

Pilot Projects: Greater Cincinnati Water Works and Additional Pilots

In partnership with the City of Cincinnati's Greater Cincinnati Water Works (GCWW), EPA deployed the first full-scale, comprehensive CWS, based on the conceptual design described in the *Water Security Initiative System Architecture* guidance.

The drinking water CWS components are now installed and fully operational, with performance data continuing to be evaluated by EPA.

Elements of each Cincinnati CWS component, as installed, are described more fully in the report *Cincinnati Pilot Post-Implementation System Status*, available at water.epa.gov/infrastructure/watersecurity/index.cfm.

Additional pilot cities include Dallas, TX; New York, NY; Philadelphia, PA; and San Francisco, CA. These projects will conclude in 2012.



Opportunities for Involvement

To learn more about EPA's WS initiative, please send an e-mail to watersecurity@epa.gov or contact the WS initiative project coordinator, **Dan Schmelling (202-564-5281)**.

WS initiative products are available on the WS initiative website: water.epa.gov/infrastructure/watersecurity/index.cfm.

Comments on interim guidance documents are welcome and can be submitted to watersecurity@epa.gov (please include the document title in the subject line of your e-mail).



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Water Security Initiative Program Overview and Available Products

Program Overview

The Water Security (WS) initiative is a U.S. Environmental Protection Agency (EPA) program that addresses the risk of contamination of drinking water distribution systems. EPA established this initiative in response to Homeland Security Presidential Directive 9, under which the Agency must “*develop robust, comprehensive, and fully coordinated surveillance and monitoring systems, including international information, for... water quality that provides early detection and awareness of disease, pest, or poisonous agents.*”

EPA is implementing the WS initiative in three phases:

Phase I: Develop the conceptual design of a contamination warning system for timely detection and appropriate response to drinking water contamination incidents to mitigate public health and economic impacts;

Phase II: Test and demonstrate contamination warning systems through pilots at drinking water utilities and municipalities and make refinements to the design as needed based upon pilot results; and

Phase III: Develop practical guidance and outreach to promote voluntary national adoption of effective and sustainable drinking water contamination warning systems.

Available Products

Water Security Initiative System Architecture

A contamination warning system (CWS) is a proactive approach to managing drinking water contamination threat warnings. It uses monitoring technologies and enhanced surveillance activities to collect, integrate, analyze, and communicate information.

The *Water Security Initiative System Architecture* recommends a design for a CWS, which includes:

- Online water quality monitoring;
- Public health surveillance;
- Sampling and analysis;
- Enhanced security monitoring; and
- Customer complaint surveillance.

Interim Guidance on Planning for Contamination Warning System Deployment

Developing a CWS is a significant undertaking that impacts most departments and divisions of a utility at some stage. As the guidance describes, deployment phases of a contamination warning system include:

- *Planning and pre-design*: define objectives and assess existing capabilities;
- *Design*: develop detailed work plans and specifications;
- *Implementation*: develop consensus on the approach established;
- *Preliminary testing*: collect baseline data;
- *Operation and maintenance*: once sufficient baseline data have been collected, the utility will transition into full deployment; and
- *Evaluation and refinement*.

Interim Guidance on Developing an Operational Strategy for Contamination Warning Systems

An operational strategy identifies key users of a CWS and their requirements for information access, procedures to guide system operation, information systems that may be leveraged, and requirements for notifications to the key users and decision-makers. As detailed in this guidance, the process includes:

- System-wide assessment of resources;
- Component-specific analysis to develop standard operating procedures; and
- System-wide integration of component-specific standard operating procedures into a comprehensive operational strategy for the CWS.

Interim Guidance on Developing Consequence Management Plans for Drinking Water Utilities

A Consequence Management Plan (CMP) serves as a guide for the utility, describing actions that should be taken upon discovery of a possible contamination threat, as detected by one of the CWS monitoring and surveillance components.

The purpose of this guidance document is to assist drinking water utilities with planning, designing, implementing, and maintaining an effective Consequence Management Plan as part of a CWS. It also provides a framework for the integration of the Consequence Management Plan with existing plans, training scenarios, and outreach efforts to local, state, regional, and federal response partner agencies.

Figure 1: WS Initiative Program Overview

