

Water Quality Surveillance and Response Systems Products to Help Utilities Improve Distribution System Monitoring and Management

The following is a comprehensive list of products, as of September 2016, available on U.S. EPA's *Water Quality Surveillance and Response* website:

<https://www.epa.gov/waterqualitysurveillance>

Water Quality Surveillance and Response Overview

Water Quality Surveillance and Response System Introduction Video

This short video makes the business case for utilities to improve their distribution system surveillance and response capabilities, introduces the components of a Water Quality Surveillance and Response System, and directs the viewer to EPA resources for implementing such system. August 2015.

Water Quality Surveillance and Response System Primers

A Water Quality Surveillance and Response System (SRS) is a framework designed to support monitoring and management of distribution system water quality. The System Primer is a concise document that provides an overview of the design and purpose of an integrated SRS. Six additional Primers provide a description of each of the SRS components. EPA 817-B-15-002, May 2015.

System Design and Information Management

Guidance for Developing Integrated Water Quality Surveillance and Response Systems

This document provides guidance for applying system engineering principles to the design of an SRS to ensure that the system functions as an integrated whole and performs its intended function. It covers topics including: project management, SRS master planning, information management, alert investigations, and training & exercise. EPA 817-B-15-006, October 2015.

Framework for Comparing Alternatives for Water Quality Surveillance and Response Systems

This document provides guidance for selecting the most appropriate SRS design from a set of viable alternatives. It guides the user through an objective, stepwise analysis for ranking multiple alternatives and describes, in general terms, the types of information necessary to perform this analysis. EPA 817-B-15-003, June 2015.

Information Management Requirements Development Tool

This tool is designed to help utilities develop requirements for an SRS information management system, thereby preparing them to select and implement the most appropriate solution. Specifically, this tool guides users through the process of developing functional and technical requirements, and consolidating and prioritizing these requirements. EPA 817-B-15-004, November 2015.

Dashboard Design Guidance for Water Quality Surveillance and Response Systems

This document provides guidance for designing an SRS dashboard, which is a visually-oriented user interface that integrates data from multiple SRS components to provide a holistic view of distribution system water quality. The document provides a description of common features and functions of a dashboard, along with example screenshots. It also presents a methodical process for establishing requirements for a dashboard. EPA 817-B-15-007, November 2015.

Guidance for Designing Communications Systems for Water Quality Surveillance and Response Systems

This document provides guidance and information to help utilities select an appropriate communications system to support operation of a Water Quality Surveillance and Response System. It provides rigorous criteria for evaluation communications system options, evaluates common technologies with respect to these criteria, describes the process for establishing requirements for a communications system, and provides guidance on selecting and implementing a system. EPA 817-B-16-002, September 2016.

Online Water Quality Monitoring

Online Source Water Quality Monitoring for Water Quality Surveillance and Response Systems

This document provides guidance to help drinking water utilities design a source water monitoring system using online water quality instrumentation. The document provides guidance on selection of water quality parameters and monitoring locations, design of monitoring stations and information management systems, and development of procedures for the investigation of and response to unusual source water quality. EPA 817-B-16-003, September 2016.

Event Detection System Deployment, Integration and Evaluation System

A software application that supports real-time analysis of online water quality data. This tool also allows users to evaluate historic water quality data for the purpose of establishing alerting parameters.

Enhanced Security Monitoring

Commissioning Security Systems for Drinking Water Utilities

This document provides a step-wise process for verifying that security systems installed at drinking water utility facilities perform according to specifications. EPA 817-R-12-002, February 2012.

Customer Complaint Surveillance

Threshold Analysis Tool & Alarm Estimation Tool

Two software tools designed to assist water utilities in developing alert thresholds for customer water quality complaints using statistical analysis of user-specified data. Establishing appropriate thresholds is an important step in designing the Customer Complaint Surveillance component of an SRS.

Public Health Surveillance

Public Health Surveillance Design Guidance for Water Quality Surveillance and Response Systems

This document provides guidance to help drinking water utilities work with their public health partners to implement Public Health Surveillance (PHS) as a component of an SRS. The document describes the roles and responsibilities of common public health partners, provides recommendations for establishing relationships with those partners, describes common public health surveillance systems, and provides guidance for developing a PHS alert investigation procedure. EPA 817-B-16-001, July 2016.

Public Health Surveillance Assessment: Interview with Public Health Partners

A fillable PDF form that utilities can use to engage their public health partners and document existing public health surveillance capabilities. Information collected on this form can be used as the foundation for building the Public Health Surveillance component of an SRS. EPA 817-B-15-003, January 2015.

Consequence Management

Developing Consequence Management Plans for Drinking Water Utilities

This document provides guidance on developing plans for responding to and recovering from distribution system contamination incidents. These plans include procedures for the investigation of possible contamination incidents, implementation of response actions, and remediation of a contaminated distribution system. EPA 817-R-08-001, September 2008. (WILL BE REPLACED BY A NEW TOOL IN 2017)

Developing Risk Communication Plans for Drinking Water Contamination Incidents

This document provides guidance on developing an effective risk communication plan to guide communications with partner agencies and the public during the response to drinking water contamination incidents. EPA 817-F-13-003, April 2013.

Sampling and Analysis

Building Laboratory Capabilities to Respond to Drinking Water Contamination

This document provides guidance to assist drinking water utilities with building laboratory capabilities for responding to water contamination incidents. It presents contaminant classes of concern, lists analytical methods for contaminants from those classes, and provides information on the role of national laboratory networks in responding to drinking water contamination incidents. EPA 817-R-13-001, March 2013.

Training and Exercises

SRS Exercise Development Toolbox

An interactive software application designed to assist drinking water utilities in developing and conducting exercises based on realistic drinking water contamination scenarios. It guides users through a step-wise process to enter the information necessary to develop a drill or exercise and then generates the required documentation. All entered information is stored for use in developing future exercises. February 2016.

Case Studies and Technical Evaluations

Summary of Implementation Approaches and Lessons Learned from the Water Security Initiative Contamination Warning System Pilots

This report summarizes implementation approaches and lessons learned from the five Contamination Warning System Pilots deployed under U.S. EPA's Water Security Initiative. It presents information for each of the surveillance and response components, as well as the integrated system, in a manner useful to future implementers of similar systems. EPA 817-R-15-002, October 2015.

Water Security Initiative: Cincinnati Pilot Post-Implementation System Status

This report provides a detailed description of the design of the contamination warning system deployed in Cincinnati, OH under the Water Security Initiative. In addition to describing the design of each component of the system, this report breaks down the cost of the system. EPA 817-R-08-004, September 2008.

Water Security Initiative: System Evaluation of the Cincinnati Contamination Warning System Pilot

This report presents the results of a comprehensive technical evaluation of the Cincinnati contamination warning system pilot. The evaluation includes an assessment of the operation, performance, and sustainability of the system. Six additional reports provide a detailed technical evaluation of each of the SRS components. EPA 817-R-14-001, April 2014.

Water Quality Event Detection System Challenge: Methodology and Findings

This report summarizes the results of an extensive study into the performance of water quality event detection systems available at the time of the study. The report also provides a detailed description of the evaluation methodology, facilitating its application by other investigators. EPA 817-R-13-002, April 2013.

Final Report of the Contamination Warning System CIPAC Workgroup

This report summarizes the finding of an independent evaluation of U.S. EPA's Water Security Initiative, performed by a workgroup formed under the Water Sector Coordinating Council and Water Government Coordinating Council. The report presents the consensus findings of the workgroup and its recommendations for the future direction of the Water Security Initiative. March 2012.

For more information



To access these products, visit EPA's *Water Quality Surveillance and Response* website at <http://www.epa.gov/waterqualitysurveillance>.

Contact us at WQ_SRS@epa.gov if you'd like to learn about training opportunities for these products.