoff generated from the decontamination activities at sites that may have been attacked with CBR weapons, and the sewage discharged from hospitals, laboratories, homes, and business that may be likewise contaminated. The planning tool provides a comprehensive overview of the issues POTWs should consider when planning for a terrorist incident, pre-incident planning and coordination guidance, and tactics for incident response. The tool is provided in both hardcopy and electronic format to allow for customization by individual utilities.

Information about this tool and other wastewater security resources, including AMSA's quarterly electronic newsletter, "Wastewater Sector Security Link," can be found on the AMSA Web site at www.amsa-cleanwater.org.

## 8.5.3 Association of Metropolitan Water Agencies

The Association of Metropolitan Water Agencies (AMWA) is also active in the infrastructure security arena. AMWA administers the WaterISAC, described above. AMWA also produces the bimonthly newsletter, "Water Security Scan."

The newsletters and additional information can be found on the AMWA Web site at www.amwa.net.

## 8.5.4 American Society of Civil Engineers

The American Society of Civil Engineers (ASCE) also provides resources related to infrastructure protection, including the protection of wastewater facilities. As mentioned above, with its Environmental and Water Resources Institute, ASCE has developed guidance on on-line contaminant monitoring under the Water Infrastructure Security Enhancements Standards Committee (WISE SC) grant. Information on this guidance is available at www.ewrinstitute.org.

ASCE is also a partner in The Infrastructure Security Partnership (TISP). TISP's mission is to "act as a national asset facilitating dialogue on domestic infrastructure security and offering sources of technical support and expert comment on public policy related to the security of the nation's built environment."[29]

Information on TISP is available at www.tisp.org. Additional information on infrastructure security can be found on the ASCE Web site at www.asce.org.

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[29] The Infrastructure Security Partnership (TISP). 2002. http://www.tisp.org/static/about.cfm

## 8.5.5 American Water Resources Association

The American Water Resources Association (AWRA) is a non-profit professional association dedicated to the advancement of multidisciplinary water resources management, research, and education. More information is available at www.awra.org.

## 8.5.6 American Water Works Association

The American Water Works Association (AWWA) has geared significant resources toward assisting water utilities in completing vulnerability assessments and upgrading the security of water infrastructure. The RAM-W™ methodology was developed with support from AWWA, and AWWA has conducted numerous RAM-W™ training programs around the country. AWWA has produced several publications that can be used as resources for the wastewater industry. As mentioned previously, AWWA has also developed the companion security guidance document for water utilities.

AWWA security resources are at www.awwa.org/advocacy/learn/security.

## 8.5.7 American Water Works Association Research Foundation

The American Water Works Association Research Foundation (AwwaRF) has also undertaken significant research related to water and infrastructure security. AwwaRF has more than 25 security-related projects underway or completed. Topics of investigation include:

- Threat definition
- Early detection of potential contaminants
- Identification of vulnerable points in distribution systems
- Emergency management
- Procedures for decontaminating infrastructure
- Best management practices for security issues
- Alternative water supplies
- Actual and threatened security events at utilities

Information is available at www.awwarf.org.

## 8.5.8 National Rural Water Association

The National Rural Water Association (NRWA) is a non-profit federation of State Rural Water Associations. Its mission is to provide support services to the state associations who have more than 22,000 water and wastewater systems as members. Member state associations offer a variety of state-specific programs and services, including training programs and onsite assistance in areas of operation, maintenance, finance, and governance.

In 2003 and 2004, NWRA and its associated State Rural Water Associations provided 2,114 onsite types of assistance related to security, consisting of 4,379 hours. NWRA and the state associations have produced several tools related to security and vulnerability assessments. These include the Rural Water Security Emergency Management System (SEMS), a software tool for conducting VAs, and the *Security Vulnerability Self Assessment Guide for Wastewater Systems* and its accompanying guide for water systems. The self-assessment guides present a checklist approach for conducting a VA that is particularly useful for small utilities.

More information and links to the state associations are available at www.nrwa.org.

## 8.5.9 National Small Flows Clearinghouse

The National Small Flows Clearinghouse (NSFC) is a nonprofit organization that provides objective information about onsite wastewater collection and treatment systems for communities of less than 10,000 people. The NSFC is the only national resource of its type dealing with small community wastewater infrastructure. The NSFC is housed in the National Research Center for Coal and Energy at West Virginia University (WVU). The NSFC provides a number of resources for the wastewater community, including a technical assistance hotline, educational products, computer databases, and publications including *Pipeline* and *Small Flows Quarterly*.

More information is available at www.nesc.wvu.edu/nsfc/nsfc_index.htm.

## 8.5.10 Water Environment Federation

The Water Environment Federation (WEF) continues to produce technical material and conduct training in water, wastewater, and stormwater security. With funding from EPA, WEF has published this document and is in the process of publishing a document on threats to wastewater utilities. WEF also offers numerous training programs for water and wastewater utilities of all sizes on VA concepts and on how to conduct a VA using VSAT™.

Up-to-date information on WEF's security programs is available at www.wef.org/watersecurity.

## 8.5.11 Water Environment Research Foundation

The Water Environment Research Foundation (WERF) has conducted a number of projects related to wastewater security. WERF was awarded a $2.1 million cooperative research grant from EPA to coordinate seven projects to protect the nation's wastewater infrastructure and public health.

The first of this series of projects, *Experiences and Research Gaps to Secure Wastewater Infrastructure and Protect Public Health* (no. 03-CTS-1S), began in August 2003 with a symposium to convene various agencies to discuss and prioritize research needs.

The six remaining projects are as follows:

- *Identify, Screen, and Treat Contaminants in Water/Wastewater* will identify methods to screen for common CBR compounds and then determine the removal efficacy of wastewater treatment processes. (Project 03-CTS-2S)

- *Security Measures for Computerized and Automated Systems at Wastewater Facilities* will provide guidance to utilities on how to secure and protect automated systems and will document currently available technology to detect and correct such security breaches. (Project 03-CTS-3S)
- *Contingency Planning for Wastewater Treatment Facilities* will help water and wastewater treatment facilities and their communities nationwide to develop individual contingency plans in the event of an emergency. (Project 03-CTS-4S)
- *Communicating with Your Local Government and Community* will help public agencies, such as water and wastewater utilities and elected officials, effectively communicate with the public. (Project 03-CTS-5S)
- *Software and Guidance for Assessing and Inventorying Wastewater Treatment Infrastructure* will provide a valuable tool for utilities to identify and categorize their underground and aboveground assets and then to better assess the condition of their systems. (Project 03-CTS-6S)
- *Feasibility Testing of Support Systems to Prevent Upsets* in WWTPs will develop an approach for identifying and dealing with attacks on wastewater treatment facilities, focusing on the contamination of influent with chemical, biological, and radiological agents. (Project 03-CTS-7S)

Information on WERF projects can be found at www.werf.org.